

**ANNUAL GROUNDWATER MONITORING REPORT FOR 2016**

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



Prepared for:

**FREEMPORT 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 1, 2017

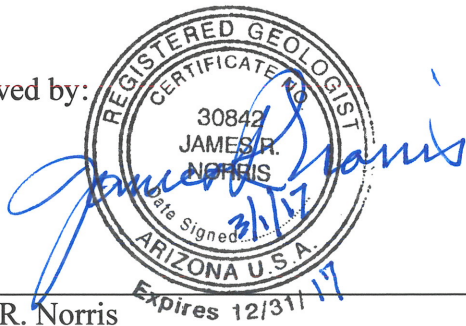
**ANNUAL GROUNDWATER MONITORING REPORT  
FOR 2016**

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

Prepared for:

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

Approved by:



James R. Norris  
Arizona Registered Geologist No. 30842

March 1, 2017

## TABLE OF CONTENTS

1.	INTRODUCTION .....	1
1.1	Mitigation Plan.....	1
1.2	Scope of Annual Groundwater Monitoring Report .....	2
1.3	Sources of Groundwater Monitoring Data in 2016.....	2
1.3.1	Long Term Plume Monitoring .....	2
1.3.2	Expanded Groundwater Monitoring Program .....	3
1.3.3	Water Supply Study .....	4
1.4	ADWR Well Records Review .....	4
2.	GROUNDWATER MONITORING RESULTS .....	5
2.1	Sulfate Data.....	5
2.2	Water Elevation Data.....	6
2.3	Quality Assurance/Quality Control.....	6
2.4	ADWR Well Records Review .....	7
3.	REFERENCES .....	8

## TABLES

1	Schedule for Long Term Plume Monitoring
2	Summary of Groundwater Monitoring in 2016
3	Compilation of Analytical Results for Sulfate and Field Parameters
4	Compilation of Groundwater Elevation Data

## FIGURES

1	Location Map
2	Geologic Map with Monitoring Locations
3	Monitoring Locations
4	Naco Area Well Sites
5	Sulfate Concentrations in Site-Wide Groundwater Samples for First Quarter 2016
6	Sulfate Concentrations in Site-Wide Groundwater Samples for Third Quarter 2016
7	Sulfate Concentrations at the West Edge of the Plume for First Quarter 2016
8	Sulfate Concentrations at the West Edge of the Plume for Third Quarter 2016
9	Sulfate Concentration Over Time in Public Drinking Water Supply Wells
10	Sulfate Concentrations Over Time in Expanded Groundwater Monitoring Program Wells
11	Site-Wide Groundwater Elevations for First Quarter 2016
12	Site-Wide Groundwater Elevations for Third Quarter 2016
13	Basin Fill Groundwater Elevations at the West Edge of the Plume for First Quarter 2016
14	Basin Fill Groundwater Elevations at the West Edge of the Plume for Third Quarter 2016
15	Hydrographs for Selected BMO Monitor Wells in Basin Fill

- 16 Hydrographs for BMO Monitor Wells in Basin Fill for Expanded Groundwater Monitoring Program
- 17 Hydrographs for BMO Monitor Wells in Bedrock

## **APPENDICES**

- A Groundwater Sampling Forms
- B Analytical Reports
- C Data Verification Report
- D Well Records Registry Review

## 1. INTRODUCTION

This annual groundwater monitoring report provides the results of activities conducted in calendar year 2016 for 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). ADEQ provided a conditional approval of the annual groundwater monitoring and groundwater monitoring report provisions of the Mitigation Plan (ADEQ, 2015).

### 1.1 Mitigation Plan

The Mitigation Plan describes the process being followed as the mitigation action<sup>1</sup> 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 the potential for existing drinking water supplies to be affected<sup>2</sup> by sulfate. 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,
- expanded groundwater monitoring to track plume migration in the vicinity of public drinking water supplies in the Naco area and to document sulfate concentrations at the leading edge of the plume for the purposes of establishing sentinel wells with action

---

<sup>1</sup> 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.

<sup>2</sup> 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.

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 groundwater flow system and large scale geometry of the plume over time, and
- annual review of Arizona Department of Water Resources (ADWR) well registry records to identify new drinking water supply wells within a mile of the plume.

## **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.”*

The primary objective of the annual groundwater monitoring report is to provide the water quality and water level data collected in 2016 for the long term plume monitoring and expanded groundwater monitoring programs. As described by the Mitigation Plan, the annual groundwater monitoring reports transmit data to ADEQ with little interpretation. Analysis and evaluation of the monitoring data are provided in mitigation performance review reports submitted to ADEQ under the Mitigation Plan.

## **1.3 Sources of Groundwater Monitoring Data in 2016**

This section reviews the projects that generated groundwater monitoring data in 2016.

### **1.3.1 Long Term Plume 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 a site-wide array

of monitoring wells 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 one-mile 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.

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 for the long term plume monitoring program. Table 2 summarizes sampling in 2016. 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 Figures 3 and 4.

The groundwater sampling and analysis methods for groundwater monitoring under the Mitigation Order 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. Appendices A and B contain field data forms and laboratory reports, respectively, for samples collected in 2016.

In the first quarter of 2016, the City of Bisbee abandoned monitoring well COB MW-1 and installed a replacement well, COB MW-1B, at the same location at the San Jose Wastewater Treatment Facility. COB MW-1B is completed in basin fill in the plume, as was COB MW-1. The monitoring schedule for COB MW-1 was applied to COB MW-1B in the third quarter.

The biennial sampling is planned for the third quarter of 2017. In 2016 water quality samples were collected at some wells scheduled for biennial sampling.

### 1.3.2 Expanded Groundwater Monitoring Program

The expanded groundwater monitoring program monitors the position of the plume in the immediate vicinity of the existing Arizona Water Company and Naco Water Company public drinking water supplies near Naco. The results of this monitoring will be used to identify sentinel

well locations near the public supplies and sentinel well sulfate action levels that would, if exceeded, initiate a contingent mitigation. Well installation and testing for the expanded groundwater monitoring program were completed and reported to ADEQ in 2015 (Clear Creek Associates, 2015b).

Basin fill wells installed for the expanded groundwater monitoring program are BMO-2014-1BL, BMO-2014-1BU, BMO-2014-2BL, BMO-2014-2BU, BMO-2014-3BL, BMO-2014-3BU, BMO-2014-4B, BMO-2014-4BL, BMO-2015-1B, BMO-2015-1BL, BMO-2015-2B, and BMO-2015-2BL (Figure 4). The expanded groundwater monitoring program wells were sampled for eight (8) quarters to determine baseline conditions. The results of baseline sulfate and water level monitoring at the expanded groundwater monitoring program wells are included in this report.

### 1.3.3 Water Supply Study

The water supply study investigated potential sources of potable groundwater as a contingency in the event that public drinking water supply wells near Naco become affected by the sulfate plume. A water exploration well, LADD 635, was installed in the basin fill west of Naco in 2015 (Figure 4). A report for the water supply study was submitted to ADEQ in February 2016 (Clear Creek Associates, 2016).

LADD 635 was sampled in 2015 for a broad suite of water quality constituents pertinent to assessing the potability of a public water supply. Water quality results for the 2015 sample indicated the water quality is suitable for a potable supply, as reported by Clear Creek Associates (2016). Water levels at LADD 635 were monitored quarterly in 2016 during the baseline monitoring of wells installed for the expanded groundwater monitoring program and are included in this report.

## **1.4 ADWR Well Records Review**

The ADWR well records review is conducted annually to identify new existing wells that are installed within one mile of the edge of the plume. If a new drinking water supply well is identified within a mile of the plume, CQB offers to sample the well and adds it to the long term plume monitoring schedule, if acceptable to the well owner. The review of ADWR well registry records is reported in the annual groundwater monitoring report to maintain a current list of drinking water supply wells in the vicinity of the plume for monitoring under the Mitigation Plan.



## 2. GROUNDWATER MONITORING RESULTS

### 2.1 Sulfate Data

Sulfate analytical results for 2016 are tabulated in Table 3, along with the results of previous monitoring under the Mitigation Order. Historical sulfate concentration data collected prior to the Mitigation Order are summarized and evaluated in the Aquifer Characterization Report (Clear Creek Associates, 2010).

Water quality samples are collected from wells site-wide in the first and third quarters of the year (Table 1). The third quarter has the largest number of samples and the greatest geographic coverage. Figures 5 and 6 are sulfate concentration contour maps for the first and third quarters of 2016. Water quality samples at the west edge of the plume were collected quarterly in 2016 for baseline monitoring under the expanded groundwater monitoring program. Figures 7 and 8 are sulfate concentration maps of the west edge of the plume in the first and third quarters of 2016. In Figures 5 through 8, concentration contouring is based on the highest sulfate concentration measured at co-located wells and the most recent sample result at wells with multiple measurements during a quarter. The extent of the sulfate plume and the sulfate contours drawn on these figures is based on consideration of both historical and 2016 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 60 mg/L in 2016, 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 2016. Sulfate concentrations at NWC-04 near Bisbee Junction, which is believed to be at the receding edge of the plume, ranged between 180 and 190 mg/L in 2016.

Figure 10 is a graph of sulfate concentration over time in monitoring wells installed for the expanded groundwater monitoring program. Sulfate concentrations in these wells have decreased slightly or remained steady in 2015 and 2016. The lack of increasing trends in the expanded groundwater monitoring program wells with sulfate concentrations less than 250 mg/L indicates there was no measureable movement of the plume front to these wells during 2016.

## 2.2 Water Elevation Data

Groundwater elevation data collected in 2016 are listed in Table 4, along with previous data collected for the Mitigation Order. Groundwater elevations were calculated using depth to water measurements made under static (non-pumping) conditions whenever possible.

Similar to sulfate sampling, site-wide water level measurements are made primarily in the first and third quarters of the year (Table 1). Figures 11 and 12 are site-wide groundwater elevation contour maps for the first and third quarters of 2016. In 2016, additional water level data were collected as part of baseline monitoring at wells installed for the expanded groundwater monitoring program, which were measured quarterly. These data are contained in Table 4. Figures 13 and 14 are groundwater elevation contour maps for basin fill at the west edge of the plume in quarters 1 and 3 of 2016. In Figures 11 through 14, the most recent depth to water measurement is used for contouring at wells with multiple measurements during a quarter.

Groundwater elevations over time for BMO monitor wells with screened intervals in basin fill are shown by Figure 15 for selected plume edge and regional monitoring wells (see Table 1 for well use), and by Figure 16 for expanded groundwater monitoring program wells. Groundwater elevations in plume edge and regional BMO monitor wells in basin fill decreased from 2009 through 2012 and have been relatively steady since 2013. Water elevations in expanded groundwater monitoring program wells show similar patterns of increase and decrease over time including an annual pattern of low summer and high winter water elevations.

Figure 17 shows hydrographs for BMO monitor wells in bedrock. Groundwater elevations in BMO monitoring wells screened in bedrock show various patterns depending on the location and depth of the well. Water levels in bedrock wells beneath the basin fill tend to decline until 2012 and then stabilize, like the basin fill wells. Water levels in shallow bedrock wells, such as BMO-2010-1M and BMO-2012-1M, near Bisbee Junction have increased in elevation over time. Section 4.2.3.2 of the Aquifer Characterization Report (Clear Creek Associates, 2010) has a more detailed explanation of the different potentiometric systems in bedrock.

## 2.3 Quality Assurance/Quality Control

A data verification report is prepared for quality assurance and quality control purposes. The data verification report evaluates field and laboratory quality assurance data for acceptability in the context of data quality objectives for groundwater monitoring identified in the QAPP. The data verification report for 2016 is in Appendix C. Based on the data verification review, the

field measurements and analytical results collected in 2016 are of acceptable quality for use in monitoring activities conducted pursuant to the Mitigation Order.

## **2.4 ADWR Well Records Review**

Groundwater wells installed in Arizona are required to be registered with ADWR. Appendix D contains the ADWR well records review for 2016. The ADWR well records review was conducted using a version of the well records database current through January 13, 2017. The review identified registered wells within one mile of the sulfate plume and compared the list of wells in January 2017 to the list of wells produced for the last well records review which used a January 2016 version of the database.

The only new record in the database of a well installed within one mile of the plume is an ADWR Notice of Intent to Drill, Deepen, Replace, or Modify a Well filed by City of Bisbee for a location at the San Jose Wastewater Treatment Facility. According to the City of Bisbee, a well was installed in March 2016 in the vicinity of the former well COB MW-1 for the purpose of groundwater monitoring and non-potable supply. COB MW-1 was reportedly abandoned. The new well is called COB MW-1B for the purpose of reporting under the Mitigation Plan. The ADWR well records review did not find evidence of a new drinking water supply well within one mile of the plume.

### 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. 2014. 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. 2015a. 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. 2015b. Results of Well Installation and Groundwater Monitoring through the second quarter of 2015 for the Expanded Groundwater Monitoring Program, Mitigation Order on Consent Docket No. P-121-07. August 19, 2015.
- Clear Creek Associates. 2016. Exploration Drilling and Hydraulic Testing for Water Supply Study, Mitigation Order on Consent Docket No. P-121-07. February 5, 2016.
- 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**  
**Schedule for Long Term Plume Monitoring in 2016**

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)	✓	✓	
BMO-2014-1BL	917393	MW	PE (Lateral)		Quarterly thru 4Q16	
BMO-2014-1BU	917394	MW	PE (Lateral)		Quarterly thru 4Q16	
BMO-2014-2BL	917452	MW	PE (Lateral)		Quarterly thru 4Q16	
BMO-2014-2BU	917453	MW	PE (Lateral)		Quarterly thru 4Q16	
BMO-2014-3BL	917527	MW	PE (Lateral)		Quarterly thru 4Q16	
BMO-2014-3BU	917494	MW	PE (Lateral)		Quarterly thru 4Q16	
BMO-2014-4B	917620	MW	PE (Lateral)		Quarterly thru 1Q17	
BMO-2014-4BL	917619	MW	PE (Lateral)		Quarterly thru 1Q17	
BMO-2015-1B	917622	MW	PE (Lateral)		Quarterly thru 1Q17	
BMO-2015-1BL	917621	MW	PE (Lateral)		Quarterly thru 1Q17	
BMO-2015-2B	917827	MW	PE (Lateral)		Quarterly thru 1Q17	
BMO-2015-2BL	917828	MW	PE (Lateral)		Quarterly thru 1Q17	
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-1B	225906	MW	RM	WLO	WLO	✓
COB MW-2	903984	MW	PE (Lateral)	✓	✓	
COB MW-3	906823	MW	RM	WLO	✓	
COB WL	593116	MW	PE (Lateral)	✓	✓	

**TABLE 1**  
**Schedule for Long Term Plume Monitoring in 2016**

Well Name	ADWR 55 Registry Number	Well Use	Monitoring Purpose	Semiannual Sampling First Quarter	Annual Sampling Third Quarter	Biennial Sampling Third Quarter
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)		✓	
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 635	224635	STOCK	RM	Quarterly WLO through 1Q17		
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)	✓	✓	
OLMOS	224745	PDWS	DWS	WLO	✓	
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	



**TABLE 1**  
**Schedule for Long Term Plume Monitoring in 2016**

Well Name	ADWR 55 Registry Number	Well Use	Monitoring Purpose	Semiannual Sampling First Quarter	Annual Sampling Third Quarter	Biennial Sampling Third Quarter
SWAN	NR	PDWS	DWS (>2000)		✓	
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	220897	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 2**  
**Summary of Groundwater Monitoring in 2016**

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2016			Third Quarter Schedule	3Q 2016		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
ANDERSON 396	613396	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
ANDERSON 458	221458		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
ASLD 435	616435	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
AWC-02	616586	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
AWC-03	616585	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
AWC-04	616584	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
AWC-05	590620	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
BANKS 986	647986		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to no port in wellhead.
BANKS 987	647987	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
BARTON 919	644919	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
BIMA	577927		N	N	Well is not scheduled for first quarter monitoring.		N	Y	Water quality sample collected in July 2016. Unable to measure water level due to obstruction in well.
BMO-2008-1G	909474	✓	Y	Y	Water quality sample collected in March 2016.	✓	Y	Y	Water sample collected in August 2016.
BMO-2008-3B	909147	✓	Y	Y	Water quality sample collected in March 2016.	✓	Y	Y	Water sample collected in August 2016.
BMO-2008-4B	910096	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	✓	N	N	No property access due to change in ownership.
BMO-2008-5B	909653	✓	Y	Y	Water quality sample collected in March 2016.	✓	Y	Y	Water sample collected in September 2016.
BMO-2008-5M	909552	✓	Y	Y	Water quality sample collected in March 2016.	✓	Y	Y	Water sample collected in September 2016.
BMO-2008-6B	909146	✓	Y	Y	Water quality sample collected in March 2016.	✓	Y	Y	Water sample collected in September 2016.
BMO-2008-6M	909019	✓	Y	Y	Water quality sample collected in March 2016.	✓	Y	Y	Water sample collected in September 2016.
BMO-2008-7M	908794	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	✓	Y	Y	Water sample collected in August 2016.
BMO-2008-8B	910097	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
BMO-2008-8M	909711	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	✓	Y	Y	Water sample collected in September 2016.
BMO-2008-9M	909255	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	✓	Y	Y	Water sample collected in September 2016.

**TABLE 2**  
**Summary of Groundwater Monitoring in 2016**

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2016			Third Quarter Schedule	3Q 2016		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
BMO-2008-10GL	909435	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in August 2016.
BMO-2008-10GU	909272	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in August 2016.
BMO-2008-11G	909434	✓	Y	Y	Water quality sample collected in March 2016.	✓	Y	Y	Water sample collected in August 2016.
BMO-2008-13B	909551	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
BMO-2008-13M	909760	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
BMO-2010-1M	219957	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	✓	Y	Y	Water sample collected in August 2016.
BMO-2010-2M	219958	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
BMO-2010-3B	219970	✓	Y	Y	Water quality sample collected in February 2016.	✓	Y	Y	Water quality sample collected in July 2016.
BMO-2010-3M	219969	✓	Y	Y	Water quality sample collected in February 2016.	✓	Y	Y	Water quality sample collected in July 2016.
BMO-2012-1M	221388	✓	Y	Y	Water quality sample collected in March 2016.	✓	Y	Y	Water sample collected in August 2016.
BMO-2014-1BL	917394	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2014-1BU	917393	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2014-2BL	917452	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2014-2BU	917453	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2014-3BL	917527	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2014-3BU	917494	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2014-4B	917620	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2014-4BL	917619	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2015-1B	917622	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2015-1BL	917621	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2015-2B	917827	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.
BMO-2015-2BL	917828	✓	Y	Y	Water quality sample collected in February 2016 and second quarter 2016.	✓	Y	Y	Water quality sample collected in July 2016 and fourth quarter 2016.

**TABLE 2**  
**Summary of Groundwater Monitoring in 2016**

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2016			Third Quarter Schedule	3Q 2016		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
BOOTH	914931	✓	N	N	Well owner has declined participation in groundwater sampling program.	✓	N	N	Well owner has declined participation in groundwater sampling program.
BURKE	212268		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to equipment malfunction.
CHAMBERS	629807		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to no port in wellhead.
COB MW-1	903992	WLO	N	N	Well identified for water level measurements only. Unable to measure water level due to obstruction in well.	WLO	N	N	Well abandoned per City of Bisbee.
COB MW-1B	225906		N	N	Well installed in March 2016.	WLO	Y	Y	Water quality sample collected in July 2016.
COB MW-2	903984	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
COB MW-3	906823	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
COB WL	593116	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
COOPER	623564	✓	N	Y	Water quality sample collected in March 2016. Unable to measure water level due to obstruction in well.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to obstruction in well.
COOPER C	637069		Y	N	Well is not scheduled for first quarter monitoring. Water level measured in March 2016.	✓	Y	Y	Water sample collected in August 2016.
DODSON	644927	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
DOUGLASS 791	592791		N	N	Well is not scheduled for first quarter monitoring.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
DOUGLASS 792	592792		N	N	Well is not scheduled for first quarter monitoring.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
EAST	599796		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
ECHAVE	219449		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to obstruction in well.
EPPELE 641	805641		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
FRANCO 383	221383		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
FULTZ	212447		N	N	Well is not scheduled for first quarter monitoring.	✓	N	N	Unable to contact owner.
GARNER 557	558557	WLO	N	N	Unable to contact Owner.	WLO	N	N	Unable to contact owner.
GARNER 635	587635		N	N	Well is not scheduled for first quarter monitoring.	✓	N	N	Unable to contact owner.
GOAR RANCH	610695	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
HOBAN	805290	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	✓	Y	Y	Water sample collected in August 2016.

**TABLE 2**  
**Summary of Groundwater Monitoring in 2016**

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2016			Third Quarter Schedule	3Q 2016		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
HOWARD 312	221312		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
HOWARD NR	NR	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
KEEFER	209744		Y	N	Well is not scheduled for first quarter monitoring. Water level measured in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
LADD 251	520251	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
LADD 538	503538	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
LADD 635	224635	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016 and November 2016.
LADD 837	519837	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
LADD 977	642977	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
MARCELL	NR		N	N	Well is not scheduled for first quarter monitoring.		N	N	Well is not scheduled for third quarter monitoring.
MCCONNELL 265	539265	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
MCCONNELL 459	221459		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
METZLER	35-71891	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
MOORE	538847		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to no port in wellhead.
NESS	509127		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
NOTEMAN	212483		N	N	Well is not scheduled for first quarter monitoring.		N	Y	Water quality sample collected in July 2016.
NSD-02	527587	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
NSD-03	527586	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
NWC-02	562944	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
NWC-03 CAP	627684	WLO	N	N	Well identified for water level measurements only. Water level unable to be measured due to obstruction in well.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
NWC-04	551849	✓	N	Y	Water quality sample collected in January 2016 and second quarter 2016. Unable to measure water level due to obstruction in well.	✓	N	Y	Water quality sample collected in July 2016 and fourth quarter 2016. Unable to measure water level due to obstruction in well.
NWC-06	575700	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
OLMOS	224745	WLO	Y	Y	Water quality sample collected in January 2016.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to obstruction in well.

**TABLE 2**  
**Summary of Groundwater Monitoring in 2016**

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2016			Third Quarter Schedule	3Q 2016		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
OSBORN	643436		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. No port in wellhead for water level measurement.
PALMER	578819		N	N	Well is not scheduled for first quarter monitoring.	✓	N	N	No property access.
PANAGAKOS	35-76413	✓	Y	Y	Water quality sample collected in January 2016.	✓	N	N	No property access.
PARRA	576415		N	N	Well is not scheduled for first quarter monitoring.		N	Y	Water quality sample collected in July 2016. Unable to measure water level due to no port in wellhead.
PIONKE 395	613395	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
PIONKE 517	221517		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
POOL	509518		Y	N	Well is not scheduled for first quarter monitoring. Water level measured in March 2016.	✓	N	N	Unable to contact owner.
POWER 639	222639	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
RAMIREZ	216425	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2016.	✓	Y	Y	Water quality sample collected in July 2016.
RAY	803772		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
ROGERS 596	573596	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	N	N	No property access.
ROGERS 803	641803	✓	N	N	No electricity at well.	✓	N	N	No property access due to change in ownership.
ROGERS E	216018		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to obstruction in well.
RUIZ	531770	✓	Y	Y	Water quality sample collected in January 2016.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to obstruction in well.
SCHWARTZ	210865	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.
STEPHENS	808560	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
SWAN	NR		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
THOMPSON 151	612151	WLO	N	N	Well identified for water level measurements only. Unable to measure water level due to obstruction in well.	WLO	N	N	Unable to measure water level due to obstruction in well.
THOMPSON 341	218341		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to no port in wellhead.
TM-02A	522574	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in August 2016.
TM-06 MILLER	522695	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in September 2016.
TM-07	522576	✓	N	Y	Water quality sample collected in March 2016. Unable to measure water level due to obstruction in well.	✓	N	Y	Water quality sample collected in September 2016. Unable to measure water level due to obstruction in well.

**TABLE 2**  
**Summary of Groundwater Monitoring in 2016**

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2016			Third Quarter Schedule	3Q 2016		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
TM-10 USBP	522696	✓	Y	Y	Water quality sample collected in February 2016.	✓	Y	Y	Water quality sample collected in July 2016.
TM-15 MILLER	522699		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in September 2016. Unable to measure water level due to obstruction in well.
TM-16	522578	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in August 2016.
TM-19A	522580		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water sample collected in August 2016.
TM-42	562554	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in August 2016.
TVI 236	802236	✓	Y	Y	Water quality sample collected in January 2016.	✓	Y	Y	Water sample collected in September 2016. Water level measured in July and September 2016.
TVI 713	567713	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	N	Well identified for water level measurement only. Water level measured in July 2016.
TVI 875	568875		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to no port in wellhead.
WEED	544535	✓	N	Y	Water quality sample collected in January 2016. Unable to measure water level due to no port in wellhead.	✓	N	Y	Water quality sample collected in July 2016. Unable to measure water level due to no port in wellhead.
WEISKOPF 802	641802	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	WLO	Y	Y	Water quality sample collected in July 2016.
WEISKOPF 897	220897		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2016.
ZANDER	205126	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2016.	✓	Y	Y	Water quality sample collected in July 2016.

Notes:  
35-71891 = ADWR 35 Database  
ADWR = Arizona Department of Water Resources  
bls = below land surface  
N = No  
ND = No Data  
NR = No Record  
Y = Yes

**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	102.0		
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	384.0	26.0
		7/22/15	8.17	25.2	397.3	25
		7/19/16	8.14	23.8	395.2	24
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		
1/29/15	7.44	21.4	511	20.5		
7/21/15	7.62	22.5	506.7	20		
1/13/16	7.63	20.6	411.2	8.3		
7/19/16	7.40	22.1	418.7	7.8		



**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)
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	506.0	63.4		
1/29/15	7.59	21.2	495	77.1		
7/21/15	7.63	21.6	494	56		
1/13/16	7.62	19.9	474.1	44		
7/19/16	7.47	20.9	493.2	55		
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		
1/29/15	7.20	21.0	687	22.9		
7/21/15	7.38	21.2	619.6	23		
1/13/16	7.42	19.2	556.6	27		
7/19/16	7.24	20.6	590.7	31		

**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	452	20.8		
1/29/15	7.64	19.6	443	18.0		
7/21/15	7.67	21.9	457.9	17.0		
1/13/16	7.69	19.9	444.4	14		
7/19/16	7.40	22.2	443.1	21		
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		
7/24/15	7.67	22.6	1002	76		
7/12/16	7.59	22.2	1029	69		

**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 <sup>1</sup>	6.37	23.1	1521	190
		5/13/08 <sup>1</sup>	6.58	22.7	1489	195
		6/23/08 <sup>1</sup>	6.30	23.3	1572	225
		6/23/08 DUP	6.30	23.3	1572	196
		7/29/08 <sup>1</sup>	6.44	23.0	1647	204
		8/28/08 <sup>1</sup>	M	23.0	1776	256
		9/23/08 <sup>1</sup>	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		
7/23/15	6.87	26.2	1627	270		
7/15/16	6.90	28.7	1602	270		
BLOMMER	633472	2/5/08	7.43	20.2	714	206
		4/21/08 <sup>1</sup>	7.06	21.9	753	201
		5/15/08 <sup>1</sup>	7.16	22.2	845	211
		6/23/08 <sup>1</sup>	6.93	21.5	903	193
		7/29/08 <sup>1</sup>	7.21	22.2	921	203
		8/27/08 <sup>1</sup>	7.12	22.1	864	189
		9/23/08 <sup>1</sup>	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
		2/4/15	7.35	22.1	942	116
9/10/15	7.21	21.8	953	109		
3/3/16	7.16	22.1	950	108		
8/17/16	7.05	22.2	986	121		
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
		2/5/15	7.11	21.2	652	145
9/14/15	7.29	21.7	638	133		
3/3/16	7.29	21.8	637	136		
8/18/16	7.18	21.4	637	139		
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		
2/3/15	7.05	21.8	755	227		
9/8/15	7.16	22.3	764	236		
3/14/16	7.06	21.5	774	237		
9/14/16	7.22	21.8	771	240		
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
2/3/15	7.26	22.5	612	143		
9/8/15	7.19	23.1	615	146		
3/14/16	7.26	22.5	618	142		
9/14/16	7.12	22.5	623	153		

**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		
2/3/15	7.24	20.6	272	12.1		
9/8/15	7.26	22.2	282	11.8		
3/14/16	7.47	21.9	267	12.4		
9/14/16	7.46	21.8	301	12.6		
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		
2/3/15	7.20	21.9	741	216		
9/8/15	7.09	23.0	750	222		
3/14/16	7.16	22.1	768	229		
9/14/16	7.06	22.2	760	229		

**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				
9/14/15	7.51	23.4	469	30.6				
8/18/16	7.43	23.3	457	30.0				
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				
9/15/15	7.35	25.0	541	67.0				
9/15/16	7.52	24.6	535	63.5				
9/15/16 DUP	7.52	24.6	535	63.9				

**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)
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		
9/14/15	7.68	24.7	550	85.6		
9/15/16	7.64	24.4	571	86.7		
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
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
2/5/15	7.87			24.8	334	12.5
9/14/15	7.78			25.3	335	12.3
9/14/15 DUP	7.78	25.3	335	12.4		
3/15/16	7.76	24.9	334	12.2		
8/17/16	7.96	25.6	332	12.6		



**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-2008-13B	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		
9/9/15	7.59	24.2	729	170		
8/25/16	7.93	23.3	646	169		
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		
1/28/15	7.59	22.2	420	19.2		
7/22/15	7.67	21.8	420	21		
2/2/16	7.67	18.9	407.5	16		
7/12/16	7.59	21.0	424.9	17		
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	367.0	10.8
1/28/15	7.70	24.1	391	10.6		
7/22/15	7.79	23.5	383.9	8.6		
7/22/15 DUP	7.79	23.5	383.9	9.3		
2/2/16	7.83	19.8	367.5	8.5		
7/12/16	7.75	22.7	383.3	10		
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
		2/4/15	7.40	22.5	843	214
		9/10/15	7.29	23.3	862	216
		3/3/16	7.32	23.4	888	222
8/17/16	7.15	23.3	928	222		
BMO-2014-1BL	917394	11/7/14	7.21	24.2	716	160
		1/29/15	7.46	22.2	686	167
		4/15/15	7.43	21.9	695.0	167
		7/29/15	7.57	22.8	695.0	150
		10/7/15	7.55	21.6	685.9	160
		10/7/15 DUP	7.55	21.6	685.9	160
		2/4/16	7.66	20.2	675.4	150
		4/6/16	7.43	21.7	696.3	150
		7/14/16	7.47	21.9	690.7	150
11/2/16	7.28	21.6	689.9	140		

**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-2014-1BU	917393	11/13/14	7.46	22.1	571	84
		1/28/15	7.45	21.6	694	170
		4/15/15	7.40	21.3	735.2	189
		7/29/15	7.55	22.3	729.7	170
		10/7/15	7.51	20.9	728.8	180
		2/4/16	7.51	20.1	715.7	160
		4/6/16	7.47	21.0	733.5	170
		7/14/16	7.45	21.6	724.8	170
		7/14/16 DUP	7.45	21.6	724.8	170
11/2/16	7.29	20.9	719.5	150		
BMO-2014-2BL	917452	11/20/14	7.34	22.8	804	210
		1/29/15	7.36	20.8	1109	463
		4/15/15	7.27	21.2	1169	463
		7/29/15	7.34	22.5	1191	450
		10/7/15	7.41	20.8	1180	470
		2/4/16	7.38	19.7	1164	430
		2/4/16 DUP	7.38	19.7	1164	430
		4/6/16	7.43	21.2	1187	460
		7/14/16	7.27	21.9	1182	440
11/2/16	7.18	20.8	1184	420		
BMO-2014-2BU	917453	12/1/14	7.35	20.8	819.2	230
		1/30/15	7.65	19.9	524	63.8
		4/15/15	7.56	20.7	536.1	64.8
		7/29/15	7.62	22.2	538.7	58
		10/7/15	7.74	20.6	541.1	62
		2/4/16	7.58	19.8	528.0	57
		4/6/16	7.58	21.7	539.3	59
		7/14/16	7.56	21.4	536.6	60
		11/2/16	7.39	20.2	535.9	56
BMO-2014-3BL	917527	2/13/15	7.34	22.4	384	7.8
		4/15/15	7.72	21.6	402.3	8.73
		7/29/15	7.72	23.1	413.7	7.9
		10/7/15	7.64	21.6	415.6	8.5
		2/4/16	7.62	20.9	409.8	8.4
		4/6/16	7.62	21.9	424.9	8.6
		7/14/16	7.62	22.7	419.4	8.8
		11/2/16	7.40	21.4	423.2	8.0
BMO-2014-3BU	917494	2/24/15	7.64	18.2	471.4	8.2
		4/15/15	7.67	20.4	469.5	8.71
		7/29/15	7.62	21.9	471.9	7.5
		10/7/15	7.62	20.4	467.9	7.8
		2/4/16	7.64	19.7	466.4	7.7
		4/6/16	7.53	20.9	473.2	8.3
		7/14/16	7.56	21.3	465.9	8.6
		11/2/16	7.40	20.0	471.1	7.8
BMO-2014-4B	917620	3/4/15	7.68	20.3	524.0	65
		4/14/15	7.61	20.9	494.7	61.7
		7/23/15	7.60	21.7	493.7	57
		10/6/15	7.70	20.5	481.9	53
		2/3/16	7.74	19.8	491.1	58
		4/5/16	7.61	20.9	491.9	53
		7/13/16	7.55	21.3	478.3	48
		7/13/16 DUP	7.55	21.3	478.3	48
		11/1/16	7.58	20.6	472.7	43
11/1/16 DUP	7.58	20.6	472.7	42		
BMO-2014-4BL	917619	3/1/15	7.63	21.1	671.9	170
		4/14/15	7.63	21.4	665.1	184
		7/23/15	7.66	21.9	669.7	190
		7/23/15 DUP	7.66	21.9	669.7	170
		10/6/15	7.71	20.9	660.4	180
		2/3/16	7.69	20.1	660.2	170
		4/5/16	7.53	21.2	671.7	170
		7/13/16	7.51	21.5	653.5	170
		11/1/16	7.47	20.9	665.8	160
BMO-2015-1B	917622	3/15/15	8.11	20.2	676.3	170
		4/14/15	7.59	20.9	680.1	187
		7/23/15	7.68	21.7	690.7	200
		10/6/15	7.66	20.6	681.9	190
		2/3/16	7.64	19.8	678.5	170
		4/5/16	7.57	20.5	691.4	180
		7/13/16	7.52	21.2	675.3	170
		11/1/16	7.44	20.4	683.6	160

**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-2015-1BL	917621	3/12/15	7.70	20.8	708.2	220
		4/14/15	7.55	20.7	733.4	239
		7/23/15	7.62	22.3	747.3	260
		10/6/15	7.74	20.8	747.3	230
		2/3/16	7.71	19.2	736.1	220
		2/3/16 DUP	7.71	19.2	736.1	220
		4/5/16	7.58	21.0	767.1	230
		7/13/16	7.49	21.6	763.8	230
BMO-2015-2B	917827	11/1/16	7.41	20.6	770.0	220
		3/19/15	7.43	20.0	795.2	290
		4/14/15	7.41	20.7	832.4	271
		7/23/15	7.47	22.2	847.5	290
		10/6/15	7.60	20.9	844.3	260
		2/3/16	7.48	20.4	823.2	250
		4/5/16	7.44	21.4	849.8	260
		7/13/16	7.33	21.8	837.2	250
BMO-2015-2BL	917828	11/1/16	7.26	20.6	848.1	250
		3/26/15	7.29	22.3	887.1	280
		4/14/15	7.38	20.9	860.0	305
		7/23/15	7.43	22.1	902.3	320
		10/6/15	7.54	21.2	890.3	300
		2/3/16	7.45	20.5	884.7	280
		4/5/16	7.42	21.3	903.9	300
		4/5/16 DUP	7.42	21.3	903.9	290
BOOTH	914931	7/13/16	7.33	21.8	903.7	300
		11/1/16	7.24	20.8	905.7	280
		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
BURKE	212268	7/17/13	7.75	23.2	497.6	75
		10/18/13	7.66	19.3	597.6	92.6
		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	456.0	29.1
8/3/15	7.72	27.4	479.3	27		
7/21/16	7.98	26.4	478.0	29		
7/21/16 DUP	7.98	26.4	478.0	28		

**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)
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	456.0	10.8		
7/21/15	7.48	22.7	447.7	11		
7/14/16	7.49	22.8	459.8	13		
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		
7/27/15	6.96	21.6	1993	900		
COB MW-1B	225906	7/20/16	6.63	21.8	2405	1200

**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
		2/4/15	7.38	20.3	619	40.5
7/27/15	7.57	20.8	514.6	40		
7/27/15 DUP	7.57	20.8	514.6	42		
1/11/16	7.54	19.5	510.6	41		
7/20/16	7.52	20.0	523.7	42		
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		
7/27/15	7.56	21.6	560.3	100		
7/20/16	7.48	20.4	507.4	73		
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		
2/4/15	6.90	23.3	1488	73.7		
7/27/15	7.25	22.9	1221	70		
1/11/16	7.25	20.4	1195	73		
7/20/16	7.12	22.5	1184	74		

**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
COOPER	623564	7/20/10	6.69	25.0	1420	569
		7/17/13	6.97	21.6	1409	519
		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		
1/27/15	7.67	20.5	411	29.8		
8/3/15	7.67	22.7	421.3	27.0		
3/31/16	7.52	22.4	410	28.8		
7/25/16	7.62	22.4	420.2	27		
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
		9/10/15	6.84	22.8	1997	641
		8/18/16	6.92	25.2	1468	647

**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		
1/26/15	7.46	20.2	1650	59.5		
1/26/15 DUP	7.46	20.2	1650	59.9		
7/23/15	7.34	21.1	1716	61		
1/12/16	7.41	18.6	1749	49		
7/18/16	7.28	20.7	2233	49		
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
		4/1/12	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	601.0	20.7		
7/24/15	7.5	21.0	626.5	13		
7/12/16	7.30	21.3	615.9	15		
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	406.0	25.9
		8/3/15	7.88	28.7	406.8	25
		7/22/16	7.86	27.5	391.5	25

**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		
7/24/15	7.60	21.2	638.1	23.0		
7/12/16	7.84	24.6	576.6	19		
7/12/16 DUP	7.84	24.6	576.6	19		
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
7/27/15	7.68	27.3	1047	320		
7/18/16	7.63	26.0	1040	340		

**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 <sup>1</sup>	6.74	22.0	1739	137
		5/14/08 <sup>1</sup>	6.88	22.3	1532	131
		6/23/08 <sup>1</sup>	6.74	22.0	1788	111
		7/29/08 <sup>1</sup>	6.74	22.2	1989	152
		8/28/08 <sup>1</sup>	M	21.6	1889	137
		9/23/08 <sup>1</sup>	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	2/1/08	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
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

**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)
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		
9/10/15	6.82	22.1	1922	1030		
8/18/16	6.77	22.0	1922	1050		
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	621.0	66.8
		7/31/15	8.17	27.4	618.8	68
		7/27/16	8.12	26.3	612.6	68
		HOWARD NR	NR	3/4/08	7.06	20.4
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		
7/31/15	7.16	21.9	1316	480		

**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)
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		
7/21/15	7.62	22.1	462.2	6.1		
7/25/16	7.42	22.2	477.9	6.8		
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		
7/31/15	7.04	21.9	1970	950		

**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)
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	478.0	34.1
METZLER	35-71891	7/31/15	8.13	25.9	453.6	29
		7/26/16	8.08	25.6	455.3	30
		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
		8/3/15	7.61	22.9	446.7	7.1
		7/14/16	7.55	23.0	445.8	7.9

**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)
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		
7/20/15	7.75	27.4	560.8	54		
7/11/16	7.60	28.5	545.2	50		
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		
7/23/15	6.87	24.1	1424	290		
7/15/16	6.79	23.9	1412	260		
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

**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-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		
2/12/15	7.42	21.0	436	7.11		
7/30/15	7.62	22.2	436.2	6.3		
1/12/16	7.81	20.2	421.5	6.2		
7/26/16	7.54	21.4	434.4	6.8		
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		



**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	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
		5/22/12	7.25	23.9	970	178
		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		

**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	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
		2/12/15	7.81	20.3	856.4	177
		4/9/15	7.41	24.6	823.2	182
		7/30/15	7.60	24.5	935.6	200
		10/6/15	7.54	23.2	866.8	230
		1/12/16	7.57	22.7	811.2	190
		4/5/16	7.47	23.9	847.7	190
7/26/16	7.45	23.8	907.3	190		
11/2/16	7.32	23.0	900.6	180		
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
		2/12/15	7.60	21.2	405	8.12
2/12/15 DUP	7.60	21.2	405	8.09		
7/30/15	7.66	22.6	406.5	8.2		
1/12/16	7.74	20.7	397.5	8.5		
7/26/16	7.58	21.8	409.1	8.7		
OLMOS	224745	1/13/16	7.61	20.4	421.0	8.0
		7/14/16	7.58	22.5	445.9	8.0
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
7/11/16	7.56	37.8	515.4	19		

**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)
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	536.0	17.5		
7/20/15	7.95	25.9	540.1	18		
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	6.9	22.1	1104	193
1/26/15	7.11	19.6	1349	428		
7/27/15	7.03	22.2	1445	470		
1/11/16	7.18	18.9	1402	440		
1/11/16 DUP	7.18	18.9	1402	450		

**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)
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		
8/3/15	7.24	22.3	1193	390		
7/22/16	7.17	22.6	1151	390		
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
7/22/15	7.79	23.3	392.1	14		
7/26/16	7.67	23.2	389.2	14		

**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)
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
		1/27/15	7.27	22.0	922	291
		3/10/15	7.35	21.9	1032	265
		4/28/15	7.43	20.6	1002	305
		5/14/15	7.32	21.3	991.4	270
		6/11/15	7.26	22.0	1019	310
		7/30/15	7.33	22.3	1014	290
		1/14/16	7.46	19.7	985.7	300
		7/27/16	7.27	22.2	992.0	300
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	422.0	8.67
		7/21/15	7.54	23.7	414.6	8.5
7/14/16	7.55	23.6	420.5	8.6		

**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)
RAY	803772	2/15/08	7.30	19.1	1540	159
		4/21/08 <sup>1</sup>	6.92	21.3	1418	125
		5/13/08 <sup>1</sup>	7.05	20.9	1418	123
		6/23/08 <sup>1</sup>	6.87	21.1	1593	130
		7/29/08 <sup>1</sup>	6.98	21.8	1411	120
		8/28/08 <sup>1</sup>	M	21.1	1519	129
		9/23/08 <sup>1</sup>	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		
8/3/15	7.22	21.4	1360	130		
7/12/16	7.03	21.6	1419	130		
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
ROGERS 803	641803	2/7/08	7.45	18.6	601	138
		4/21/08 <sup>1</sup>	7.32	21.4	552	128
		5/8/08 <sup>1</sup>	7.14	21.2	622	141
		6/23/08 <sup>1</sup>	7.06	22.9	660	129
		7/29/08 <sup>1</sup>	6.78	23.1	339	134
		8/28/08 <sup>1</sup>	7.18	21.6	635	128
		9/23/08 <sup>1</sup>	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		

**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 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		
7/30/15	7.57	22.9	430.3	5.9		
7/14/16	7.58	22.7	430.2	6.7		
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		
1/27/15	7.14	21.4	853	215		
7/30/15	7.2	21.9	865.8	190		
1/12/16	7.29	19.9	831.3	190		
7/25/16	7.17	21.2	854.5	180		

**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)
SCHWARTZ	210865	2/8/08	7.52	21.5	506	158
		4/21/08 <sup>1</sup>	7.23	21.7	563	122
		5/19/08 <sup>1</sup>	7.38	22.4	629	130
		6/23/08 <sup>1</sup>	7.02	22.1	674	129
		7/29/08 <sup>1</sup>	7.25	22.4	955	245
		8/28/08 <sup>1</sup>	M	22.3	669	131
		9/23/08 <sup>1</sup>	7.27	22.2	607	124
		10/22/08 <sup>1</sup>	7.31	22.0	653	135
		11/19/08 <sup>1</sup>	7.38	21.1	612	140
		12/17/08 <sup>1</sup>	6.78	21.6	472	144
		1/29/09 <sup>1</sup>	7.08	22.0	475	124
		2/23/09 <sup>1</sup>	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	646.0	119		
2/3/15	7.35	22.4	714	125		
2/3/15 DUP	7.35	22.4	714	126		
8/4/15	7.49	22.5	641.8	110		
1/14/16	7.55	20.6	678.3	130		
7/27/16	7.51	22.3	621.3	100		
7/27/16 DUP	7.51	22.3	621.3	100		
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
		7/7/14	7.44	21.8	464.7	19.4
7/20/15	7.45	23.0	491.2	19		
7/20/15 DUP	7.45	23.0	491.2	19		
7/11/16	7.30	22.6	504.7	19		



**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)
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
		8/3/15	7.50	23.1	425.7	7.5
TM-02A	522574	7/15/16	7.45	22.4	420.8	8.5
		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
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		

**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-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		
2/4/15	7.58	21.0	375	102		
9/15/15	7.36	21.5	411	91.3		
3/14/16	7.46	21.4	419	130		
9/15/16	7.47	21.2	638	123		
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
		1/28/15	7.75	23.0	413	3.96
7/24/15	7.87	22.6	478.8	<5.0		
2/2/16	7.95	19.8	493.5	5.3		
7/13/16	7.73	22.0	514.9	6.7		
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
		9/8/15	7.19	23.0	411	14.7
9/14/16	7.45	23.1	381	14.5		

**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)
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
9/10/15	7.31	24.0	502	61.4		
8/18/16	7.27	24.1	505	64.7		
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

**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 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
7/30/15	7.43	20.5	529.1	16		
1/12/16	7.57	19.5	505.8	44		
9/26/16	7.42	19.0	511.4	15		
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		
7/30/15	7.35	22.1	915.4	280		
7/14/16	7.28	21.6	919.1	270		
WALKER	200393	2/13/08	7.05	20.2	650	20
		7/23/08	7.25	20.7	740	45.4

**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)
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	7.5	22.7	394	13.7		
1/30/15	7.81	20.7	381	14.2		
8/4/15	7.72	22	386.7	13		
1/14/16	7.79	20.2	376.9	14		
7/22/16	7.89	22.9	376.2	13		
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
8/4/15	7.07	24.5	1571	700		
8/4/15 DUP	7.07	24.5	1571	700		
7/26/16	7.00	22.8	1483	700		

**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 897	220897	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
		8/4/15	7.89	24.9	385.7	17
		7/26/16	7.81	23.8	387.0	18
WMD-2011-03M	913037	2/2/12	6.66	22.0	1190	391
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	422.0	6.24
8/3/15	7.61	22.5	430.3	6.5		
7/15/16	7.53	22.4	434.1	7.1		

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

<sup>1</sup> 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	152.70	4435.81					
2/2/15	152.09	4436.42					
5/18/15	152.22	4436.29					
7/22/15	152.63	4435.88					
10/8/15	152.39	4436.12					
1/12/16	152.00	4436.51					
7/19/16	154.43	4434.08					
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
					5/18/15	156.79	4428.58
7/22/15	157.03	4428.34					
7/19/16	153.02	4432.35					
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
					3/24/15	250.25	4221.09
					9/17/15	250.17	4221.17
3/24/16	250.17	4221.17					
9/28/16	250.21	4221.13					

**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	4/8/08	116	4431.64
					8/27/08	121.12	4426.52
					10/23/08 <sup>1</sup>	115	4432.64
					4/22/09 <sup>1</sup>	118	4429.64
					10/9/09 <sup>1</sup>	117	4430.64
					4/23/10 <sup>1</sup>	119	4428.64
					4/11/13	127.64	4420.00
					7/25/13	128.89	4418.75
					10/7/13 <sup>1</sup>	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
					1/29/15	120.00	4427.64
					5/18/15	162.60	4385.04
7/21/15	129.08	4418.56					
10/2015 <sup>1</sup>	128.00	4419.64					
1/13/16	128.80	4418.84					
7/19/16	125.40	4422.24					
AWC-03	616585	599090.322	3468681.898	4539.52	4/8/08	112	4427.52
					8/27/08	119.40	4420.12
					10/23/08 <sup>1</sup>	106	4433.52
					4/22/09 <sup>1</sup>	114	4425.52
					10/9/09 <sup>1</sup>	116	4423.52
					4/23/10 <sup>1</sup>	116	4423.52
					4/11/13 <sup>1</sup>	125	4414.52
					7/16/13 <sup>1</sup>	126	4413.52
					10/7/13 <sup>1</sup>	122	4417.52
					1/7/14 <sup>1</sup>	121	4418.60
					5/14/14 <sup>1</sup>	121.50	4418.02
					7/16/14 <sup>1</sup>	123.50	4416.02
					10/15/14	119.60	4419.92
					1/29/15	120.20	4419.32
					5/19/15	186.20	4353.32
7/21/15	118.00	4421.52					
10/2015 <sup>1</sup>	115.00	4424.52					
1/13/16 <sup>1</sup>	118.00	4421.52					
7/19/16	125.50	4414.02					
AWC-04	616584	598949.929	3468717.084	4540.48	4/8/08	108	4432.48
					8/27/08	112.56	4427.92
					10/23/08 <sup>1</sup>	111.31	4429.17
					4/22/09 <sup>1</sup>	110	4430.48
					10/9/09 <sup>1</sup>	110	4430.48
					4/23/10 <sup>1</sup>	109	4431.48
					4/11/13	120.93	4419.55
					7/16/13	123.76	4416.72
					10/7/13 <sup>1</sup>	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
					1/29/15	112.20	4428.28
					5/19/15	113.90	4426.58
7/21/15	131.70	4408.78					
10/2015 <sup>1</sup>	129	4411.48					
1/13/16	130.33	4410.15					
7/19/16	119.70	4420.78					



**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	4/8/08	284	4258.51
					8/27/08	299.65	4242.86
					10/23/08	284	4258.51
					4/22/09	286	4256.51
					6/3/09	125	4417.51
					10/9/09 <sup>1</sup>	289	4253.51
					4/23/10 <sup>1</sup>	278	4264.51
					4/11/13	229.56	4312.95
					7/16/13	203.17	4339.34
					10/7/13 <sup>1</sup>	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
					1/29/15	133.98	4408.53
					5/18/15	148.05	4394.46
7/21/15	120.84	4421.67					
10/2015 <sup>1</sup>	116	4426.51					
1/13/16	116.22	4426.29					
7/19/16	329.30	4213.21					
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					
1/26/15	230.87	4417.31					
7/24/15	237.53	4410.65					
1/11/16	237.42	4410.76					
7/12/16	232.54	4415.64					

**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)
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
					7/20/15	113.22	4579.14
BF-01	539783	604169.077	3472151.593	4835.23	1/11/16	113.33	4579.03
					7/19/16	113.35	4579.01
					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
BIMA	577927	606001.245	3471852.804	4802.05	7/13/11	348.67	4486.56
					2/1/12	347.84	4487.39
					8/13/12	343.95	4491.28
					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
					2/4/15	73.70	4731.40
					9/10/15	74.12	4730.98
3/3/16	74.30	4730.80					
8/17/16	75.02	4730.08					

**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)
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
					2/5/15	144.79	4439.18
5/28/15	144.90	4439.07					
9/14/15	145.24	4438.73					
10/21/15	145.39	4438.58					
3/3/16	145.18	4438.79					
8/18/16	145.94	4438.03					
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					
1/12/16	136.54	4436.63					

**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					
2/3/15	150.10	4435.00					
5/28/15	150.47	4434.63					
9/8/15	150.38	4434.72					
10/21/15	150.23	4434.87					
3/14/16	149.76	4435.34					
9/14/16	151.31	4433.79					
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					
2/3/15	151.61	4433.41					
5/19/15	151.58	4433.44					
9/8/15	151.63	4433.39					
3/14/16	150.87	4434.15					
9/14/16	152.68	4432.34					

**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					
2/3/15	195.12	4432.32					
5/19/15	195.00	4432.44					
9/8/15	195.48	4431.96					
10/21/15	195.37	4432.07					
3/14/16	195.00	4432.44					
9/14/16	196.36	4431.08					
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					
2/3/15	195.90	4431.00					
5/19/15	195.64	4431.26					
9/8/15	196.32	4430.58					
3/14/16	195.87	4431.03					
9/14/16	197.37	4429.53					

**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					
2/5/15	243.91	4444.42					
9/14/15	244.59	4443.74					
3/16/16	244.91	4443.42					
8/18/16	245.23	4443.10					
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
2/5/15	299.56	4453.69					
9/15/15	300.14	4453.11					
3/16/16	300.76	4452.49					
9/15/16	301.26	4451.99					
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					
2/5/15	301.98	4450.47					
9/15/15	302.46	4449.99					
3/16/16	303.19	4449.26					
9/15/16	303.43	4449.02					

**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
					BMO-2008-10GL	909435	605264.072
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					
2/10/15	463.22	4328.99					
9/14/15	439.93	4352.28					
3/16/16	364.33	4427.88					
8/17/16	337.26	4454.95					
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
					2/10/15	207.58	4585.87
9/14/15	200.36	4593.09					
3/16/16	195.53	4597.92					
8/17/16	201.47	4591.98					

**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
2/5/15	560.60	4284.07					
9/14/15	557.84	4286.83					
3/15/16	556.04	4288.63					
8/17/16	554.94	4289.73					
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
					2/4/15	212.28	4436.93
9/15/15	212.37	4436.84					
3/16/16	211.95	4437.26					
9/21/16	212.84	4436.37					
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
					2/4/15	212.97	4434.18
9/15/15	212.91	4434.24					
3/16/16	212.76	4434.39					
9/21/16	213.22	4433.93					



**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)
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					
2/5/15	214.19	4504.36					
9/9/15	211.68	4506.87					
3/16/16	210.91	4507.64					
8/25/16	212.23	4506.32					
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					
2/5/15	259.84	4486.32					
9/14/15	260.92	4485.24					
3/16/16	261.81	4484.35					
9/13/16	264.66	4481.50					

**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					
1/28/15	118.46	4432.13					
5/18/15	118.49	4432.10					
7/22/15	118.81	4431.78					
10/6/15	118.06	4432.53					
2/2/16	117.39	4433.20					
7/12/16	119.21	4431.38					
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					
1/28/15	120.63	4429.90					
5/18/15	120.48	4430.05					
7/22/15	120.42	4430.11					
10/6/15	119.44	4431.09					
2/2/16	118.65	4431.88					
7/12/16	121.56	4428.97					
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
					2/4/15	222.57	4497.19
9/10/15	221.60	4498.16					
3/3/16	214.86	4504.90					
8/17/16	215.57	4504.19					

**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)
BMO-2014-1BL	917393	600563.194	3468234.798	4557.18	11/7/14	123.03	4434.15
				4558.45	1/29/15	123.53	4434.92
					4/15/15	123.45	4435.00
					5/18/15	123.93	4434.52
					7/29/15	124.22	4434.23
					10/7/15	123.58	4434.87
					2/4/16	123.17	4435.28
					4/6/16	123.61	4434.84
					7/14/16	124.85	4433.60
11/2/16	124.93	4433.52					
BMO-2014-1BU	917394	600570.805	3468231.440	4557.18	11/13/14	123.51	4433.67
				4558.54	1/28/15	123.74	4434.80
					4/15/15	123.90	4434.64
					5/18/15	124.42	4434.12
					7/29/15	124.65	4433.89
					10/7/15	123.97	4434.57
					2/4/16	123.43	4435.11
					4/6/16	123.90	4434.64
					7/14/16	125.23	4433.31
11/2/16	125.32	4433.22					
BMO-2014-2BL	917452	600784.872	3468183.921	4560.31	11/20/14	126.15	4434.16
				4561.80	1/29/15	126.74	4435.06
					4/15/15	126.70	4435.10
					5/18/15	127.18	4434.62
					7/29/15	127.43	4434.37
					10/7/15	126.90	4434.90
					2/4/16	126.68	4435.12
					4/6/16	126.77	4435.03
					7/14/16	127.85	4433.95
11/2/16	128.39	4433.41					
BMO-2014-2BU	917453	600788.520	3468192.762	4560.31	12/1/14	126.73	4433.58
				4561.85	1/30/15	126.73	4435.12
					4/15/15	126.65	4435.20
					5/18/15	127.21	4434.64
					7/29/15	127.49	4434.36
					10/7/15	126.94	4434.91
					2/4/16	126.56	4435.29
					4/6/16	126.81	4435.04
					7/14/16	127.93	4433.92
11/2/16	128.37	4433.48					
BMO-2014-3BL	917527	600822.399	3467786.416	4572.213	2/13/15	136.57	4435.64
				4573.765	4/15/15	138.35	4435.42
					5/18/15	138.64	4435.13
					7/29/15	138.86	4434.91
					10/7/15	138.51	4435.26
					2/4/16	138.14	4435.63
					4/6/16	138.39	4435.38
					7/14/16	139.44	4434.33
11/2/16	139.66	4434.11					
BMO-2014-3BU	917494	600810.534	3467787.733	4572.213	2/24/15	137.91	4434.30
				4574.887	4/15/15	139.45	4435.44
					5/18/15	139.74	4435.15
					7/29/15	140.03	4434.86
					10/7/15	139.64	4435.25
					2/4/16	139.20	4435.69
					4/6/16	139.48	4435.41
					7/14/16	140.55	4434.34
11/2/16	140.83	4434.06					

**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)
BMO-2014-4B	917620	600508.792	3468581.267	4566.453	3/4/15	132.43	4434.02
				4567.672	4/14/15	133.60	4434.07
					5/18/15	133.85	4433.82
					7/23/15	134.27	4433.40
					10/6/15	133.74	4433.93
					2/3/16	133.04	4434.63
					4/5/16	133.25	4434.42
					7/13/16	134.64	4433.03
11/1/16	134.87	4432.80					
BMO-2014-4BL	917619	600498.091	3468566.229	4566.453	3/1/15	131.89	4434.56
				4567.045	4/14/15	132.95	4434.10
					5/18/15	133.23	4433.82
					7/23/15	133.67	4433.38
					10/6/15	133.16	4433.89
					2/3/16	132.43	4434.62
					4/5/16	132.67	4434.38
					8/25/16	133.82	4433.23
11/1/16	134.30	4432.75					
BMO-2015-1B	917622	600261.991	3468563.389	4561.382	3/15/15	128.05	4433.33
				4562.063	4/14/15	129.10	4432.96
					5/18/15	129.24	4432.82
					7/23/15	129.62	4432.44
					10/6/15	129.02	4433.04
					2/3/16	128.41	4433.65
					4/5/16	128.45	4433.61
					8/25/16	130.05	4432.01
11/1/16	130.38	4431.68					
BMO-2015-1BL	917621	600272.479	3468583.092	4561.382	3/12/15	129.10	4432.28
				4563.402	4/14/15	130.45	4432.95
					5/18/15	130.59	4432.81
					7/23/15	130.98	4432.42
					10/6/15	130.30	4433.10
					2/3/16	129.75	4433.65
					4/5/16	129.81	4433.59
					7/13/16	131.31	4432.09
11/1/16	131.66	4431.74					
BMO-2015-2B	917827	600267.799	3468996.635	4579.624	3/19/15	147.17	4432.45
				4582.082	4/14/15	149.05	4433.03
					5/18/15	149.18	4432.90
					7/23/15	149.47	4432.61
					10/6/15	148.94	4433.14
					2/3/16	148.45	4433.63
					4/5/16	148.37	4433.71
					7/13/16	149.88	4432.20
11/1/16	150.30	4431.78					
BMO-2015-2BL	917828	600252.069	3468983.910	4579.624	3/26/15	146.43	4433.19
				4580.644	4/14/15	147.60	4433.04
					5/18/15	147.82	4432.82
					7/23/15	148.12	4432.52
					10/6/15	147.56	4433.08
					2/3/16	147.06	4433.58
					4/5/16	146.99	4433.65
					7/13/16	148.52	4432.12
11/1/16	149.00	4431.64					
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
COB MW-1	903992	603153.259	3469889.889	4683.26	10/21/14	594.68	4261.62
					8/3/15	587.06	4269.24
					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					
2/4/15	239.46	4443.80					
7/27/15	239.83	4443.43					
COB MW-1B	225906	603153.259 <sup>2</sup>	3469889.889 <sup>2</sup>	4683.26 <sup>2</sup>	7/20/16	240.06	4443.20
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
					2/4/15	126.60	4439.61
5/28/15	130.39	4435.82					
7/27/15	130.32	4435.89					
10/7/15	129.96	4436.25					
1/11/16	129.56	4436.65					
7/20/16	130.90	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)
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
2/4/15	115.11	4423.52					
7/27/15	118.39	4420.24					
10/7/15	114.37	4424.26					
1/11/16	112.93	4425.70					
7/20/16	120.25	4418.38					
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
					2/4/15	58.14	4773.92
7/27/15	80.09	4751.97					
1/11/16	81.72	4750.34					
7/20/16	84.80	4747.26					
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					
5/19/15	162.14	4437.00					
9/10/15	162.14	4437.00					
10/21/15	162.17	4436.97					
3/16/16	161.76	4437.38					
8/18/16	162.78	4436.36					
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					
1/26/15	95.81	4590.53					
7/23/15	97.32	4589.02					
1/12/16	99.34	4587.00					
7/18/16	103.91	4582.43					

**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 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					
7/20/15	30.86	4672.41					
7/1/16	32.09	4671.18					
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					
7/20/15	82.57	4599.16					
7/1/16	83.48	4598.25					



**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)
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					
7/24/15	74.64	4551.37					
7/12/16	65.02	4560.99					
ECHAVE	219449	599701	3470168	4648	2/1/12	216.71	4431.29
					1/18/13	218.41	4429.59
EPPELE 641	805641	607165.354	3469229.942	4642.86	3/1/08	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					
7/24/15	41.32	4601.54					
7/12/16	38.41	4604.45					

**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)
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					
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
7/27/15	198.11	4438.77					
7/18/16	197.32	4439.56					
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					

**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 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
					7/1/12	196.72	4441.73
					10/5/12	197.08	4441.37
1/1/13	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					
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					

**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)
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
GOAR RANCH	610695	602454.751	3468892.471	4631.13	7/7/10	655.05	4269.26
					2/1/12	651.72	4272.59
					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					
2/2/15	191.44	4439.69					
8/4/15	191.74	4439.39					
1/11/16	191.68	4439.45					
7/25/16	191.83	4439.30					

**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)
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					
2/4/15	170.26	4437.34					
5/19/15	170.37	4437.23					
9/10/15	170.57	4437.03					
10/21/15	170.58	4437.02					
3/16/16	170.33	4437.27					
8/18/16	171.05	4436.55					
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
					5/19/15	208.08	4386.86
7/31/15	210.54	4384.40					
7/27/16	207.89	4387.05					

**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)
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					
2/2/15	157.11	4436.80					
5/19/15	157.31	4436.60					
7/31/15	157.58	4436.33					
10/8/15	157.36	4436.55					
1/12/16	157.01	4436.90					
7/27/16	157.93	4435.98					

**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					
5/19/15	140.47	4431.56					
7/21/15	140.80	4431.23					
10/8/15	140.21	4431.82					
1/14/16	139.54	4432.49					
7/25/16	143.37	4428.66					
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
					3/24/15	214.18	4229.65
					9/17/15	216.39	4227.44
3/24/16	217.85	4225.98					
9/28/16	219.8	4224.03					

**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					
3/24/15	248.46	4278.59					
9/17/15	243.05	4284.00					
3/24/16	266.62	4260.43					
9/28/16	246.14	4280.91					
LADD 635	224635	598724.834	3467541.096	4598.99	7/18/15	169.31	4429.68
					12/17/15	169.54	4429.45
					3/31/16	169.56	4429.43
					9/28/16	170.21	4428.78
					11/22/16	170.90	4428.09
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					
3/24/15	261.44	4208.67					
9/17/15	264.32	4205.79					
3/24/16	261.79	4208.32					
9/28/16	262.8	4207.31					



**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)
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
					3/24/15	83.73	4429.67
5/19/15	84.28	4429.12					
9/17/15	86.44	4426.96					
12/17/15	86.81	4426.59					
3/24/16	87.22	4426.18					
9/28/16	86.11	4427.29					
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					
2/2/15	163.32	4437.38					
5/19/15	163.54	4437.16					
7/31/15	163.83	4436.87					
10/8/15	163.64	4437.06					
1/11/16	163.36	4437.34					
7/26/16	167.70	4433.00					

**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					
1/27/15	293.36	4435.17					
8/3/15	293.54	4434.99					
1/12/16	293.69	4434.84					
7/25/16	293.40	4435.13					
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
7/20/15	553.54	4207.69					
7/11/16	556.90	4204.33					

**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)
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
					3/23/15	101.56	4429.82
6/22/15	104.33	4427.05					
9/28/15	113.64	4417.74					
12/21/15	112.43	4418.95					
3/21/16	113.42	4417.96					
6/20/16	114.78	4416.60					
9/29/16	103.99	4427.39					
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
					3/23/15	87.68	4430.60
6/22/15	89.40	4428.88					
9/28/15	90.65	4427.63					
12/21/15	90.97	4427.31					
3/21/16	91.30	4426.98					
6/20/16	92.16	4426.12					
9/29/16	89.50	4428.78					
NWC-02	562944	600177.435	3467474.673	4600.44	10/27/08	160.51	4439.93
					4/29/09 <sup>3</sup>	160.5	4439.94
					9/10/09 <sup>3</sup>	155	4445.44
					4/20/10 <sup>3</sup>	131	4469.44
					3/1/13 <sup>3</sup>	131	4469.44
					2/12/15	165.02	4435.42
					7/30/15	166.36	4434.08
					10/6/15	165.92	4434.52
1/12/16	166.36	4434.08					
7/26/16	167.43	4433.01					

**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)
NWC-03	203321	601153.857	3468350.838	4574.99	11/3/08	131.48	4443.51
					4/29/09 <sup>3</sup>	130	4444.99
					9/10/09 <sup>3</sup>	126	4448.99
					10/9/09 <sup>3</sup>	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					
2/12/15	136.27	4436.55					
7/30/15	136.88	4435.94					
9/29/16	130.38	4442.44					
NWC-04	551849	605829.808	3469071.959	4690.77	12/2/08	352.11	4338.66
					4/29/09 <sup>3</sup>	328	4362.77
					9/10/09 <sup>3</sup>	324	4366.77
					4/2010 <sup>3</sup>	216	4474.77
					3/1/13 <sup>3</sup>	216	4474.77
NWC-06	575700	599822.821	3467749.954	4592.50	4/29/09 <sup>3</sup>	156	4436.50
					9/10/09 <sup>3</sup>	155	4437.50
					10/9/09 <sup>3</sup>	148	4444.50
					4/2010 <sup>3</sup>	140	4452.50
					3/1/13 <sup>3</sup>	140	4452.50
					7/30/15	160.95	4431.55
					10/6/15	160.48	4432.02
					1/12/16	168.81	4423.69
7/26/16	167.73	4424.77					
OLMOS	224745	599641.506	3468055.337	4576.92	1/13/16	145.84	4431.08
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					

**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)
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					
1/26/15	158.02	4533.38					
7/27/15	160.04	4531.36					
1/11/16	160.50	4530.90					
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					
2/2/15	155.81	4436.32					
5/18/15	155.97	4436.16					
7/22/15	156.29	4435.84					
10/8/15	156.03	4436.10					
1/11/16	155.64	4436.49					
7/26/16	156.55	4435.58					
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
5/18/15	152.76	4434.45					
7/22/15	153.12	4434.09					
7/26/16	153.32	4433.89					
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
3/21/16	209.98	4429.11					

**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
					1/27/15	294.24	4440.14
					3/10/15	294.19	4440.19
					4/28/15	294.17	4440.21
					5/14/15	249.23	4485.15
					6/11/15	294.29	4440.09
7/30/15	294.38	4440.00					
1/14/16	294.65	4439.73					
7/27/16	294.81	4439.57					
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
					2/2/15	164.33	4432.28
5/28/15	164.39	4432.22					
7/21/15	164.65	4431.96					
10/8/15	164.72	4431.89					
1/14/16	164.15	4432.46					
7/14/16	165.52	4431.09					

**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					
8/4/15	48.31	4599.60					
7/12/16	53.50	4594.41					
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					
1/12/16	139.57	4437.78					
ROGERS 750 <sup>4</sup>	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					



**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 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					
7/30/15	155.91	4434.75					
10/8/15	155.55	4435.11					
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					
1/27/15	299.76	4435.42					
7/30/15	299.74	4435.44					
1/12/16	300.20	4434.98					

**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					
2/3/15	128.66	4435.83					
5/18/15	129.30	4435.19					
8/4/15	129.51	4434.98					
10/8/15	129.34	4435.15					
1/14/16	128.32	4436.17					
7/27/16	130.01	4434.48					
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
1/26/15	47.91	4603.31					
7/24/15	49.71	4601.51					
1/11/16	50.88	4600.34					
7/12/16	52.64	4598.58					

**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)
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					
7/20/15	33.08	4683.51					
7/11/16	35.60	4680.99					
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
					2/2/15	166.56	4431.06
5/19/15	166.51	4431.11					
8/3/15	167.09	4430.53					

**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					
2/5/15	336.02	4472.41					
9/14/15	334.23	4474.20					
3/16/16	333.52	4474.91					
8/17/16	333.90	4474.53					
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
2/5/15	162.36	4545.52					
9/10/15	162.94	4544.94					
3/16/16	162.14	4545.74					
9/21/16	163.08	4544.80					

**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)
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
					1/28/15	252.47	4488.71
7/24/15	264.53	4476.65					
2/2/16	262.66	4478.52					
7/13/16	269.35	4471.83					
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
					2/5/15	58.80	4658.91
9/9/15	60.06	4657.65					
3/16/16	60.43	4657.28					
8/25/16	59.24	4658.47					
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					
9/10/15	206.48	4439.39					
8/18/16	207.24	4438.63					

**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
2/4/15	218.87	4447.80					
9/10/15	219.31	4447.36					
3/16/16	219.55	4447.12					
8/18/16	219.89	4446.78					
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
					2/2/15	126.81	4435.17
					5/19/15	128.38	4433.60
					7/30/15	128.31	4433.67
10/7/15	127.26	4434.72					
1/12/16	126.49	4435.49					
7/20/16	128.90	4433.08					
9/26/16	128.26	4433.72					

**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					
1/29/15	132.01	4435.21					
5/18/15	132.34	4434.88					
7/30/15	132.71	4434.51					
10/7/15	132.00	4435.22					
1/12/16	131.34	4435.88					
7/14/16	133.11	4434.11					

**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					
2/2/15	150.01	4436.88					
5/18/15	150.25	4436.64					
8/4/15	150.72	4436.17					
10/8/15	150.47	4436.42					
1/12/16	151.01	4435.88					
7/26/16	150.95	4435.94					
WEISKOPF 897	220897	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
					5/18/15	149.95	4435.75
8/4/15	150.31	4435.39					
7/26/16	150.63	4435.07					
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					
8/3/15	150.65	4430.29					
10/8/15	150.10	4430.84					
1/12/16	149.46	4431.48					
7/15/16	151.25	4429.69					

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)

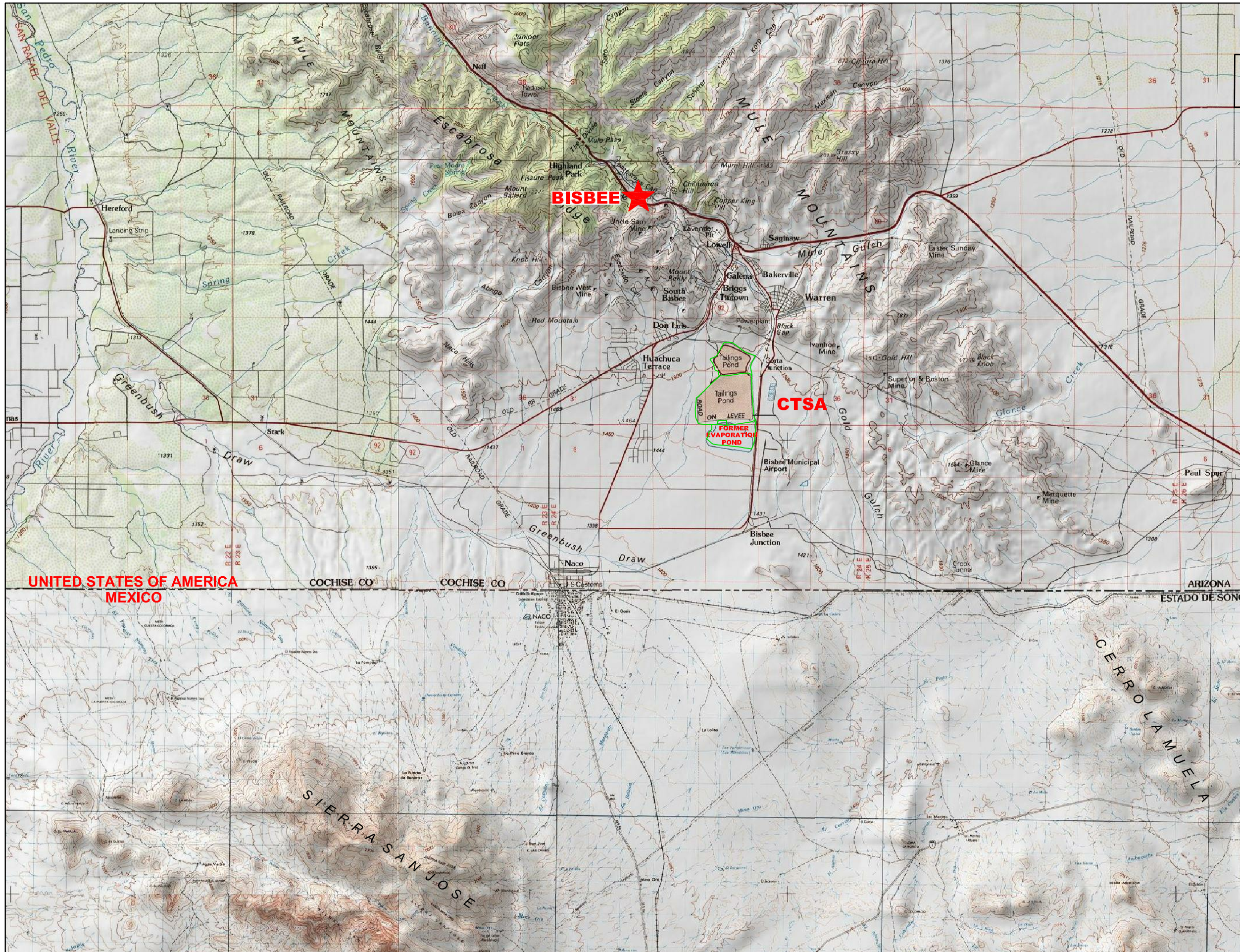
<sup>1</sup> Depth to water measurement provided by Arizona Water Company

<sup>2</sup> Preliminary data will be updated when well survey is conducted

<sup>3</sup> Depth to water measurement provided by Naco Water Company

<sup>4</sup> Well previously identified as ROGERS 803

## FIGURES



**LEGEND**

CTSA FACILITY

UNITED STATES OF AMERICA  
MEXICO

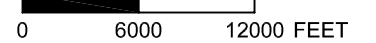
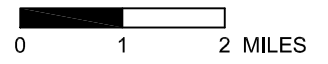
COCHISE CO

COCHISE CO

ARIZONA

ESTADO DE SONORA

SCALE

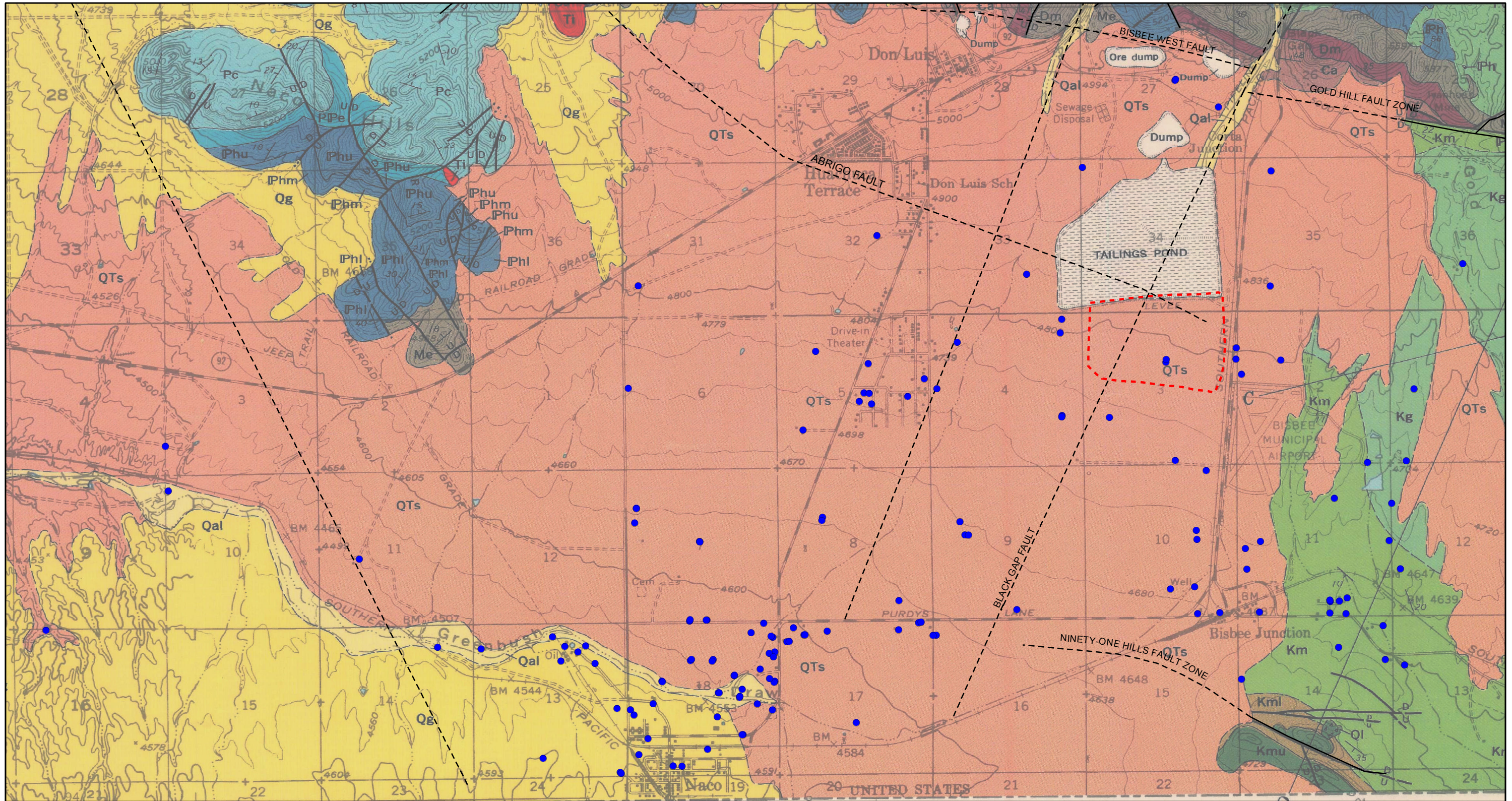


Date 03/16/2015

File ID 055038-239B

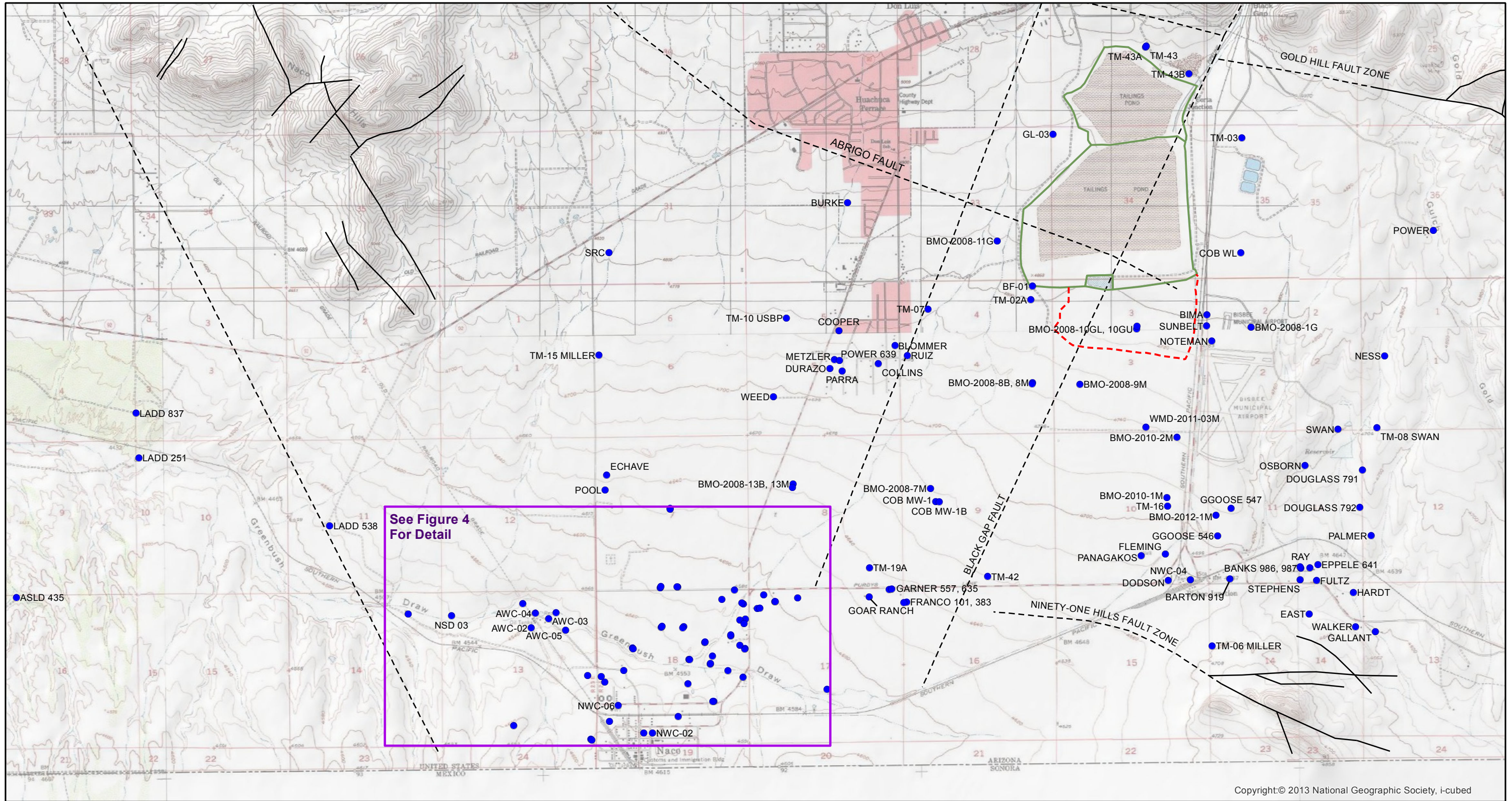


FIGURE 1  
LOCATION MAP



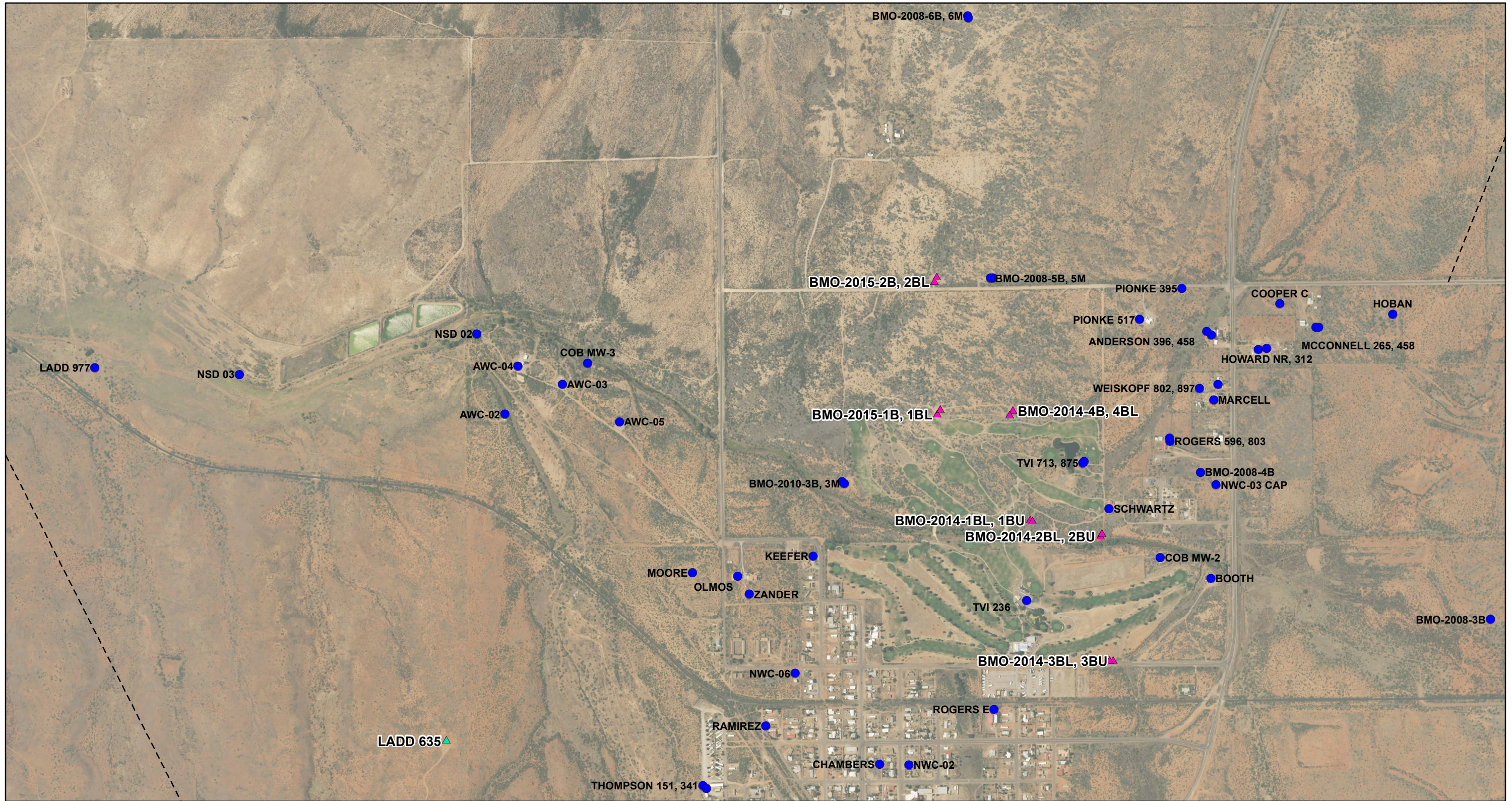
<b>Legend</b> <ul style="list-style-type: none"> <li><span style="color: blue;">●</span> Monitoring Location</li> <li>— Fault (dashed where inferred)</li> <li><span style="border: 1px dashed red; display: inline-block; width: 10px; height: 10px;"></span> Former Evaporation Ponds</li> </ul>	<b>Basin Fill</b> <ul style="list-style-type: none"> <li><span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Qal - Quaternary Alluvium</li> <li><span style="background-color: lightyellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Qg - Quaternary Gravel</li> <li><span style="background-color: lightcoral; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> QTs - Quaternary Tertiary sediment</li> <li><span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Ti - Tertiary Intrusive</li> </ul>	<b>Bisbee Group</b> <ul style="list-style-type: none"> <li><span style="background-color: #c8e6c9; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Kc - Cintura Formation (not shown)</li> <li><span style="background-color: #e8f5e9; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Kmu - Upper Mural Limestone</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Kml - Lower Mural Limestone</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Km - Morita Formation</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Kg - Glance Conglomerate</li> </ul>	<b>Geologic Unit - Hayes and Landis (1964)</b> <ul style="list-style-type: none"> <li><span style="background-color: #c8e6c9; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Pc - Colina Limestone</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> PPe - Earp Formation</li> <li><span style="background-color: #c8e6c9; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Phu, Phm, Phi - Horquilla Limestone</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Me - Escabrosa Limestone</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Dm - Martin Limestone</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Ca - Abrigo Limestone</li> </ul>	<b>Paleozoic Sedimentary Formations</b> <ul style="list-style-type: none"> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Me - Escabrosa Limestone</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Dm - Martin Limestone</li> <li><span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Ca - Abrigo Limestone</li> </ul>	<b>Scale (Feet)</b>  0      3,000      6,000	Date: 1/17/17 File ID: 055038-402
	<b>See Figure 3 for Monitoring Location Names</b>					Projection: UTM Zone 12N NAD83 Geology reprinted from Hayes and Landis (1964) USGS Miscellaneous Geologic Investigations I-418

**FIGURE 2**  
**GEOLOGIC MAP**  
**WITH MONITORING LOCATIONS**



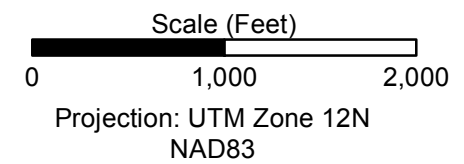
Copyright:© 2013 National Geographic Society, i-cubed

<p><b>Legend</b></p> <ul style="list-style-type: none"> <li>● Monitoring Location</li> <li>▭ Former Evaporation Ponds</li> <li>▭ CTSA Facility</li> <li>— Fault (dashed where inferred)</li> </ul>	<p>Scale (Feet)</p>		<p>Date</p> <p>1/17/17</p>	<p>File ID</p> <p>055038-357</p>
	<p>Projection: UTM Zone 12N NAD83</p>			
	<p><b>FIGURE 3</b> MONITORING LOCATIONS</p>			



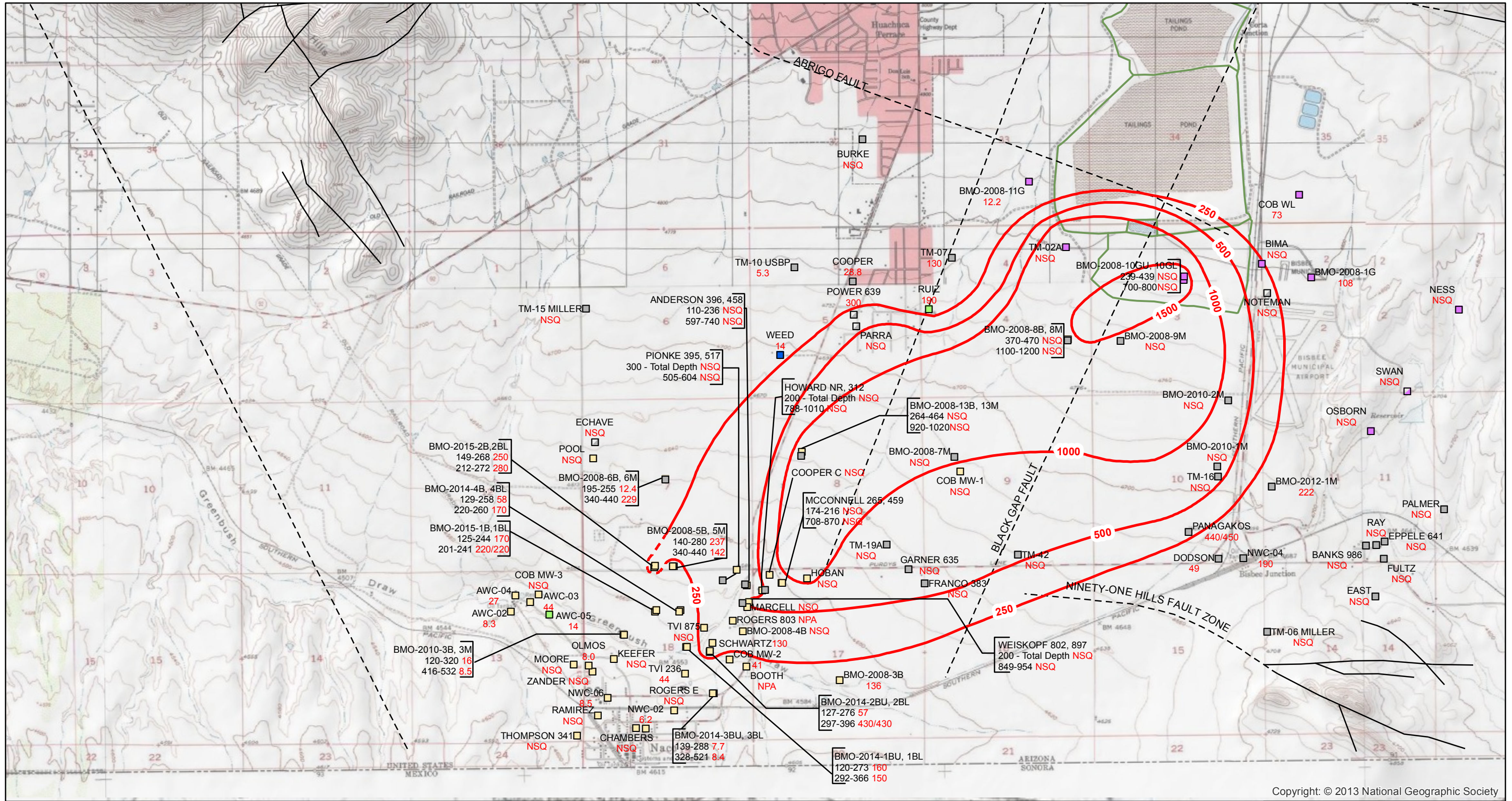
**Legend**

- ▲ Water Supply Study Well
- ▲ Expanded Goundwater Monitoring Well
- Existing Well Location



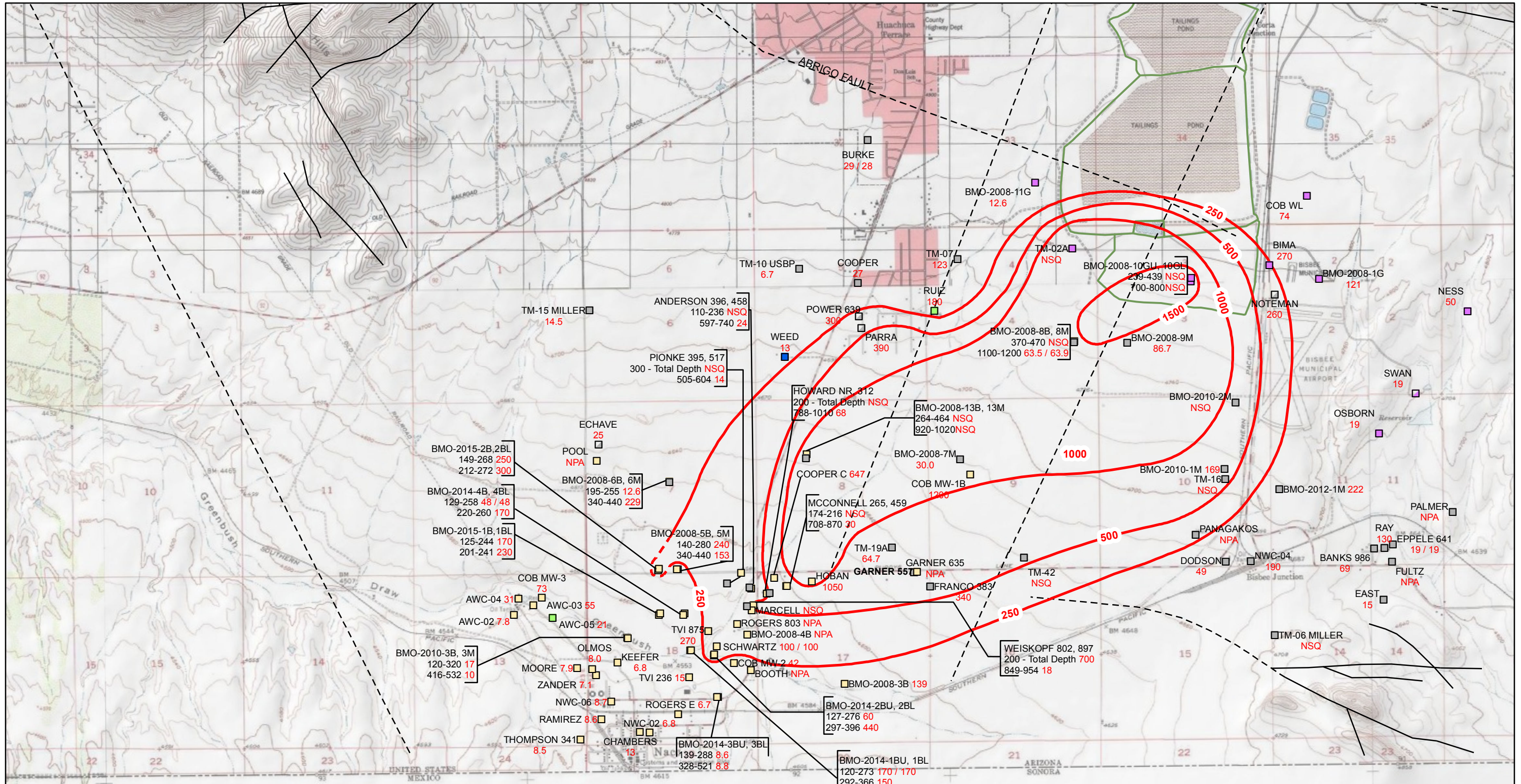
Date	1/17/17	File ID	055038-461

FIGURE 4  
NACO AREA  
WELL SITES



Copyright: © 2013 National Geographic Society

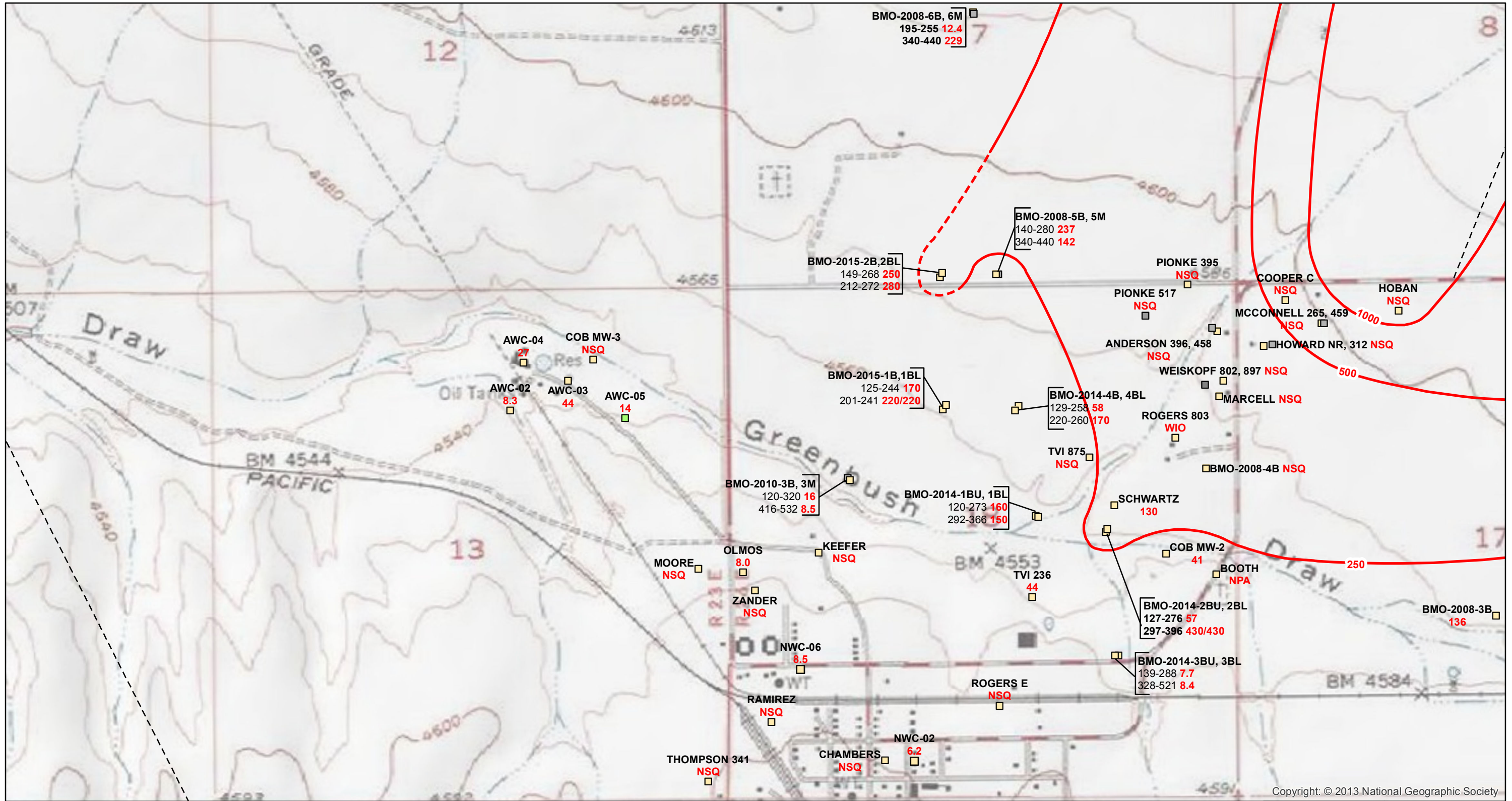
<p><b>Legend</b></p> <ul style="list-style-type: none"> <li>□ NWC-02 Well ID</li> <li>6.2 SO4 Concentration (mg/L)</li> <li>— SO4 Concentration Contours (dashed where inferred)</li> <li>--- Fault (dashed where inferred)</li> <li>— CTSA Facility</li> </ul> <p>Co-located Wells</p> <ul style="list-style-type: none"> <li>□ Well ID</li> <li>Screen (ft bls): Sulfate Levels (mg/L)</li> </ul>		<p><b>Screened Formation</b></p> <ul style="list-style-type: none"> <li>□ Basin Fill</li> <li>□ Basin Fill and Undifferentiated Bisbee Group</li> <li>□ Undifferentiated Bisbee Group</li> <li>□ Undifferentiated Bisbee Group - Estimated</li> <li>□ Undifferentiated Bisbee Group and Glance Conglomerate</li> <li>□ Glance Conglomerate</li> <li>□ Glance Conglomerate - Estimated</li> <li>□ Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations</li> </ul>		<p>NSQ = Not Scheduled for Quarter            NPA = No Property Access            mg/L = milligrams per liter            ft bls = feet below land surface            Sulfate contours are based on represented and historical data.</p>		<p>Scale (Feet)</p> <p>0 3,000 6,000</p>		<p>Date 2/19/16 File ID 055038-467</p>	
				<p>Projection: UTM Zone 12N NAD83</p>		<p><b>FIGURE 5</b>            SULFATE CONCENTRATIONS IN SITE-WIDE GROUNDWATER SAMPLES FOR FIRST QUARTER 2016</p>			



Copyright: © 2013 National Geographic Society

<p><b>Legend</b></p> <ul style="list-style-type: none"> <li>□ NWC-02 Well ID</li> <li>6.8 SO4 Concentration (mg/L) Duplicate results separated by "/"</li> <li>— SO4 Concentration Contours (dashed where inferred)</li> <li>- - - Fault (dashed where inferred)</li> <li>— CTSA Facility</li> </ul> <p>Co-located Wells</p> <ul style="list-style-type: none"> <li>□ Well ID</li> <li>Screen (ft bls): Sulfate Levels (mg/L)</li> </ul>		<p><b>Screened Formation</b></p> <ul style="list-style-type: none"> <li>□ Basin Fill</li> <li>□ Basin Fill and Undifferentiated Bisbee Group</li> <li>□ Undifferentiated Bisbee Group</li> <li>□ Undifferentiated Bisbee Group - Estimated</li> <li>□ Undifferentiated Bisbee Group and Glance Conglomerate</li> <li>□ Glance Conglomerate</li> <li>□ Glance Conglomerate - Estimated</li> <li>□ Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations</li> </ul>		<p>NSQ = Not Scheduled for Quarter NPA = No Property Access mg/L = milligrams per liter ft bls = feet below land surface Sulfate contours are based on represented and historical data.</p>		<p>Scale (Feet)</p> <p>0 3,000 6,000</p>		<p>Date 2/19/16 File ID 055038-475</p>	
				<p>Projection: UTM Zone 12N NAD83</p>		<p>FIGURE 6 SULFATE CONCENTRATIONS IN SITE-WIDE GROUNDWATER SAMPLES FOR THIRD QUARTER 2016</p>			





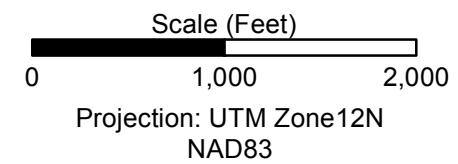
Copyright: © 2013 National Geographic Society

**Legend**

- NWC-02 Well ID
- 6.2 Sulfate Concentration (mg/L)
- Duplicate results separated by "/"
- Sulfate Concentration (dashed where inferred)
- - - Fault (Inferred)
- Co-located Wells
- Well ID
- Screen (ft bls): Sulfate Levels (mg/L)

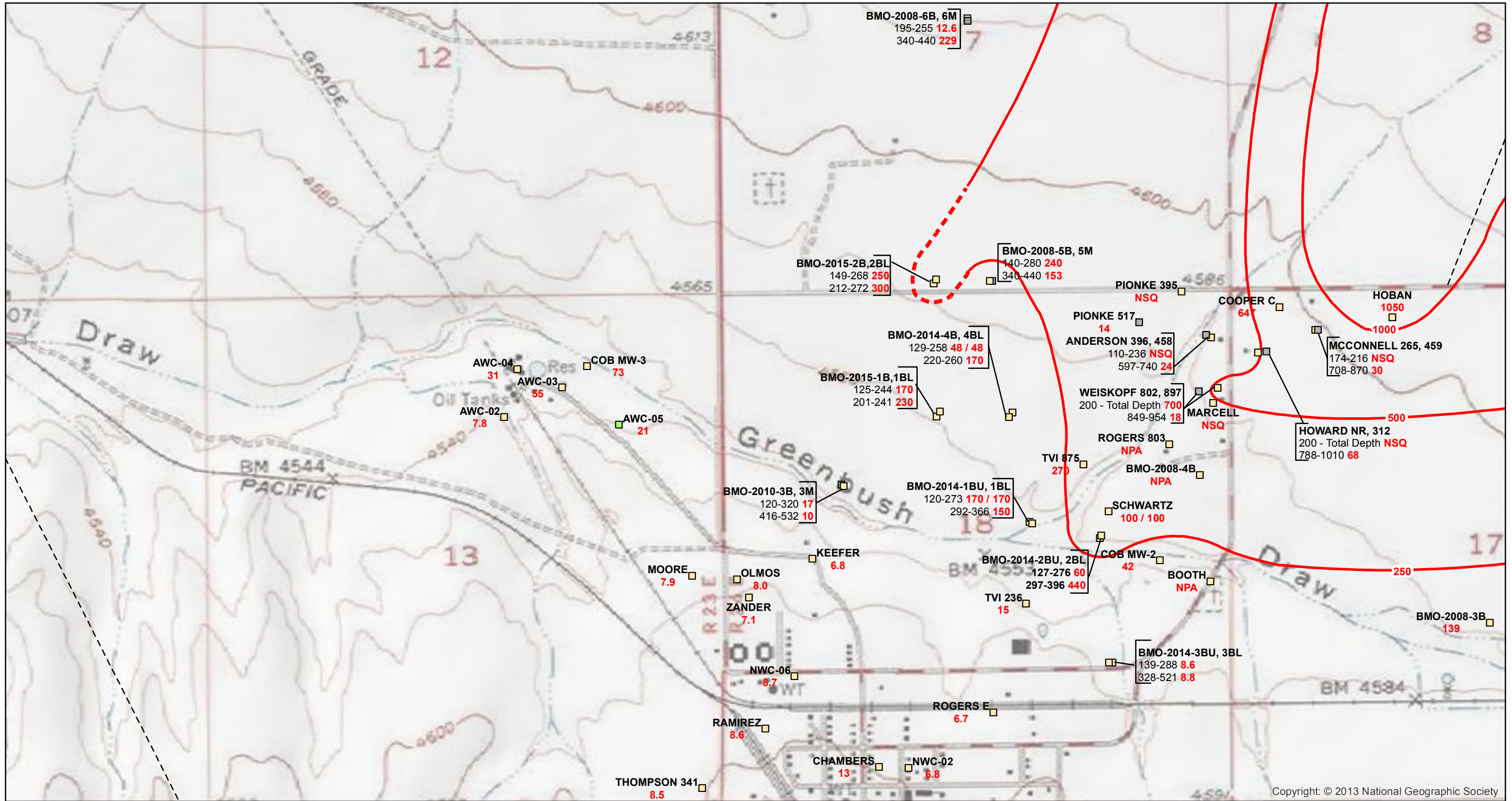
- Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Gance Conglomerate
- Gance Conglomerate
- Gance Conglomerate - Estimated
- Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations

NPA = No Property Access  
 NSQ = Not Scheduled for Quarter  
 WIO = Well Inoperable  
 mg/L = milligrams per liter  
 ft bls = feet below land surface  
 Sulfate contours are based on represented and historical data.



Date	2/19/16	File ID	055038-466

**FIGURE 7**  
 SULFATE CONCENTRATIONS AT THE WEST EDGE OF THE PLUME FOR FIRST QUARTER 2016



Copyright: © 2013 National Geographic Society

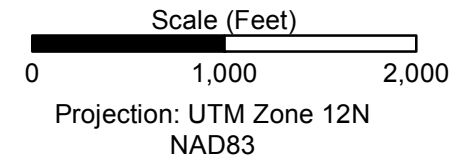
**Legend**

- BMO-2014-1BU Well ID  
170 Sulfate Concentration (mg/L)  
 Duplicate results separated by "/"  
 Sulfate Concentration (dashed where inferred)
- Fault (Inferred)
- 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

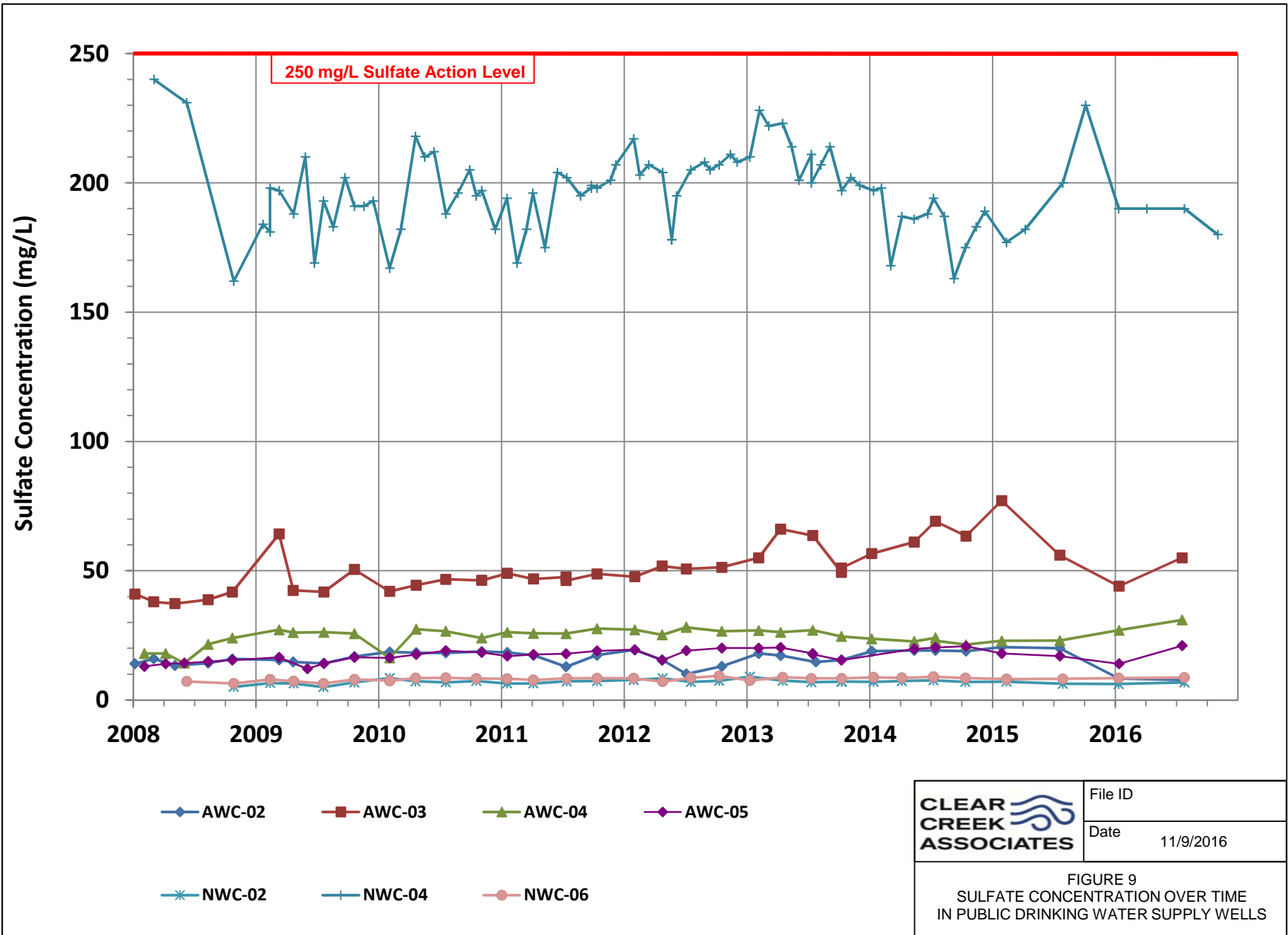
NSQ = Not Scheduled for Quarter  
 NPA = No Property Access  
 mg/L = milligrams per liter  
 ft bls = feet below land surface  
 Sulfate contours are based on represented and historical data.

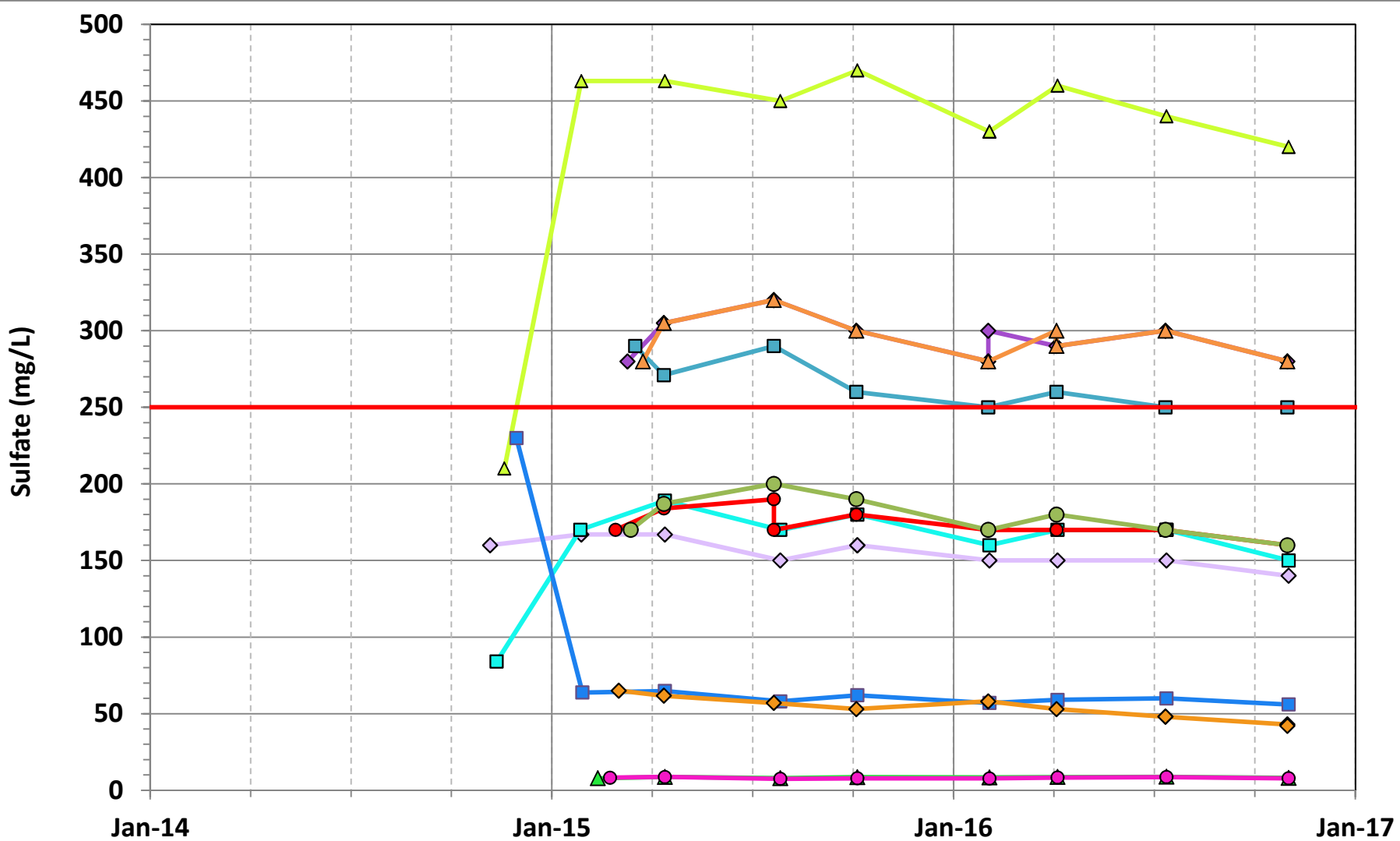
Undifferentiated Bisbee Group: Cintura Formation, Mural Limestone, and Morita Formations



Date 10/5/16	File ID 055038-480

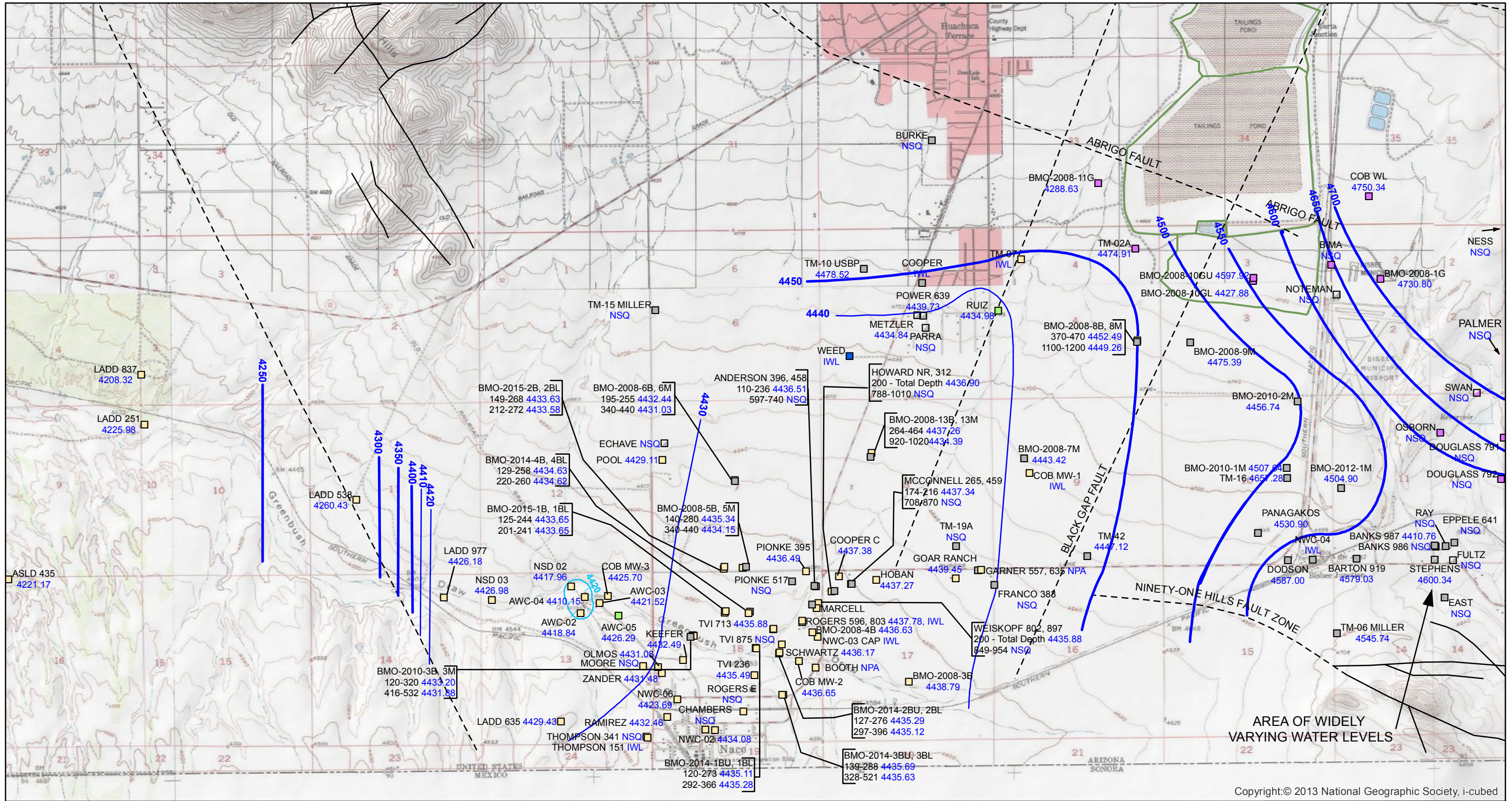
**FIGURE 8**  
 SULFATE CONCENTRATIONS AT THE WEST EDGE OF THE PLUME FOR THIRD QUARTER 2016





Note: mg/L = milligrams per Liter

	File ID
	Date 1/12/2017
<b>FIGURE 10</b> SULFATE CONCENTRATIONS OVER TIME IN EXPANDED GROUNDWATER MONITORING PROGRAM WELLS	



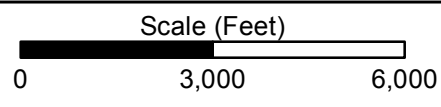
Copyright:© 2013 National Geographic Society, i-cubed

**Legend**

- AWC-05 Well ID
- 4426.29 Groundwater Elevation (ft amsl)
- Groundwater Elevation Contours (10 ft)
- Groundwater Elevation Contours (50 ft) (dashed where inferred)
- ~~~~~ Groundwater Depression
- Faults (dashed where inferred)
- C TSA 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

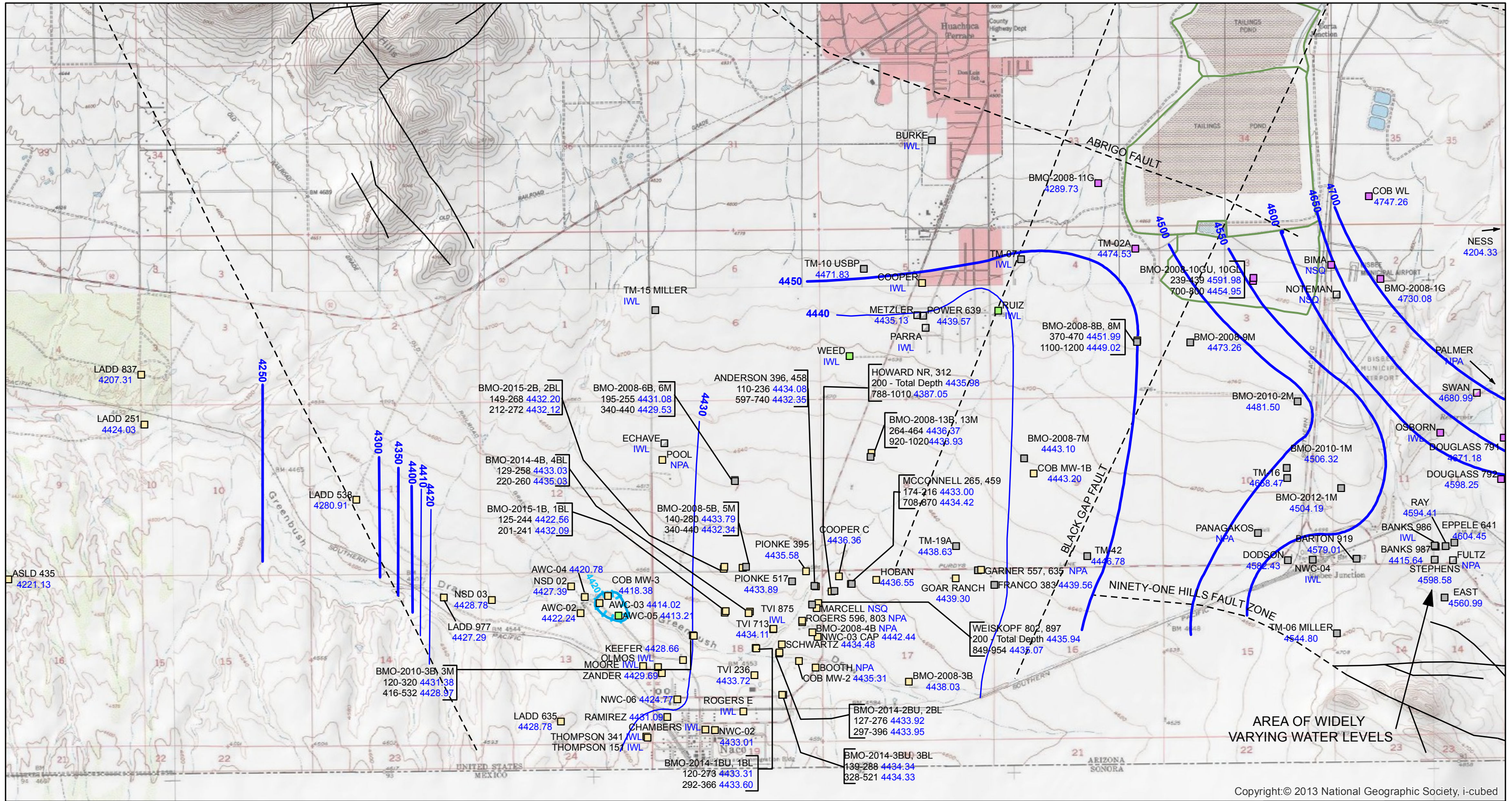
IWL = Inaccessible for Water Level  
 NPA = No Property Access  
 NSQ = Not Scheduled for Quarter  
 ft amsl = feet above mean sea level  
 ft bls = feet below land surface



Date	1/17/17	File ID	055038-465

Projection: UTM Zone 12N NAD83

**FIGURE 11**  
 SITE-WIDE  
 GROUNDWATER ELEVATIONS  
 FOR FIRST QUARTER 2016



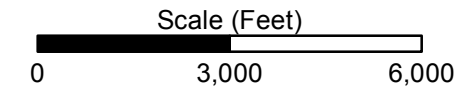
Copyright:© 2013 National Geographic Society, i-cubed

**Legend**

- AWC-05 Well ID  
4413.21 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

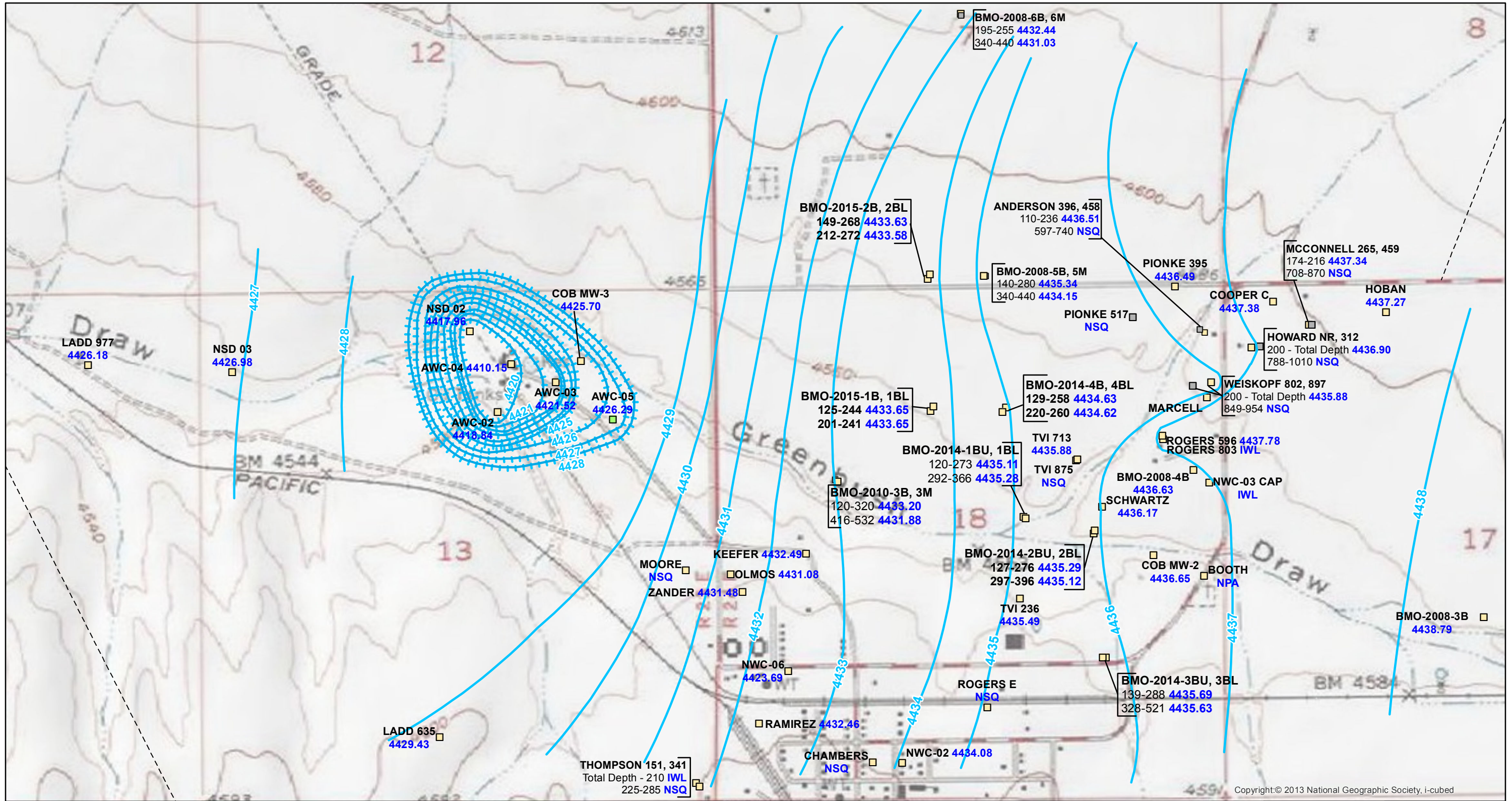
IWL = Inaccessible for Water Level  
 NPA = No Property Access  
 NSQ = Not Scheduled for Quarter  
 ft amsl = feet above mean sea level  
 ft bls = feet below land surface



Projection: UTM Zone 12N NAD83

Date	10/12/16	File ID	055038-473

**FIGURE 12**  
 SITE-WIDE  
 GROUNDWATER ELEVATIONS  
 FOR THIRD QUARTER 2016



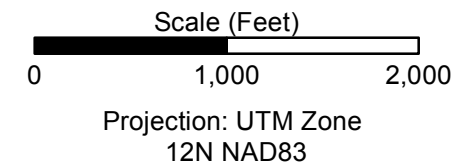
Copyright: © 2013 National Geographic Society, i-cubed

**Legend**

- AWC-02 Well ID
- 4427.64 Groundwater Elevation (ft amsl)
- Groundwater Elevation Contour (ft amsl)
- Groundwater Elevation Depression Contour (ft amsl)
- Faults (dashed where inferred)
- Co-located Wells
- Well ID
- Screen (ft bls): Water Elevation (ft amsl)

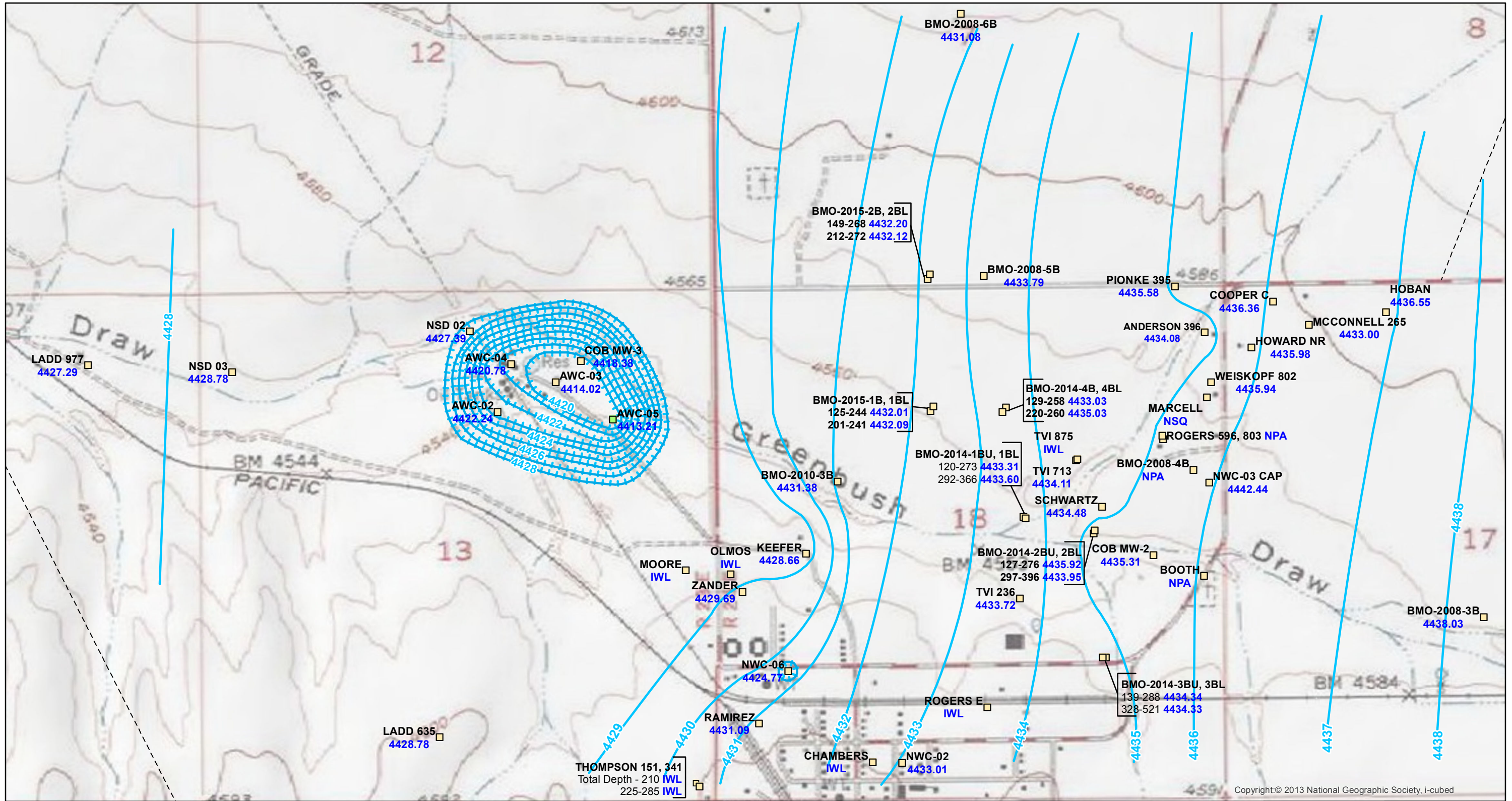
- Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate-Estimated

IWL = Inaccessible for Water Level  
 NPA = No Property Access  
 NSQ = Not Scheduled for Quarter  
 ft amsl = feet above mean sea level  
 ft bls = feet below land surface



Date	6/6/16	File ID	055038-464

**FIGURE 13**  
 BASIN FILL  
 GROUNDWATER ELEVATIONS  
 AT WEST EDGE OF PLUME  
 FOR FIRST QUARTER 2016



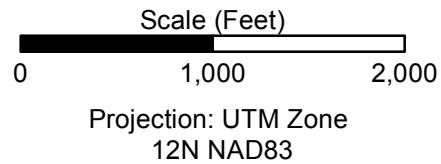
Copyright:© 2013 National Geographic Society, i-cubed

**Legend**

- BMO-2014-1BU 4433.31
- Groundwater Elevation (ft amsl)
- Groundwater Elevation (ft amsl)
- Groundwater Elevation Depression Contour (ft amsl)
- - - Faults (dashed where inferred)
  
- 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 Gance Conglomerate
- Gance Conglomerate
- Gance Conglomerate-Estimated
- Undifferentiated Bisbee Group: Cintura Formation, Mural Limestone, and Morita Formation

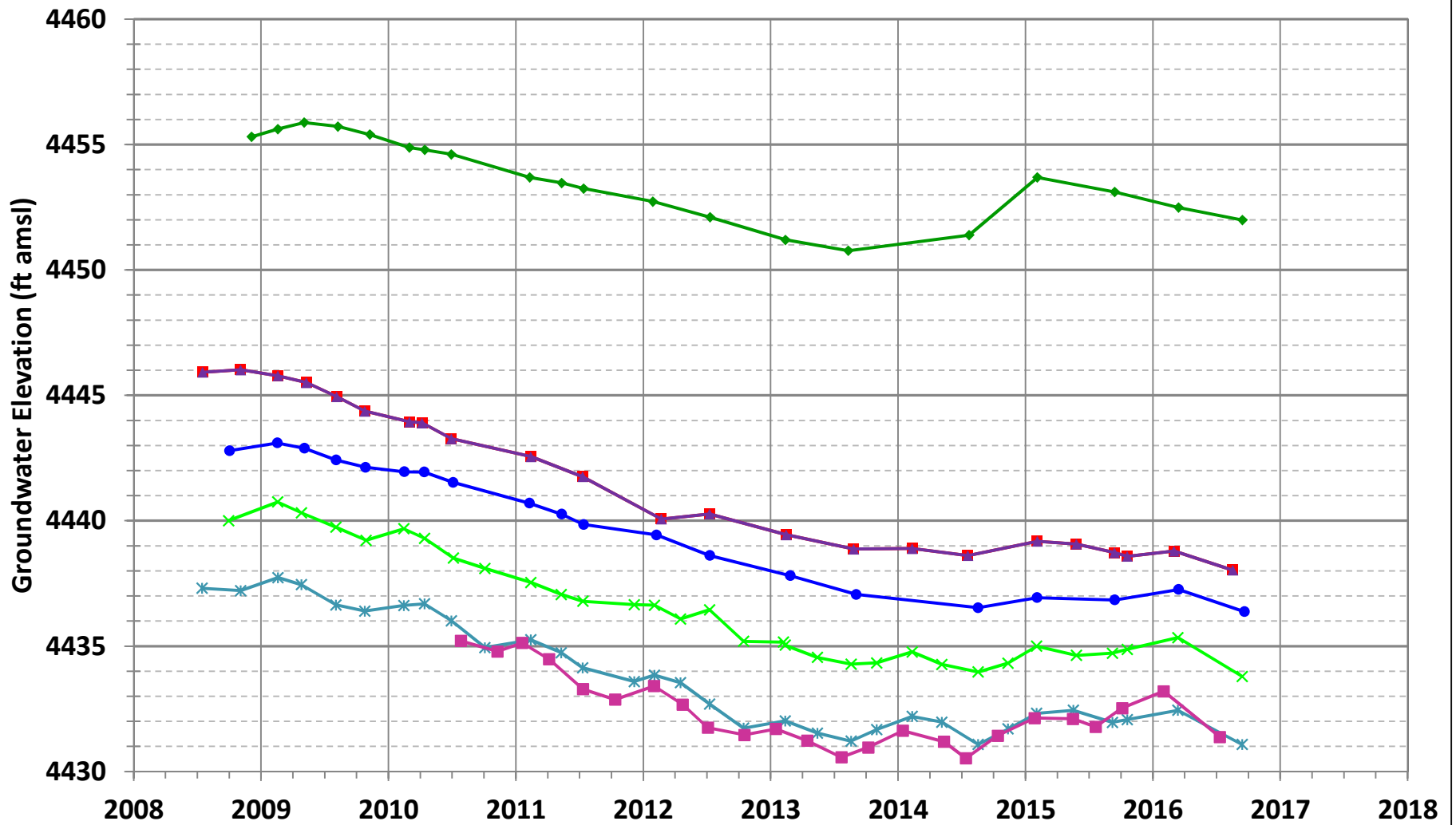
IWL = Inaccessible for Water Level  
 NPA = No Property Access  
 NSQ = Not Scheduled for Quarter  
 ft amsl = feet above mean sea level  
 ft bls = feet below land surface



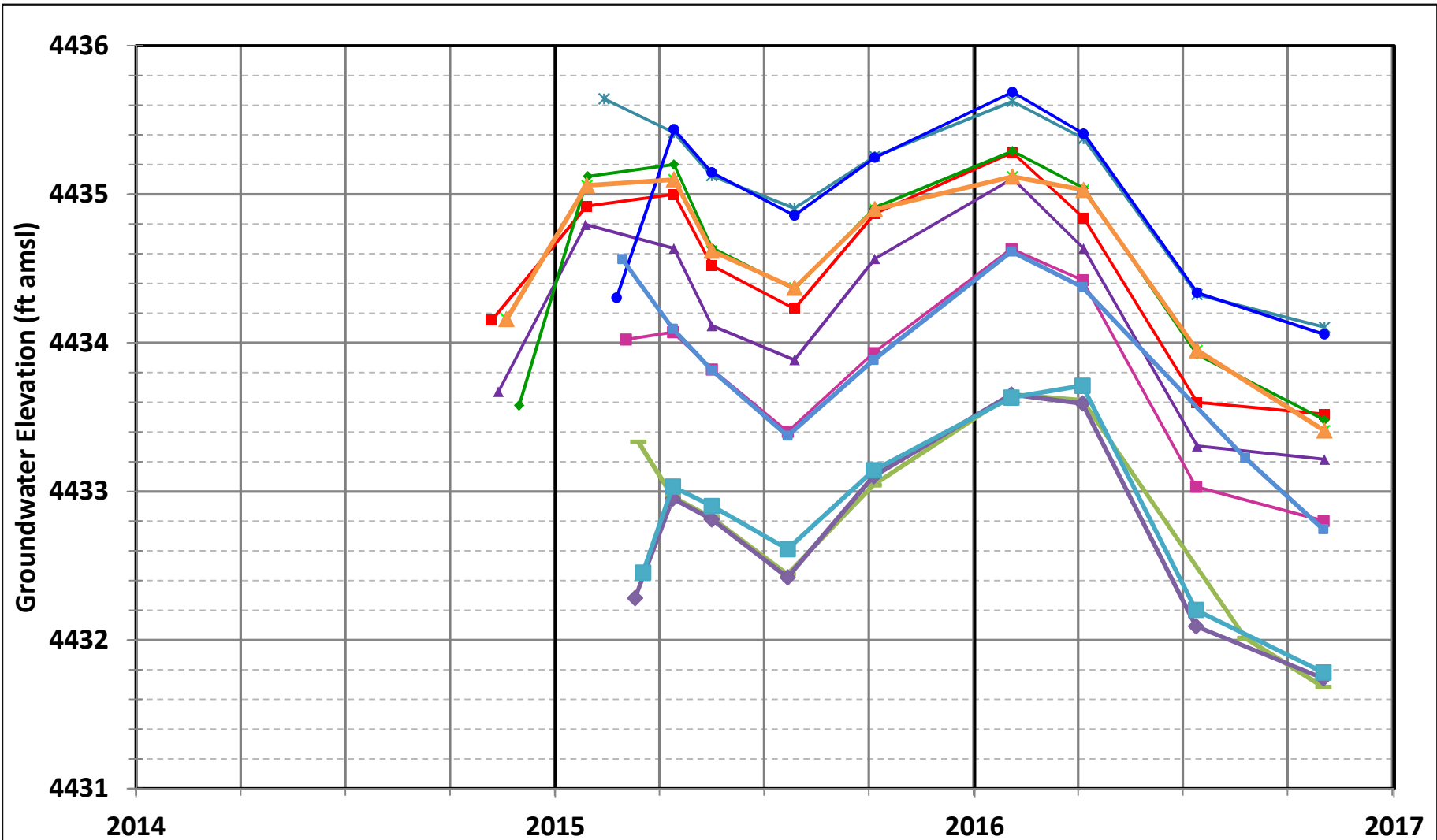
Date 10/12/16	File ID 055038-481

**FIGURE 14**  
**BASIN FILL**  
**GROUNDWATER ELEVATIONS**  
**AT WEST EDGE OF PLUME**  
**FOR THIRD QUARTER 2016**




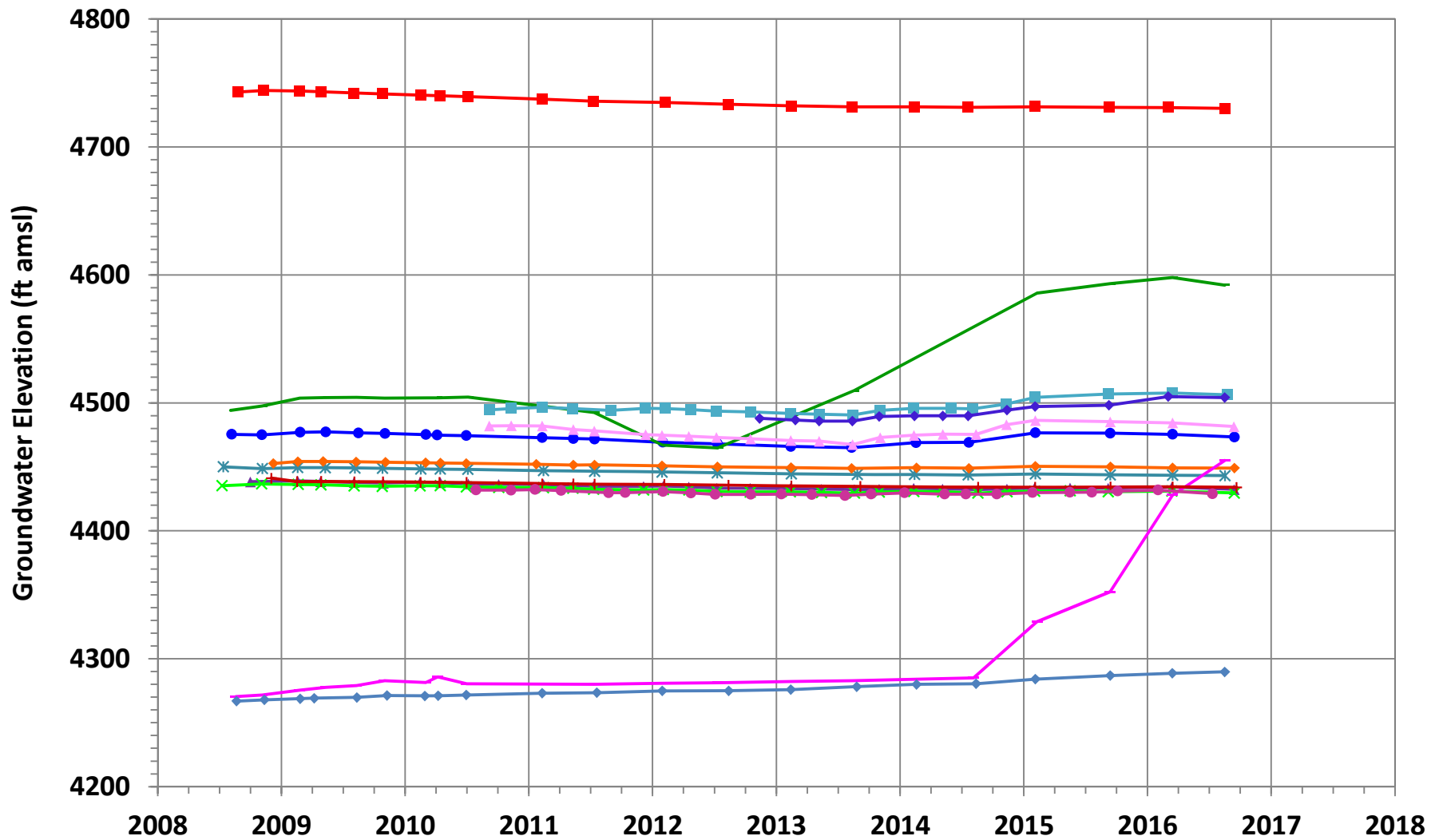


	File ID
	Date 11/9/2016
<b>FIGURE 15</b> HYDROGRAPHS FOR SELECTED BMO MONITOR WELLS IN BASIN FILL	



- BMO-2014-1BL    
 ▲ BMO-2014-1BU    
 ✕ BMO-2014-2BL    
 ◆ BMO-2014-2BU
- ✱ BMO-2014-3BL    
 ● BMO-2014-3BU    
 ■ BMO-2014-4B    
 ■ BMO-2014-4BL
- BMO-2015-1B    
 ◆ BMO-2015-1BL    
 ■ BMO-2015-2B    
 ▲ BMO-2015-2BL

	File ID
	Date 11/9/2016
<p><b>FIGURE 16</b>          HYDROGRAPHS FOR BMO MONITOR WELLS IN BASIN FILL          FOR EXPANDED GROUNDWATER MONITORING PROGRAM</p>	



- 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



File ID	
Date	11/9/2016

FIGURE 17  
HYDROGRAPHS FOR BMO MONITOR  
WELLS IN BEDROCK

**APPENDIX A**  
**GROUNDWATER SAMPLING FORMS**

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	Anderson 396	Weather:	Sunny, 40s
ADWR No:	613396	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	285	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	8	2	0.16
		4	0.65
Static Water Level (ft bmp):	152.00	5	1.02
		6	1.47
Casing Volume (gal):	x3 =	8	2.61
		10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 (S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot on storage tank.

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 13, 2016
Well ID:	AWC-02	Weather:	Sunny, 50s
ADWR No:	616586	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	333			Casing Capacity	
		Nominal Size (inches)		Gallons per Linear Foot	
		2		0.16	
Casing Diameter (in):	20			4	0.65
		5		1.02	
Static Water Level (ft bmp):	128.80			6	1.47
		8		2.61	
Casing Volume (gal):	3333	x3 =	9998	10	4.08
Total Volume Purged (gal):	10500			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
11:30 AM	Pump On						
11:50 AM	20m	105	2100	7.69	20.0	437.1	
12:10 PM	40m	105	4200	7.73	20.2	426.2	
12:30 PM	60m	105	6300	7.66	20.5	423.2	
12:50 PM	80m	105	8400	7.69	20.3	421.1	
1:10 PM	100m	105	10500	7.63	20.6	411.2	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-02	13:15:31	Poly	200mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Well off for ~24hr


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 13, 2016
Well ID:	AWC-03	Weather:	Sunny, 40s
ADWR No:	616585	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	270			Casing Capacity	
		Nominal Size (inches)		Gallons per Linear Foot	
Casing Diameter (in):	16			2	0.16
			4	0.65	
			5	1.02	
Static Water Level (ft bmp):	118.00			6	1.47
			8	2.61	
Casing Volume (gal):	1588	x3 =	4763	10	4.08
Total Volume Purged (gal):	5280			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:45 AM	Pump On						
10:47 AM	2m	880	1760	7.72	18.7	485.4	
10:49 AM	4m	880	3520	7.64	19.8	477.2	
10:51 AM	6m	880	5280	7.62	19.9	474.1	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-03	10:53:43	Poly	200mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Well off since yesterday afternoon


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 13, 2016
Well ID:	AWC-04	Weather:	Sunny, 40s
ADWR No:	616584	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	337			Casing Capacity	
		Nominal Size (inches)		Gallons per Linear Foot	
Casing Diameter (in):	16			2	0.16
			4	0.65	
			5	1.02	
Static Water Level (ft bmp):	130.33			6	1.47
			8	2.61	
Casing Volume (gal):	2159	x3 =	6476	10	4.08
Total Volume Purged (gal):	7400			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
11:06 AM	Pump On						
11:10 AM	4m	740	2960	7.68	18.6	529.1	
11:13 AM	7m	740	5180	7.44	19.4	557.4	
11:16 AM	10m	740	7400	7.42	19.2	556.6	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-04	11:22:07	Poly	200mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Well off since 0645hr




# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 13, 2016
Well ID:	AWC-05	Weather:	Sunny, 40s
ADWR No:	590620	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	1183			Casing Capacity	
	Nominal Size (inches)		Gallons per Linear Foot		
	2		0.16		
Casing Diameter (in):	16		4		
			0.65		
			5		
			1.02		
Static Water Level (ft bmp):	116.22			6	
			1.47		
			8		
			2.61		
Casing Volume (gal):	11143	x3 =	33428	10	
			4.08		
Total Volume Purged (gal):	32000			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
9:45 AM	Pump On						
9:55 AM	10m	800	8000	7.68	20.4	438.6	
10:05 AM	20m	800	16000	7.66	20.5	459.2	
10:15 AM	30m	800	24000	7.67	20.7	442.5	
10:25 AM	40m	800	32000	7.69	19.9	444.4	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-05	10:29:14	Poly	200mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Well has been off for ~4 weeks, with short, intermittent runs just to flush system.

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	Banks 987	Weather:	Sunny, 50s
ADWR No:	647987	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	339	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	6	2	0.16
		4	0.65
Static Water Level (ft bmp):	237.42	5	1.02
		6	1.47
Casing Volume (gal):	x3 = 0	8	2.61
		10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	Barton 919	Weather:	Overcast, windy
ADWR No:	644919	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	130	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):	6	4	0.65
		5	1.02
Static Water Level (ft bmp):	113.33	6	1.47
		8	2.61
Casing Volume (gal):	x3 =	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:	<b>WLO</b>

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-3-16  
 Well ID: BMO-2008-16 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Shuman

WELL DATA		
Well Depth (ft bls): <u>310</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>74.30</u>	2	0.16
Casing Volume (gal): <u>290.7 x3 = 722</u>	4	0.65
Total Volume Purged (gal): <u>747</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1200</u>	<u>Pump On</u>						
<u>1230</u>	<u>30</u>	<u>8.3</u>	<u>249</u>	<u>7.18</u>	<u>21.7</u>	<u>959</u>	
<u>1250</u>	<u>50</u>	<u>8.3</u>	<u>415</u>	<u>7.15</u>	<u>22.0</u>	<u>954</u>	
<u>1310</u>	<u>70</u>	<u>8.3</u>	<u>581</u>	<u>7.19</u>	<u>21.9</u>	<u>953</u>	
<u>1330</u>	<u>90</u>	<u>8.3</u>	<u>747</u>	<u>7.16</u>	<u>22.1</u>	<u>950</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-16</u>	<u>1330</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Free</u>	<u>X</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other: _____

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other: _____

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-3-16  
 Well ID: BMO-2008-3B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Sluiter

WELL DATA		Casing Capacity	
Well Depth (ft bls):		Nominal Size (inches)	Gallons per Linear Foot
<u>260</u>		2	0.16
Casing Diameter (in):	<u>5"</u>	4	0.65
Static Water Level (ft bmp):	<u>145.18</u>	5	1.02
Casing Volume (gal):	<u>1173 x3 = 352</u>	6	1.47
Total Volume Purged (gal):	<u>540</u>	8	2.61
		10	4.08
		Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1400</u>	<u>Pump On</u>						
<u>1410</u>	<u>10</u>	<u>27</u>	<u>135</u>	<u>7.23</u>	<u>22.2</u>	<u>639</u>	
<u>1415</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.27</u>	<u>21.9</u>	<u>636</u>	
<u>1420</u>	<u>20</u>	<u>27</u>	<u>540</u>	<u>7.29</u>	<u>21.8</u>	<u>637</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-35</u>	<u>1420</u>	<u>PL</u>	<u>300</u>	<u>1</u>	<u>TA-300</u>	<u>TCO</u>	<u>X</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



114.9

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	BMO-2008-4B	Weather:	Sunny, 50s
ADWR No:	910096	Sampler:	VNH

### WELL DATA

Well Depth (ft bls):	610			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	136.54			4	0.65
				5	1.02
Casing Volume (gal):	483	x3 =	1449	6	1.47
				8	2.61
Total Volume Purged (gal):				10	4.08
				Casing Volume = gallons/foot * water column (feet)	

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

### SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO for Q1

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-14-16  
 Well ID: BMO-2008-5B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Skinner

WELL DATA		
Well Depth (ft bls): <u>285</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>149.76</u>	2	0.16
Casing Volume (gal): <u>138.4 x 3 = 415</u>	4	0.65
Total Volume Purged (gal): <u>675</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1020</u>	<u>Pump On</u>						
<u>1025</u>	<u>5</u>	<u>27</u>	<u>135</u>	<u>6.95</u>	<u>21.7</u>	<u>785</u>	
<u>1035</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>5.04</u>	<u>21.7</u>	<u>724</u>	
<u>1045</u>	<u>25</u>	<u>27</u>	<u>675</u>	<u>7.06</u>	<u>21.5</u>	<u>774</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-5B</u>	<u>1045</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
135.2



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-14-16  
 Well ID: BMO-2008-5M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Skram

WELL DATA		
Well Depth (ft bls): <u>450</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>150.87</u>	2	0.16
Casing Volume (gal): <u>305.1 x 3 = 915.3</u>	4	0.65
Total Volume Purged (gal): <u>990</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0915</u>	<u>Pump On</u>						
<u>0940</u>	<u>25</u>	<u>18</u>	<u>450</u>	<u>7.23</u>	<u>22.7</u>	<u>618</u>	
<u>1000</u>	<u>45</u>	<u>18</u>	<u>810</u>	<u>7.24</u>	<u>22.8</u>	<u>621</u>	
<u>1010</u>	<u>55</u>	<u>18</u>	<u>990</u>	<u>7.26</u>	<u>22.5</u>	<u>618</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-5M</u>	<u>1010</u>	<u>PL</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>IC</u>	<u>✓</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

2992



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-14-16  
 Well ID: BMO-2008-6B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Slavomir

WELL DATA		
Well Depth (ft bls): <u>265</u>	Casing Capacity	
Casing Diameter (in): <u>5 1/2</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>195.00</u>	2	0.16
Casing Volume (gal): <u>71.4 x 3 = 214.2</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0800</u>	<u>Pump On</u>						
<u>0815</u>	<u>15</u>	<u>5.1</u>	<u>75</u>	<u>7.44</u>	<u>21.9</u>	<u>273</u>	
<u>0830</u>	<u>30</u>	<u>5.1</u>	<u>150</u>	<u>7.46</u>	<u>21.8</u>	<u>268</u>	
<u>0845</u>	<u>45</u>	<u>5.1</u>	<u>225</u>	<u>7.47</u>	<u>21.9</u>	<u>267</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-6B</u>	<u>0845</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Tu</u>	<u>X</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field parameters stabilized.

Purged well until field parameters stabilized.

Other:

Additional Comments:  
70



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-14-16  
 Well ID: BMO-2008-6M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Slavomir

WELL DATA		
Well Depth (ft bls): <u>450</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>195.87</u>	2	0.16
Casing Volume (gal): <u>2592 x3 = 7776</u>	4	0.65
Total Volume Purged (gal): <u>840</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0715</u>	<u>Pump On</u>						
<u>0725</u>	<u>10</u>	<u>21</u>	<u>210</u>	<u>7.20</u>	<u>22.2</u>	<u>770</u>	
<u>0735</u>	<u>20</u>	<u>21</u>	<u>420</u>	<u>7.18</u>	<u>22.4</u>	<u>768</u>	
<u>0745</u>	<u>30</u>	<u>21</u>	<u>630</u>	<u>7.17</u>	<u>22.2</u>	<u>771</u>	
<u>0755</u>	<u>40</u>	<u>21</u>	<u>840</u>	<u>7.16</u>	<u>22.1</u>	<u>768</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-6M</u>	<u>0755</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

254.2

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-11  
 Well ID: BMO-2008-7M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Skovron

WELL DATA		
Well Depth (ft bls): <u>670</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>244.91</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: BMO-2008-8B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher & Slavina

WELL DATA		
Well Depth (ft bls): <u>480</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>300.76</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): _____	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: BMO-2008-8m Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Starnon

WELL DATA		
Well Depth (ft bls): <u>1210</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>303.19</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: BMO-2008-9M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: \_\_\_\_\_

WELL DATA		
Well Depth (ft bls): <u>775</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>287.22</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-11  
 Well ID: BMO-2008-106L Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Stevens

WELL DATA		
Well Depth (ft bis): <u>810</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>364.33</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field paremeters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: BMD-2008-1064 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Skerman

WELL DATA		
Well Depth (ft bls): <u>449</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>195.53</u>	2	0.16
Casing Volume (gal): _____ x3 = _____	4	0.65
Total Volume Purged (gal): _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	<b>Pump On</b>						
	<b>Pump Off</b>						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point: \_\_\_\_\_

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-15-16  
 Well ID: BMP-2008-116 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher & Sherry

WELL DATA			Casing Capacity	
Well Depth (ft bls): <u>760</u>	Nominal Size (inches)	Gallons per Linear Foot		
Casing Diameter (in): <u>5'</u>	2	0.16		
Static Water Level (ft bmp): <u>556.04</u>	4	0.65		
Casing Volume (gal): <u>208 x3 = 624</u>	5	1.02		
Total Volume Purged (gal): <u>640</u>	6	1.47		
	8	2.61		
	10	4.08		
			Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1145</u>	<u>Pump On</u>						
<u>1155</u>	<u>10</u>	<u>8</u>	<u>80</u>	<u>7.59</u>	<u>25.0</u>	<u>333</u>	
<u>1215</u>	<u>30</u>	<u>8</u>	<u>240</u>	<u>7.71</u>	<u>24.8</u>	<u>335</u>	
<u>1245</u>	<u>60</u>	<u>8</u>	<u>480</u>	<u>7.75</u>	<u>24.9</u>	<u>334</u>	
<u>1305</u>	<u>80</u>	<u>8</u>	<u>640</u>	<u>7.76</u>	<u>24.9</u>	<u>334</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMP-2008-116</u>	<u>1305</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
204

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-11  
 Well ID: BMA-2008-13B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shuman

WELL DATA		
Well Depth (ft bls): <u>475</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>211.95</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: BMA-2008-13M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher & Stevenson

WELL DATA		
Well Depth (ft bbs): <u>1030</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>212.76</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: BMO-2010-1M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Slavens

WELL DATA		
Well Depth (ft bls): <u>550</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>210.91</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
Total Volume Purged (gal): _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	<b>Pump On</b>						
	<b>Pump Off</b>						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: BMO-2010-2M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Skovron

WELL DATA		
Well Depth (ft bls): <u>380</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>261.81</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 2, 2016
Well ID:	BMO-2010-3B	Weather:	Sunny, 20s
ADWR No:	219970	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	330			Casing Capacity	
		Nominal Size (inches)		Gallons per Linear Foot	
		2		0.16	
Casing Diameter (in):	5			4	0.65
		5		1.02	
Static Water Level (ft bmp):	117.39			6	1.47
		8		2.61	
Casing Volume (gal):	217	x3 =	651	10	4.08
Total Volume Purged (gal):	675			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
8:50 AM	Pump On						
9:05 AM	15m	9	135	7.56	18.2	411.4	
9:20 AM	30m	9	270	7.73	18.7	408.6	
9:35 AM	45m	9	405	7.72	18.4	410.3	
9:50 AM	60m	9	540	7.66	18.5	414.7	
10:05 AM	75m	9	675	7.67	18.9	407.5	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2010-3B	10:10:29	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 2, 2016
Well ID:	BMO-2010-3M	Weather:	Sunny, 20s
ADWR No:	219969	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	532			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	118.65			4	0.65
				5	1.02
Casing Volume (gal):	422	x3 =	1265	6	1.47
				8	2.61
Total Volume Purged (gal):	1280			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:22 AM	Pump On						
10:42 AM	20m	8	160	7.20	20.0	338.9	Yellow, sulphur odor
11:02 AM	40m	8	320	7.82	19.7	377.1	Yellowish-brown, sulphur odor
11:22 AM	60m	8	480	7.84	20.4	367.7	Faint yellow, sulphur odor
11:42 AM	80m	8	640	7.85	20.1	362.8	Clear, faint sulfur odor
12:02 PM	100m	8	800	7.82	19.9	366.6	Clear, faint sulfur odor
12:22 PM	120m	8	960	7.83	20.3	363.6	Clear, odorless
12:42 PM	140m	8	1120	7.84	19.8	368.7	Clear, odorless
1:02 PM	160m	8	1280	7.83	19.8	367.5	Clear, odorless
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2010-3M	13:09:35	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-3-16  
 Well ID: BMO-2012-1M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Shuman

### WELL DATA

Well Depth (ft bls): <u>405</u> Casing Diameter (in): <u>8"</u> Static Water Level (ft bmp): <u>214.86</u> Casing Volume (gal): <u>194 x3 = 582</u> Total Volume Purged (gal): _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Casing Capacity</th> </tr> <tr> <th style="text-align: center;">Nominal Size (inches)</th> <th style="text-align: center;">Gallons per Linear Foot</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">2</td><td style="text-align: center;">0.16</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">0.65</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">1.02</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">1.47</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">2.61</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">4.08</td></tr> </tbody> </table> <p style="text-align: center;">Casing Volume = gallons/foot * water column (feet)</p>	Casing Capacity		Nominal Size (inches)	Gallons per Linear Foot	2	0.16	4	0.65	5	1.02	6	1.47	8	2.61	10	4.08
Casing Capacity																	
Nominal Size (inches)	Gallons per Linear Foot																
2	0.16																
4	0.65																
5	1.02																
6	1.47																
8	2.61																
10	4.08																

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0935</u>	<u>Pump On</u>						
<u>0945</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>7.28</u>	<u>23.1</u>	<u>860</u>	
<u>1005</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>7.30</u>	<u>23.3</u>	<u>880</u>	
<u>1035</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>7.32</u>	<u>23.3</u>	<u>886</u>	
<u>1110</u>	<u>95</u>	<u>6</u>	<u>570</u>	<u>7.33</u>	<u>23.3</u>	<u>890</u>	
<u>1115</u>	<u>100</u>	<u>6</u>	<u>600</u>	<u>7.32</u>	<u>23.4</u>	<u>888</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

**Sample Collection Point:**

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2012-1M</u>	<u>1115</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Fea</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

**Additional Comments:**

---



---



---

190.2





# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 4, 2016
Well ID:	BMO-2014-1BL	Weather:	Sunny, 40s
ADWR No:	917394	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	366			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	123.17			4	0.65
				5	1.02
Casing Volume (gal):	248	x3 =	743	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	840			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
8:38 AM	Pump On						
8:53 AM	15m	14	210	7.70	19.6	675.5	
9:08 AM	30m	14	420	7.56	20.8	680.9	
9:23 AM	45m	14	630	7.55	20.4	672.4	
9:38 AM	60m	14	840	7.66	20.2	675.4	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-1BL	9:42:33	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 4, 2016
Well ID:	BMO-2014-1BU	Weather:	Sunny, 40s
ADWR No:	917393	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	273			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	123.43			4	0.65
				5	1.02
Casing Volume (gal):	153	x3 =	458	6	1.47
				8	2.61
Total Volume Purged (gal):	450			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
9:52 AM	Pump On						
10:02 AM	10m	15	150	7.70	19.9	720.4	
10:12 AM	20m	15	300	7.56	19.8	718.6	
10:22 AM	30m	15	450	7.51	20.1	715.7	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-1BU	10:26:07	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 4, 2016
Well ID:	BMO-2014-2BL	Weather:	Sunny, 50s
ADWR No:	917452	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	396			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	126.68			4	0.65
				5	1.02
Casing Volume (gal):	275	x3 =	824	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	900			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:50 AM	Pump On						
11:05 AM	15m	15	225	7.44	19.7	1172	
11:20 AM	30m	15	450	7.47	19.6	1178	
11:35 AM	45m	15	675	7.43	19.6	1165	
11:50 AM	60m	15	900	7.38	19.7	1164	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-2BL	11:56:18	Poly	250mL	1	300.0	NA	Y
DUP20160204	1200	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 4, 2016
Well ID:	BMO-2014-2BU	Weather:	Sunny, 50s
ADWR No:	917453	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	276			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	126.56			4	0.65
				5	1.02
Casing Volume (gal):	152	x3 =	457	6	1.47
				8	2.61
Total Volume Purged (gal):	450			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
12:03 PM	Pump On						
12:13 PM	10m	15	150	7.67	19.2	526.8	
12:23 PM	15m	15	300	7.62	19.9	530.9	
12:33 PM	30m	15	450	7.58	19.8	528.0	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-2BU	12:36:23	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 4, 2016
Well ID:	BMO-2014-3BL	Weather:	Sunny, 50s
ADWR No:	917527	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	521			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	138.14			4	0.65
				5	1.02
Casing Volume (gal):	391	x3 =	1172	6	1.47
				8	2.61
Total Volume Purged (gal):	1200			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1:45 PM	Pump On						
2:05 PM	20m	15	300	7.73	20.1	423.5	
2:25 PM	40m	15	600	7.69	20.5	417.3	
2:45 PM	60m	15	900	7.66	21.0	411.3	
3:05 PM	80m	15	1200	7.62	20.9	409.8	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-3BL	15:09:16	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 4, 2016
Well ID:	BMO-2014-3BU	Weather:	Sunny, 50s
ADWR No:	917494	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	288			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	139.20			4	0.65
				5	1.02
Casing Volume (gal):	152	x3 =	455	6	1.47
				8	2.61
Total Volume Purged (gal):	450			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1:05 PM	Pump On						
1:15 PM	10m	15	150	7.77	19.3	469.5	
1:25 PM	20m	15	300	7.65	19.7	469.3	
1:35 PM	30m	15	450	7.64	19.7	466.4	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-3BU	13:38:35	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 3, 2016
Well ID:	BMO-2014-4B	Weather:	Sunny, 20s
ADWR No:	917620	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	258			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	133.04			4	0.65
				5	1.02
Casing Volume (gal):	127	x3 =	382	6	1.47
				8	2.61
Total Volume Purged (gal):	450			10	4.08
Casing Volume = gallons/foot * water column (feet)					

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
8:40 AM	Pump On						
8:50 AM	10m	15	150	7.82	19.5	489.3	
9:00 AM	20m	15	300	7.78	20.0	484.3	
9:10 AM	30m	15	450	7.74	19.8	491.1	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-4B	9:16:09	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 3, 2016
Well ID:	BMO-2014-4BL	Weather:	Sunny, 30s
ADWR No:	917619	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	261			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	132.43			4	0.65
				5	1.02
Casing Volume (gal):	131	x3 =	393	6	1.47
				8	2.61
Total Volume Purged (gal):	450			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
9:25 AM	Pump On						
9:35 AM	10m	15	150	7.75	20.2	634.2	
9:45 AM	20m	15	300	7.71	20.1	652.0	
9:55 AM	30m	15	450	7.69	20.1	660.2	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-4BL	9:59:09	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:




# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 3, 2016
Well ID:	BMO-2015-1B	Weather:	Sunny, 40s
ADWR No:	917622	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	244			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	128.41			4	0.65
				5	1.02
Casing Volume (gal):	118	x3 =	354	6	1.47
				8	2.61
Total Volume Purged (gal):	360			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:20 AM	Pump On						
10:28 AM	8m	15	120	7.67	19.2	711.8	
10:36 AM	16m	15	240	7.68	19.7	685.6	
10:44 AM	24m	15	360	7.64	19.8	678.5	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2015-1B	10:48:39	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 3, 2016
Well ID:	BMO-2015-1BL	Weather:	Sunny, 40s
ADWR No:	917621	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	241			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	129.75			4	0.65
				5	1.02
Casing Volume (gal):	113	x3 =	340	6	1.47
				8	2.61
Total Volume Purged (gal):	360			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:57 AM	Pump On						
11:05 AM	8m	15	120	7.75	19.7	754.3	
11:13 AM	16m	15	240	7.69	19.8	755.2	
11:21 AM	24m	15	360	7.71	19.2	736.1	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2015-1BL	11:29:20	Poly	250mL	1	300.0	NA	Y
DUP20160203	1200	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 3, 2016
Well ID:	BMO-2015-2B	Weather:	Sunny, 50s
ADWR No:	917827	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	268			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	148.45			4	0.65
				5	1.02
Casing Volume (gal):	122	x3 =	366	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	378			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
12:10 PM	Pump On						
12:19 PM	9m	14	126	7.58	20.0	854.6	
12:28 PM	18m	14	252	7.51	20.2	836.0	
12:37 PM	27m	14	378	7.48	20.4	823.2	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 (S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2015-2B	12:42:10	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 3, 2016
Well ID:	BMO-2015-2BL	Weather:	Sunny, 50s
ADWR No:	917828	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	272			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	147.06			4	0.65
				5	1.02
Casing Volume (gal):	127	x3 =	382	6	1.47
				8	2.61
Total Volume Purged (gal):	420			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
12:50 PM	Pump On						
1:00 PM	10m	14	140	7.55	20.3	903.4	
1:10 PM	20m	14	280	7.51	20.2	896.4	
1:20 PM	30m	14	420	7.45	20.5	884.7	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2015-2BL	13:27:33	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	COB MW-2	Weather:	Sunny, 40s
ADWR No:	903984	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	162			Casing Capacity	
Casing Diameter (in):	4			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	129.56			4	0.65
				5	1.02
Casing Volume (gal):	21	x3 =	64	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	90			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
9:38 AM	Pump On						
9:43 AM	5m	6	30	7.39	19.2	513.5	
9:48 AM	10m	6	60	7.45	19.4	509.5	
9:53 AM	15m	6	90	7.54	19.5	510.6	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 (µS/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
COB MW-2	9:59:24	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Hand-filter


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	COB MW-3	Weather:	Sunny, 30s
ADWR No:	903823	Sampler:	VNH

### WELL DATA

Well Depth (ft bls):	300			Casing Capacity	
Casing Diameter (in):	4			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	112.93			4	0.65
				5	1.02
Casing Volume (gal):	122	x3 =	366	6	1.47
				8	2.61
Total Volume Purged (gal):	0			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
				WLO			
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

### SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
WLO							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: No sample per schedule

Additional Comments: WLO for Q1

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	COB WL	Weather:	Sunny, 40s
ADWR No:	593116	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	150			Casing Capacity		
Casing Diameter (in):	4			Nominal Size (inches)	Gallons per Linear Foot	
				2	0.16	
				4	0.65	
				5	1.02	
				6	1.47	
Static Water Level (ft bmp):	81.72			8	2.61	
Casing Volume (gal):	45	x3 =	134	10	4.08	
	Total Volume Purged (gal):			141.5		
Casing Volume = gallons/foot * water column (feet)						

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
11:20 AM	Pump On						
11:25 AM	5m	7	35	7.34	19.6	1189	
11:30 AM	10m	7	70	7.16	20.0	1209	
11:35 AM	15m	1.1	75.5	7.36	19.5	1217	
11:50 AM	30m	1.1	92.0	7.49	20.2	1189	
12:05 PM	45m	1.1	108.5	7.38	20.1	1201	
12:20 PM	60m	1.1	125.0	7.35	20.1	1185	
12:35 PM	75m	1.1	141.5	7.25	20.4	1195	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
COB WL	12:40:03	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: Cooper C Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Sharma

### WELL DATA

Well Depth (ft bbs): <u>220</u> Casing Diameter (in): <u>6"</u> Static Water Level (ft bmp): <u>161.76</u> Casing Volume (gal): <u>x3 =</u> Total Volume Purged (gal): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	<b>Pump On</b>						
	<b>Pump Off</b>						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	Dodson	Weather:	Sunny, 20s
ADWR No:	644927	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	200			Casing Capacity	
Casing Diameter (in):	6			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	99.34			4	0.65
				5	1.02
Casing Volume (gal):	148	x3 =	444	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	600			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
8:20 AM	Pump On						
8:30 AM	10m	15	150	7.59	16.9	1911	
8:40 AM	20m	15	300	7.41	18.9	1827	
8:50 AM	30m	15	450	7.43	19.0	1766	
9:00 AM	40m	15	600	7.41	18.6	1749	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Dodson	9:06:31	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	Goar Ranch	Weather:	Sunny, 40s
ADWR No:	610695	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	250	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):	7	4	0.65
		5	1.02
Static Water Level (ft bmp):	191.68	6	1.47
		8	2.61
Casing Volume (gal):	x3 =	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:	<b>WLO</b>

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: Hoban Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Stevens

WELL DATA		
Well Depth (ft bls): <u>300</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>170.33</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	Howard NR	Weather:	Sunny, 30s
ADWR No:	NR	Sampler:	VNH

### WELL DATA

Well Depth (ft bls):	220	Casing Capacity	
Casing Diameter (in):	6	Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
		4	0.65
		5	1.02
		6	1.47
Static Water Level (ft bmp):	157.01	8	2.61
Casing Volume (gal):	x3 =	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

### SAMPLE INFORMATION

Sample Collection Point: Spigot on storage tank.

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 14, 2016
Well ID:	Keefer	Weather:	Sunny, 60s
ADWR No:	209744	Sampler:	VNH

### WELL DATA

Well Depth (ft bls):	245	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	6	2	0.16
		4	0.65
Static Water Level (ft bmp):	139.54	5	1.02
		6	1.47
Casing Volume (gal):	x3 =	8	2.61
		10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

### SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	McConnell 265	Weather:	Sunny, 40s
ADWR No:	539265	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	216	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):	6	4	0.65
		5	1.02
Static Water Level (ft bmp):	163.36	6	1.47
		8	2.61
Casing Volume (gal):	x3 =	10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	Metzler	Weather:	Sunny, 50s
ADWR No:	35-71891	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	351	Casing Capacity	
Casing Diameter (in):	6	Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Static Water Level (ft bmp):	293.69	4	0.65
		5	1.02
		6	1.47
		8	2.61
Casing Volume (gal):	x3 =	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Mar 21, 2016
Well ID:	NSD-02	Weather:	Sunny, 70s
ADWR No:	527587	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):		Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):		4	0.65
		5	1.02
Static Water Level (ft bmp):	113.42	6	1.47
		8	2.61
Casing Volume (gal):	x3 = 0	10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

---



---



---



# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Mar 21, 2016
Well ID:	NSD-03	Weather:	Sunny, 70s
ADWR No:	527586	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):		Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):		4	0.65
		5	1.02
Static Water Level (ft bmp):	91.30	6	1.47
		8	2.61
Casing Volume (gal):	x3 = 0	10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	NWC-02	Weather:	Sunny, 50s
ADWR No:	562944	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	312			Casing Capacity	
Casing Diameter (in):	6			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	166.36			4	0.65
				5	1.02
Casing Volume (gal):	214	x3 =	642	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	0			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1:35 PM	Pump On						
1:40 PM	5m			7.88	19.5	422.9	
1:45 PM	10m			7.83	20.3	426.5	
1:50 PM	15m			7.81	20.2	421.5	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 (µS/cm)

## SAMPLE INFORMATION

Sample Collection Point: Hand-filter from wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-02	13:59:28	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Hand-filter, pump on intermittently due to water level in tank


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	NWC-03 CAP	Weather:	Sunny, 50s
ADWR No:	627684	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	179	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):	8	4	0.65
		5	1.02
Static Water Level (ft bmp):	NA	6	1.47
		8	2.61
Casing Volume (gal):	x3 =	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

**Additional Comments:**      Unable to get SWL; obstruction ~135. Multiple attempts made, sounder returned covered in soil.


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	NWC-04	Weather:	Sunny, 50s
ADWR No:	551849	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	462	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):	10	4	0.65
		5	1.02
Static Water Level (ft bmp):		6	1.47
		8	2.61
Casing Volume (gal):	x3 =	10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
2:35 PM	Pump On						
2:40 PM	5m	18	90	7.54	22.2	821.1	
2:45 PM	10m	18	180	7.40	22.4	817.4	
2:50 PM	15m	18	270	7.57	22.7	811.2	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Hand-filter from wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-04	14:57:33	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Hand-filter


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	NWC-06	Weather:	Sunny, 50s
ADWR No:	575700	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	340			Casing Capacity	
		Nominal Size (inches)		Gallons per Linear Foot	
Casing Diameter (in):	8			2	0.16
			4	0.65	
			5	1.02	
Static Water Level (ft bmp):	168.81			6	1.47
			8	2.61	
Casing Volume (gal):	447	x3 =	1341	10	4.08
Total Volume Purged (gal):	2520			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1:05 PM	Pump On						
1:07 PM	2m	150	300	7.65	19.4	396.6	
1:12 PM	7m	148	1040	7.73	20.4	396.4	
1:17 PM	12m	148	1780	7.70	20.6	396.1	
1:22 PM	17m	148	2520	7.74	20.7	397.5	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Hand-filter from wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-06	13:25:06	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Hand-filter


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 13, 2016
Well ID:	Olmos	Weather:	Sunny, 50s
ADWR No:	224745	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	306			Casing Capacity	
Casing Diameter (in):	6			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	145.84			4	0.65
				5	1.02
Casing Volume (gal):	235	x3 =	706	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	704			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
3:44 PM	Pump On						
4:00 PM	16m	11	176	7.77	20.6	421.1	
4:16 PM	32m	11	352	7.63	20.3	418.3	
4:32 PM	48m	11	528	7.62	20.1	419.5	
4:48 PM	64m	11	704	7.61	20.4	421.0	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Olmos	16:52:20	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	Panagakos	Weather:	Sunny, 50s
ADWR No:	35-76413	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	200			Casing Capacity	
Casing Diameter (in):	8			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	160.50			4	0.65
				5	1.02
Casing Volume (gal):	103	x3 =	309	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	324			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
2:33 PM	Pump On						
2:45 PM	12m	9	108	7.34	19.1	1306	
2:57 PM	24m	9	216	7.17	19.1	1371	
3:09 PM	36m	9	324	7.18	18.9	1402	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot ~50ft southeast from well head

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Panagakos	15:15:48	Poly	250mL	1	300.0	NA	Y
DUP20160111	1800	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Dig out valve to allow water to flow from well. When finished, return to original closed position.


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	Pionke 395	Weather:	Sunny, 50s
ADWR No:	613395	Sampler:	VNH

### WELL DATA

Well Depth (ft bls):	330	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	8	2	0.16
		4	0.65
		5	1.02
		6	1.47
		8	2.61
Static Water Level (ft bmp):	155.64	10	4.08
Casing Volume (gal):	x3 =		
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:




# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Mar 21, 2016
Well ID:	Pool	Weather:	Sunny, 70s
ADWR No:	509518	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	313	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	6	2	0.16
		4	0.65
Static Water Level (ft bmp):	209.98	5	1.02
		6	1.47
Casing Volume (gal):	x3 = 0	8	2.61
		10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 14, 2016
Well ID:	Power 639	Weather:	Sunny, 30s
ADWR No:	222639	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	480			Casing Capacity	
Casing Diameter (in):	6			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	294.65			4	0.65
				5	1.02
Casing Volume (gal):	272	x3 =	817	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	825			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
8:20 AM	Pump On						
8:35 AM	15m	11	165	7.61	20.0	916.6	
8:50 AM	30m	11	330	7.51	19.7	965.2	
9:05 AM	45m	11	495	7.60	20.4	974.4	
9:20 AM	60m	11	660	7.41	20.2	982.6	
9:35 AM	75m	11	825	7.46	19.7	985.7	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Power 639	9:39:08	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 14, 2016
Well ID:	Ramirez	Weather:	Sunny, 50s
ADWR No:	216425	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	300	Casing Capacity	
Casing Diameter (in):	6	Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Static Water Level (ft bmp):	164.15	4	0.65
		5	1.02
Casing Volume (gal):	x3 =	6	1.47
		8	2.61
Total Volume Purged (gal):		10	4.08
		Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO per schedule

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	Rogers 596	Weather:	Sunny, 50s
ADWR No:	573596	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	290	Casing Capacity	
Casing Diameter (in):	6	Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Static Water Level (ft bmp):	139.57	4	0.65
		5	1.02
Casing Volume (gal):	x3 =	6	1.47
		8	2.61
		10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
/							
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
/							
/							

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	Ruiz	Weather:	Sunny, 50s
ADWR No:	531770	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	312			Casing Capacity	
Casing Diameter (in):	6			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	300.20			4	0.65
				5	1.02
Casing Volume (gal):	17	x3 =	52	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	60			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
3:55 PM	Pump On						
4:00 PM	5m	4	20	7.32	20.0	837.7	
4:05 PM	10m	4	40	7.28	19.8	826.7	
4:10 PM	15m	4	60	7.29	19.9	831.3	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Ruiz	16:15:28	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 14, 2016
Well ID:	Schwartz	Weather:	Sunny, 50s
ADWR No:	210865	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	305			Casing Capacity	
Casing Diameter (in):	6			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	128.32			4	0.65
				5	1.02
Casing Volume (gal):	260	x3 =	779	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	825			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
11:20 AM	Pump On						
11:35 AM	15m	11	165	7.44	20.8	654.3	
11:50 AM	30m	11	330	7.53	20.7	669.6	
12:05 PM	45m	11	495	7.48	20.4	676.6	
12:20 PM	60m	11	660	7.50	20.9	676.8	
12:35 PM	75m	11	825	7.55	20.6	678.3	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Schwartz	12:40:06	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 11, 2016
Well ID:	Stephens	Weather:	Sunny, 40s
ADWR No:	808560	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):		Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):		4	0.65
		5	1.02
Static Water Level (ft bmp):	50.88	6	1.47
		8	2.61
Casing Volume (gal):	x3 = 0	10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: TM 2A Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shuman

WELL DATA		
Well Depth (ft bls): <u>925</u>	Casing Capacity	
Casing Diameter (in): <u>4"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>333.52</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
Total Volume Purged (gal): _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point: \_\_\_\_\_

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-16  
 Well ID: TM-6 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Slamon

WELL DATA			
Well Depth (ft bls):	<u>200</u>	Casing Capacity	
Casing Diameter (in):	<u>4"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	<u>162.14</u>	2	0.16
Casing Volume (gal):	<u>x3 =</u>	4	0.65
Total Volume Purged (gal):		5	1.02
		6	1.47
		8	2.61
		10	4.08
		Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-14-16  
 Well ID: TM-7 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Sloman

WELL DATA		Casing Capacity	
Well Depth (ft bls):		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):		2	0.16
Static Water Level (ft bmp):		4	0.65
Casing Volume (gal):	x3 =	5	1.02
		6	1.47
		8	2.61
		10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1100	Pump On						
1102	2	10	20	7.54	21.4	411	
1112	-	1					
1114	4	10	40	7.47	21.1	415	
1124	-						
1126	6	10	60	7.49	21.2	417	
1136	-						
1138	8	10	80	7.46	21.4	419	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
TM-7	1138	PL	250	1	300	Ice	X

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other:

Additional Comments: Sampled per Clear Creek method

---



---



# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Feb 2, 2016
Well ID:	TM-10	Weather:	Sunny, 40s
ADWR No:	522696	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	290			Casing Capacity		
	Nominal Size (inches)		Gallons per Linear Foot			
	2		0.16			
Casing Diameter (in):	4		0.65			
	5		1.02			
Static Water Level (ft bmp):	262.66			6		1.47
	8		2.61			
Casing Volume (gal):	18	x3 =	54	10		4.08
Total Volume Purged (gal):				Casing Volume = gallons/foot * water column (feet)		

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
3:02 PM	Pump On						
3:05 PM				7.82	19.8	490.2	
3:15 PM				7.98	19.1	486.9	
3:20 PM				7.95	19.8	493.5	Cloudy
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
TM-10	15:31:57	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Wait 10min between readings for recharge  
Hand-Filter

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-11  
 Well ID: TM-16 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Shuman

WELL DATA		
Well Depth (ft bls): <u>115</u>	Casing Capacity	
Casing Diameter (in): <u>4"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>60.43</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-16-11  
 Well ID: TM-42 Weather: \_\_\_\_\_  
 ADWR No: \_\_\_\_\_ Sampler: \_\_\_\_\_

WELL DATA		
Well Depth (ft bls): <u>250</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>219.55</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
Total Volume Purged (gal): _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	TVI 236	Weather:	Sunny, 50s
ADWR No:	802236	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	222			Casing Capacity	
Casing Diameter (in):	12			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	126.49			4	0.65
				5	1.02
Casing Volume (gal):	561	x3 =	1683	6	1.47
				8	2.61
Total Volume Purged (gal):	1500			10	4.08
				Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
12:05 PM	Pump On						
12:10 PM	5m	100	500	7.44	19.5	506.2	
12:15 PM	10m	100	1000	7.55	19.6	507.5	
12:20 PM	15m	100	1500	7.57	19.5	505.8	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot under green box

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
TVI 236	12:29:01	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Hand-filter


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	TVI 713	Weather:	Sunny, 40s
ADWR No:	567713	Sampler:	VNH

### WELL DATA

Well Depth (ft bls):	200	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	8	2	0.16
		4	0.65
Static Water Level (ft bmp):	131.34	5	1.02
		6	1.47
Casing Volume (gal):	x3 =	8	2.61
		10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:	<b>WLO</b>

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 14, 2016
Well ID:	Weed	Weather:	Sunny, 40s
ADWR No:	544535	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	320	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):	6	4	0.65
		5	1.02
Static Water Level (ft bmp):		6	1.47
		8	2.61
Casing Volume (gal):	x3 = 0	10	4.08
Total Volume Purged (gal):	225	Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:05 AM	Pump On						
10:10 AM	5m	15	75	7.69	19.1	394.6	
10:15 AM	10m	15	150	7.77	20.0	380.8	
10:20 AM	15m	15	225	7.79	20.2	376.9	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 (µS/cm)

## SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Weed	10:23:23	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	Weiskopf 802	Weather:	Sunny, 50s
ADWR No:	641802	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	200	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
		4	0.65
		5	1.02
		6	1.47
		8	2.61
		10	4.08
Casing Diameter (in):	6		
Static Water Level (ft bmp):	151.01		
Casing Volume (gal):	x3 =		
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	<b>Pump On</b>						
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

## WATER LEVEL MEASUREMENT COLLECTION

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

## WELL PURGING INFORMATION

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other:

Additional Comments: WLO for Q1

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Jan 12, 2016
Well ID:	Zander	Weather:	Sunny, 50s
ADWR No:	205126	Sampler:	VNH

### WELL DATA

Well Depth (ft bls):	280	Casing Capacity	
Casing Diameter (in):	6	Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Static Water Level (ft bmp):	149.46	4	0.65
		5	1.02
Casing Volume (gal):	x3 =	6	1.47
		8	2.61
Total Volume Purged (gal):		10	4.08
		Casing Volume = gallons/foot * water column (feet)	

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

### SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: WLO

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 6, 2016
Well ID:	BMO-2014-1BL	Weather:	Sunny, 50s
ADWR No:	917394	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	366	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	5	2	0.16
		4	0.65
		5	1.02
Static Water Level (ft bmp):	123.61	6	1.47
		8	2.61
Casing Volume (gal):	247	10	4.08
	x3 =		
	742		
Total Volume Purged (gal):	720	Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
7:43 AM	Pump On						
7:58 AM	15m	12	180	7.60	21.1	700.3	
8:13 AM	30m	12	360	7.45	21.5	699.4	
8:28 AM	45m	12	540	7.47	21.7	695.1	
8:43 AM	60m	12	720	7.43	21.7	696.3	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-1BL	8:47:49	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 6, 2016
Well ID:	BMO-2014-1BU	Weather:	Sunny, 60s
ADWR No:	917393	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	273			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	123.90			4	0.65
				5	1.02
				6	1.47
				8	2.61
Casing Volume (gal):	152	x3 =	456	10	4.08
Total Volume Purged (gal):	480			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
8:55 AM	Pump On						
9:05 AM	10m	12	120	7.63	20.7	747.2	
9:15 AM	20m	12	240	7.49	20.9	744.8	
9:25 AM	30m	12	360	7.51	20.7	736.7	
9:35 AM	40m	12	480	7.47	21.0	733.5	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-1BU	9:39:47	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 6, 2016
Well ID:	BMO-2014-2BL	Weather:	Sunny, 70s
ADWR No:	917452	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	396			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	126.77			4	0.65
				5	1.02
Casing Volume (gal):	275	x3 =	824	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	816			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:00 AM	Pump On						
10:17 AM	17m	12	204	7.31	21.2	1204	
10:34 AM	34m	12	408	7.58	21.3	1197	
10:51 AM	51m	12	612	7.34	21.1	1198	
11:08 AM	68m	12	816	7.43	21.2	1187	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-2BL	11:12:32	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 6, 2016
Well ID:	BMO-2014-2BU	Weather:	Sunny, 70s
ADWR No:	917453	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	276			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	126.81			4	0.65
				5	1.02
Casing Volume (gal):	152	x3 =	457	6	1.47
				8	2.61
Total Volume Purged (gal):	468			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
12:36	Pump On						
12:49	13m	12	156	7.43	21.8	537.2	
13:02	26m	12	312	7.56	20.9	541.4	
13:15	39m	12	468	7.58	21.7	539.3	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-2BU	13:20:11	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 6, 2016
Well ID:	BMO-2014-3BL	Weather:	Sunny, 70s
ADWR No:	917527	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	521			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	138.39			4	0.65
				5	1.02
Casing Volume (gal):	390	x3 =	1171	6	1.47
				8	2.61
Total Volume Purged (gal):	1200			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
2:27 PM	Pump On						
2:47 PM	20m	12	240	7.73	21.5	433.9	
3:07 PM	40m	12	480	7.63	21.9	430.4	
3:27 PM	60m	12	720	7.77	22.0	428.3	
3:47 PM	80m	12	960	7.60	22.1	425.8	
4:07 PM	100m	12	1200	7.62	21.9	424.9	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-3BL	16:10:49	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 6, 2016
Well ID:	BMO-2014-3BU	Weather:	Sunny, 70s
ADWR No:	917494	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	288			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	139.48			4	0.65
				5	1.02
Casing Volume (gal):	151	x3 =	454	6	1.47
				8	2.61
Total Volume Purged (gal):	468			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
13:42	Pump On						
13:55	13m	12	156	7.55	21.3	478.2	
14:08	26m	12	312	7.52	20.9	475.2	
14:21	39m	12	468	7.53	20.9	473.2	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-3BU	14:23:43	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:




# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 5, 2016
Well ID:	BMO-2014-4B	Weather:	Sunny, 60s
ADWR No:	917620	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	258			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	133.25			4	0.65
				5	1.02
Casing Volume (gal):	127	x3 =	382	6	1.47
				8	2.61
Total Volume Purged (gal):	396			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
8:32 AM	Pump On						
8:43 AM	11m	12	132	7.87	20.9	490.2	
8:54 AM	22m	12	264	7.57	20.8	490.3	
9:05 AM	33m	12	396	7.61	20.9	491.9	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-4B	9:09:41	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 5, 2016
Well ID:	BMO-2014-4BL	Weather:	Sunny, 70s
ADWR No:	917619	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	261			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	132.67			4	0.65
				5	1.02
Casing Volume (gal):	131	x3 =	393	6	1.47
				8	2.61
Total Volume Purged (gal):	396			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
9:16 AM	Pump On						
9:27 AM	11m	12	132	7.63	21.4	641.9	
9:38 AM	22m	12	264	7.57	21.3	666.2	
9:49 AM	33m	12	396	7.53	21.2	671.7	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-4BL	9:53:28	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 5, 2016
Well ID:	BMO-2015-1B	Weather:	Sunny, 70s
ADWR No:	917622	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	244			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	128.45			4	0.65
				5	1.02
Casing Volume (gal):	118	x3 =	354	6	1.47
				8	2.61
Total Volume Purged (gal):	360			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:15 AM	Pump On						
10:25 AM	10m	12	120	7.61	21.0	719.2	
10:35 AM	20m	12	240	7.59	20.8	704.9	
10:45 AM	30m	12	360	7.57	20.5	691.4	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2015-1B	10:49:01	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 5, 2016
Well ID:	BMO-2015-1BL	Weather:	Sunny, 70s
ADWR No:	917621	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	241			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	129.81			4	0.65
				5	1.02
Casing Volume (gal):	113	x3 =	340	6	1.47
				8	2.61
Total Volume Purged (gal):	360			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:58 AM	Pump On						
11:08 AM	10m	12	120	7.61	21.2	768.2	
11:18 AM	20m	12	240	7.59	21.2	766.5	
11:28 AM	30m	12	360	7.58	21.0	767.1	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2015-1BL	11:31:33	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 5, 2016
Well ID:	BMO-2015-2B	Weather:	Sunny, 70s
ADWR No:	917827	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	268			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	148.37			4	0.65
				5	1.02
Casing Volume (gal):	122	x3 =	366	6	1.47
				8	2.61
				10	4.08
Total Volume Purged (gal):	360			Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
12:00 PM	Pump On						
12:10 PM	10m	12	120	7.18	21.4	884.9	
12:20 PM	20m	12	240	7.40	21.2	859.6	
12:30 PM	30m	12	360	7.44	21.4	849.8	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2015-2B	12:34:06	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:


# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 5, 2016
Well ID:	BMO-2015-2BL	Weather:	Sunny, 70s
ADWR No:	917828	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	272			Casing Capacity	
Casing Diameter (in):	5			Nominal Size (inches)	Gallons per Linear Foot
				2	0.16
Static Water Level (ft bmp):	146.99			4	0.65
				5	1.02
Casing Volume (gal):	128	x3 =	383	6	1.47
				8	2.61
Total Volume Purged (gal):	396			Casing Volume = gallons/foot * water column (feet)	
			10	4.08	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
12:41 PM	Pump On						
12:53 PM	12m	11	132	7.48	21.4	923.3	
1:05 PM	24m	11	264	7.53	21.4	914.8	
1:17 PM	36m	11	396	7.42	21.3	903.9	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 ( S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Spigot in well shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2015-2BL	13:22:08	Poly	250mL	1	300.0	NA	Y
DUP20160405	1300	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 3-31-16  
 Well ID: Cooper Weather: Partly Cloudy  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Shivers

### WELL DATA

Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): _____	4	0.65
Casing Volume (gal): _____ x3 =	5	1.02
Total Volume Purged (gal): _____	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0900	Pump On						
0905	5			7.49	22.1	410	
0915	10			7.50	22.3	412	
0920	15			7.52	22.4	410	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

**Sample Collection Point:**

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Cooper	0920	PL	250	1	300	Fe	Y

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Sampled per

Additional Comments: Clear Creek method



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 6/20/16  
 Well ID: NSD-02 Weather: Clear, 80s  
 ADWR No: 527587 Sampler: VNH

WELL DATA		
Well Depth (ft bls):	<u>120</u>	Casing Capacity
Casing Diameter (in):	<u>12</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>114.78'</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>x3 =</u>	2
Total Volume Purged (gal):		4
		5
		6
		8
		10
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	<b>Pump On</b>						
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION								
Sample Collection Point:								
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
<del>WLO</del>								

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>NA</u>

Additional Comments: WLO

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 6/20/16  
 Well ID: NSD-03 Weather: Clear, 80s  
 ADWR No: \_\_\_\_\_ Sampler: VJT

WELL DATA		
Well Depth (ft bls):	<u>100</u>	Casing Capacity
Casing Diameter (in):	<u>12</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>92.16</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>x3 =</u>	2 0.16
Total Volume Purged (gal):		4 0.65
		5 1.02
		6 1.47
		8 2.61
		10 4.08
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION								
Sample Collection Point:								
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
<u>WLO</u>								

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>NA</u>

Additional Comments: WLO

---



---



---

# Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Apr 5, 2016
Well ID:	NWC-04	Weather:	Sunny, 70s
ADWR No:	551849	Sampler:	VNH

## WELL DATA

Well Depth (ft bls):	462	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Diameter (in):	10	4	0.65
		5	1.02
Static Water Level (ft bmp):		6	1.47
		8	2.61
Casing Volume (gal):	x3 =	10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

## FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
2:05 PM	Pump On						
2:10 PM	5m	18	90	7.44	23.9	847.4	
2:15 PM	10m	18	180	7.46	24.0	847.1	
2:20 PM	15m	18	270	7.47	23.9	847.7	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 [ S/cm)

## SAMPLE INFORMATION

Sample Collection Point: Hand-filter from wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-04	14:27:27	Poly	250mL	1	300.0	NA	Y

## WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

## WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Hand-filter


# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
Task No: 1 Date: 7/19/16  
Well ID: Anderson 396 Weather: partly cloudy, 80's  
ADWR No: 613396 Sampler: LXMO

WELL DATA	
Well Depth (ft bls):	<u>285</u>
Casing Diameter (in):	<u>8</u>
Static Water Level (ft bmp):	<u>154.43</u>
Casing Volume (gal):	<u>x3 = 0</u>
Total Volume Purged (gal):	

Casing Capacity		
Nominal Size (inches)	Gallons per Linear Foot	
2	0.16	
4	0.65	
5	1.02	
6	1.47	
8	<u>2.61</u>	
10	4.08	

Casing Volume = gallons/foot \* water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (μS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 μS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: None

Additional Comments: WLO

---

---

---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/19/16  
 Well ID: Anderson 458 Weather: Partly cloudy, 80s, raining  
 ADWR No: 221458 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>734</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>153.02</u>	2	0.16
Casing Volume (gal): <u>593</u> $x3 = 1778$	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>15:45</u>	<u>Pump On</u>						
<u>16:00</u>	<u>15</u>	<u>9</u>	<u>135</u>	<u>8.21</u>	<u>24.3</u>	<u>398.3</u>	
<u>16:15</u>	<u>30</u>	<u>9</u>	<u>270</u>	<u>8.16</u>	<u>24.2</u>	<u>398.4</u>	
<u>16:30</u>	<u>45</u>	<u>9</u>	<u>405</u>	<u>8.20</u>	<u>24.4</u>	<u>397.1</u>	
<u>16:45</u>	<u>60</u>	<u>9</u>	<u>540</u>	<u>8.15</u>	<u>24.0</u>	<u>395.1</u>	
<u>17:00</u>	<u>75</u>	<u>9</u>	<u>675</u>	<u>8.14</u>	<u>23.8</u>	<u>395.2</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Anderson 458</u>	<u>17:05</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>Purge minimum 1 well volume &amp; stabilized parameters</u>

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/19/16  
 Well ID: AWC-02 Weather: sunny, 80s  
 ADWR No: 616586 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>333</u>	Casing Capacity	
Casing Diameter (in): <u>20</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>125.40</u>	2	0.16
Casing Volume (gal): <u>3386 x3 = 10158</u>	4	0.65
Total Volume Purged (gal): <u>10500</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>11:32</u>	<u>Pump On</u>		<u>100</u>				
<u>11:47</u>	<u>15</u>	<u>100</u>	<u>1500</u>	<u>7.65</u>	<u>22.4</u>	<u>455.5</u>	
<u>12:02</u>	<u>30</u>	<u>100</u>	<u>3000</u>	<u>7.51</u>	<u>22.0</u>	<u>434.4</u>	
<u>12:17</u>	<u>45</u>	<u>100</u>	<u>4500</u>	<u>7.52</u>	<u>22.0</u>	<u>426.2</u>	
<u>12:32</u>	<u>60</u>	<u>100</u>	<u>6000</u>	<u>7.51</u>	<u>22.1</u>	<u>421.3</u>	
<u>12:47</u>	<u>75</u>	<u>100</u>	<u>7500</u>	<u>7.51</u>	<u>22.4</u>	<u>419.7</u>	
<u>13:02</u>	<u>90</u>	<u>100</u>	<u>9000</u>	<u>7.47</u>	<u>22.1</u>	<u>419.2</u>	
<u>13:17</u>	<u>105</u>	<u>100</u>	<u>10500</u>	<u>7.40</u>	<u>22.1</u>	<u>418.7</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>AWC-02</u>	<u>13:24</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/19/16  
 Well ID: AWC-03 Weather: Sunny, 80s  
 ADWR No: 616585 Sampler: LXM

WELL DATA		
Well Depth (ft bls):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
270	2	0.16
Casing Diameter (in): 16	4	0.65
Static Water Level (ft bmp): 125.5	5	1.02
Casing Volume (gal): 1508.5 x3 = 4526	6	1.47
Total Volume Purged (gal): 6240	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
10:32	Pump On						
10:34	2	780	1560	7.38	21.7	503.7	
10:36	4	780	3120	7.50	21.2	499.6	
10:38	6	780	4680	7.47	20.9	494.7	
10:40	8	780	6240	7.47	20.9	493.2	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-03	10:48	Poly	250ml	1	300.0	NP	Y

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field paremeters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/19/16  
 Well ID: AWC-04 Weather: Sunny, 80s  
 ADWR No: 616584 Sampler: LXM

WELL DATA		
Well Depth (ft bls):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
337	2	0.16
Casing Diameter (in): 16	4	0.65
Static Water Level (ft bmp): 119.70	5	1.02
Casing Volume (gal): 2269 x3 = 6806	6	1.47
Total Volume Purged (gal): 8520	8	2.61
	10	4.08
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
11:02	Pump On						
11:05	3	710	2130	7.24	21.1	627.3	
11:08	6	710	4260	7.19	20.6	591.5	
11:11	9	710	6390	7.22	20.5	592.4	
11:14	12	710	8520	7.24	20.6	590.7	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-04	11:20	Poly	250ML	1	300.0	NP	Y

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:
WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

**Additional Comments:**

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/19/16  
 Well ID: AWC-05 Weather: Sunny, 80s  
 ADWR No: 590620 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>1183</u>	Casing Capacity	
Casing Diameter (in): <u>16</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>329.30</u>	2 <u>16=10.44</u>	0.16
Casing Volume (gal): <u>8913</u> x3 = <u>26738</u>	4 <u>in. gal/</u>	0.65
Total Volume Purged (gal): <u>28500</u>	5 <u>lin ft</u>	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>9:20</u>	<u>Pump On</u>						
<u>9:30</u>	<u>10</u>	<u>570</u>	<u>5700</u>	<u>7.65</u>	<u>22.1</u>	<u>451.3</u>	
<u>9:40</u>	<u>20</u>	<u>570</u>	<u>11400</u>	<u>7.48</u>	<u>21.8</u>	<u>448.0</u>	
<u>9:50</u>	<u>30</u>	<u>570</u>	<u>17100</u>	<u>7.48</u>	<u>21.9</u>	<u>448.5</u>	
<u>10:00</u>	<u>40</u>	<u>570</u>	<u>22800</u>	<u>7.43</u>	<u>22.2</u>	<u>445.1</u>	
<u>10:10</u>	<u>50</u>	<u>570</u>	<u>28500</u>	<u>7.40</u>	<u>22.2</u>	<u>443.1</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>AWC-05</u>	<u>10:13</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field paremeters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/12/16  
 Well ID: Banks 986 Weather: Sunny & clear, 90s  
 ADWR No: 647986 Sampler: LXM JH & VNH

WELL DATA		
Well Depth (ft bls): <u>435</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>N/A, no water level</u>	2	0.16
Casing Volume (gal): <u>298</u> <small>Banks 987 = 232.54 x3 = 893</small>	4	0.65
Total Volume Purged (gal): <u>974.5</u>	5	1.02
	6	<u>1.47</u>
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>14:30</u>	<u>Pump On</u>						
<u>14:47</u>	<u>17</u>	<u>10</u>	<u>170</u>	<u>6.97</u>	<u>23.3</u>	<u>1076</u>	
<u>15:00</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.57</u>	<u>22.5</u>	<u>1058</u>	
<u>15:15</u>	<u>45</u>	<u>7.5</u>	<u>412.5</u>	<u>7.56</u>	<u>22.6</u>	<u>1045</u>	
<u>15:30</u>	<u>60</u>	<u>7.5</u>	<u>525</u>	<u>7.54</u>	<u>22.8</u>	<u>1036</u>	
<u>15:45</u>	<u>75</u>	<u>7.5</u>	<u>637</u>	<u>7.57</u>	<u>22.4</u>	<u>1030</u>	
<u>16:00</u>	<u>90</u>	<u>7.5</u>	<u>749.5</u>	<u>7.59</u>	<u>22.4</u>	<u>1026</u>	
<u>16:15</u>	<u>105</u>	<u>7.5</u>	<u>862</u>	<u>7.59</u>	<u>22.1</u>	<u>1027</u>	
<u>16:30</u>	<u>120</u>	<u>7.5</u>	<u>974.5</u>	<u>7.59</u>	<u>22.2</u>	<u>1029</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Banks 986</u>	<u>16:33</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: LXM Banks 987 1 Date: 7/12/16  
 Well ID: LXM 647987 Banks 987 Weather: Sunny & clear, 90s  
 ADWR No: 647987 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>339</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>232.54</u>	2	0.16
Casing Volume (gal): <u>x3 = 0</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: None

Additional Comments: WLO

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/19/16  
 Well ID: Barton 919 Weather: Sunny, 80s to 90s  
 ADWR No: 644919 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>460</u>	Casing Capacity	
Casing Diameter (in): <u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>113.35</u>	2	0.16
Casing Volume (gal): <u>x3 = 0</u>	4	<u>0.65</u>
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<del>wlo</del>							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: None

Additional Comments: wlo

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/15/16  
 Well ID: Bima Weather: Sunny & clear, 90s  
 ADWR No: 577927 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>460</u>	Casing Capacity	
Casing Diameter (in): <u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): _____	2	0.16
Casing Volume (gal): _____ x3 = _____	4	0.65
Total Volume Purged (gal): <u>No purge</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
<u>11:16</u>				<u>6.90</u>	<u>28.7</u>	<u>1602</u>	
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Bima</u>	<u>11:22</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input checked="" type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input checked="" type="checkbox"/> Other: <u>No purge per owner request, 1 field reading LXM</u>

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>No purge per owner request, 1 field reading</u>

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-17-16  
 Well ID: BMO-2008-16 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Sherman

WELL DATA		Casing Capacity	
Well Depth (ft bis): <u>310</u>		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5"</u>		2	0.16
Static Water Level (ft bmp): <u>75.02</u>		4	0.65
Casing Volume (gal): <u>240 x3 = 720</u>		5	1.02
		6	1.47
		8	2.61
		10	4.08
Total Volume Purged (gal): <u>747</u>		Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1050</u>	<b>Pump On</b>						
<u>1120</u>	<u>30</u>	<u>8.3</u>	<u>249</u>	<u>7.05</u>	<u>22.1</u>	<u>990</u>	
<u>1140</u>	<u>50</u>	<u>8.3</u>	<u>415</u>	<u>7.03</u>	<u>22.0</u>	<u>988</u>	
<u>1200</u>	<u>70</u>	<u>8.3</u>	<u>581</u>	<u>7.01</u>	<u>22.1</u>	<u>987</u>	
<u>1220</u>	<u>90</u>	<u>8.3</u>	<u>747</u>	<u>7.05</u>	<u>22.2</u>	<u>986</u>	
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-16</u>	<u>1220</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other: \_\_\_\_\_

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other: \_\_\_\_\_

Additional Comments: 235

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-18-16  
 Well ID: BMO-2008-3B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shuman

### WELL DATA

Well Depth (ft bls): <u>260</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>145.94</u> Casing Volume (gal): <u>116.3 x3 = 349</u> Total Volume Purged (gal): <u>540</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0815</u>	<b>Pump On</b>						
<u>0825</u>	<u>10</u>	<u>27</u>	<u>135</u>	<u>7.14</u>	<u>21.5</u>	<u>636</u>	
<u>0830</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.16</u>	<u>21.4</u>	<u>634</u>	
<u>0835</u>	<u>20</u>	<u>27</u>	<u>540</u>	<u>7.18</u>	<u>21.4</u>	<u>637</u>	
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-3B</u>	<u>0835</u>	<u>PL</u>	<u>250</u>	<u>PL</u>	<u>300</u>	<u>Fe</u>	<u>X</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

114.1



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-14-16  
 Well ID: BMD-2008-5B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shuman

WELL DATA		
Well Depth (ft bis): <u>285-</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>151.31</u>	2	0.16
Casing Volume (gal): <u>136.2 x 3 = 408.6</u>	4	0.65
Total Volume Purged (gal): <u>675</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0705</u>	<u>Pump On</u>						
<u>0700</u>	<u>5</u>	<u>27</u>	<u>135</u>	<u>7.21</u>	<u>21.8</u>	<u>771</u>	
<u>0720</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.24</u>	<u>21.7</u>	<u>772</u>	
<u>0730</u>	<u>25</u>	<u>27</u>	<u>675</u>	<u>7.22</u>	<u>21.8</u>	<u>771</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMD-2008-5B</u>	<u>0730</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Tea</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: 133.6

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-14-16  
 Well ID: BMO-2008-5M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Stewart

WELL DATA		
Well Depth (ft bls): <u>450</u>	Casing Capacity	
Casing Diameter (in): <u>5.1</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>152.68</u>	2	0.16
Casing Volume (gal): <u>303.2 x 3 = 909.6</u>	4	0.65
Total Volume Purged (gal): <u>909.6</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0600</u>	<u>Pump On</u>						
<u>0625</u>	<u>25</u>	<u>18</u>	<u>450</u>	<u>7.11</u>	<u>22.5</u>	<u>623</u>	
<u>0645</u>	<u>45</u>	<u>18</u>	<u>810</u>	<u>7.12</u>	<u>22.4</u>	<u>622</u>	
<u>0655</u>	<u>55</u>	<u>18</u>	<u>990</u>	<u>7.12</u>	<u>22.5</u>	<u>623</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-5M</u>	<u>0655</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other: _____

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input checked="" type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other: _____

Additional Comments: 297.3

---



---



---





# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-14-12  
 Well ID: BMO-2008-6B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Slawson

### WELL DATA

Well Depth (ft bis): <u>265</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>196.36</u> Casing Volume (gal): <u>70 x3 = 210</u> Total Volume Purged (gal): <u>210</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0840</u>	<u>Pump On</u>						
<u>0855</u>	<u>15</u>	<u>5.1</u>	<u>75</u>	<u>7.41</u>	<u>21.9</u>	<u>298</u>	
<u>0910</u>	<u>30</u>	<u>5.1</u>	<u>150</u>	<u>7.45</u>	<u>21.8</u>	<u>302</u>	
<u>0925</u>	<u>45</u>	<u>5.1</u>	<u>225</u>	<u>7.46</u>	<u>21.8</u>	<u>301</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-6B</u>	<u>0925</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>390</u>	<u>Fe</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: 68.7



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-14-16  
 Well ID: BMO-2008-6M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shuman

WELL DATA		
Well Depth (ft bbs): <u>450</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>197.37</u>	2	0.16
Casing Volume (gal): <u>252.7 x3 = 773.1</u>	4	0.65
Total Volume Purged (gal): <u>840</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0750</u>	<u>Pump On</u>						
<u>0800</u>	<u>10</u>	<u>21</u>	<u>210</u>	<u>7.05</u>	<u>22.1</u>	<u>761</u>	
<u>0810</u>	<u>20</u>	<u>21</u>	<u>420</u>	<u>7.06</u>	<u>22.2</u>	<u>759</u>	
<u>0820</u>	<u>30</u>	<u>21</u>	<u>630</u>	<u>7.04</u>	<u>22.3</u>	<u>762</u>	
<u>0830</u>	<u>40</u>	<u>21</u>	<u>840</u>	<u>7.06</u>	<u>22.2</u>	<u>760</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-6M</u>	<u>0830</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Der</u>	<u>✓</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: 252.7

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-18-16  
 Well ID: BMO-2008-7M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shurman

### WELL DATA

Well Depth (ft bls): <u>620</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>245.23</u> Casing Volume (gal): <u>433.2 x3 = 1300</u> Total Volume Purged (gal): <u>1365</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Casing Capacity</th> </tr> <tr> <th style="text-align: center;">Nominal Size (inches)</th> <th style="text-align: center;">Gallons per Linear Foot</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">2</td><td style="text-align: center;">0.16</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">0.65</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">1.02</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">1.47</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">2.61</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">4.08</td></tr> </tbody> </table> <p style="text-align: center;">Casing Volume = gallons/foot * water column (feet)</p>	Casing Capacity		Nominal Size (inches)	Gallons per Linear Foot	2	0.16	4	0.65	5	1.02	6	1.47	8	2.61	10	4.08
Casing Capacity																	
Nominal Size (inches)	Gallons per Linear Foot																
2	0.16																
4	0.65																
5	1.02																
6	1.47																
8	2.61																
10	4.08																

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0630</u>	<b>Pump On</b>						
<u>0655</u>	<u>25</u>	<u>21</u>	<u>525</u>	<u>7.41</u>	<u>23.2</u>	<u>457</u>	
<u>0715</u>	<u>45</u>	<u>21</u>	<u>945</u>	<u>7.45</u>	<u>23.4</u>	<u>455</u>	
<u>0735</u>	<u>65</u>	<u>21</u>	<u>1365</u>	<u>7.43</u>	<u>23.3</u>	<u>457</u>	
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-7M</u>	<u>0735</u>	<u>PL</u>	<u>25</u>	<u>1</u>	<u>300</u>	<u>Yes</u>	<u>X</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

\_\_\_\_\_

\_\_\_\_\_

424.8



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-15-16  
 Well ID: Bmo 2008-8B Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shuman

### WELL DATA

Well Depth (ft bis): _____ Casing Diameter (in): _____ Static Water Level (ft bmp): <u>301.26</u> Casing Volume (gal): _____ x3 = _____ Total Volume Purged (gal): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
							Pump On
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

**Sample Collection Point:**

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

**Additional Comments:**

---



---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-15-16  
 Well ID: BMO-2008-8M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Skinner

WELL DATA		
Well Depth (ft bls): <u>1210</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>303.43</u>	2	0.16
Casing Volume (gal): <u>929.7 x 3 = 2774.1</u>	4	0.65
Total Volume Purged (gal): <u>2816</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0845</u>	<u>Pump On</u>						
<u>0945</u>	<u>60</u>	<u>17.6</u>	<u>1056</u>	<u>7.54</u>	<u>24.7</u>	<u>533</u>	
<u>1045</u>	<u>120</u>	<u>17.6</u>	<u>2112</u>	<u>7.55</u>	<u>24.6</u>	<u>534</u>	
<u>1115</u>	<u>150</u>	<u>17.6</u>	<u>2640</u>	<u>7.52</u>	<u>24.7</u>	<u>535</u>	
<u>1125</u>	<u>160</u>	<u>17.6</u>	<u>2816</u>	<u>7.52</u>	<u>24.6</u>	<u>535</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-8M</u>	<u>1125</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Free</u>	<u>Y</u>
<u>Dup-091516</u>	<u>1125</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Free</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: 906.6 / Duplicates = Dup-091516

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-15-16  
 Well ID: BMO-2008-9M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Skuman

### WELL DATA

Well Depth (ft bls): <u>775</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>289.35</u> Casing Volume (gal): <u>495.4 x 3 = 1486.2</u> Total Volume Purged (gal): <u>1504</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1145</u>	<b>Pump On</b>						
<u>1205</u>	<u>20</u>	<u>18.8</u>	<u>376</u>	<u>7.61</u>	<u>24.6</u>	<u>572</u>	
<u>1225</u>	<u>40</u>	<u>18.8</u>	<u>752</u>	<u>7.65</u>	<u>24.5</u>	<u>570</u>	
<u>1245</u>	<u>60</u>	<u>18.8</u>	<u>1128</u>	<u>7.67</u>	<u>24.4</u>	<u>569</u>	
<u>1305</u>	<u>80</u>	<u>18.8</u>	<u>1504</u>	<u>7.64</u>	<u>24.4</u>	<u>571</u>	
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-9M</u>	<u>1305</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: 485.7



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-17-16  
 Well ID: BMO 2008-106L Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Shamba

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): <u>337.26</u>	4	0.65
Casing Volume (gal): _____ x3 = _____	5	1.02
Total Volume Purged (gal): _____	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other: _____

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other: _____

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-17-16  
 Well ID: BMO-2008-10 GU Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Swann

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): <u>201.47</u>	4	0.65
	5	1.02
Casing Volume (gal): _____ x3 = _____	6	1.47
	8	2.61
Total Volume Purged (gal): _____	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	<b>Pump On</b>						
	<b>Pump Off</b>						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other: _____

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other: _____

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-17-16  
 Well ID: BMO-2008-116 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Sherman

WELL DATA		
Well Depth (ft bls): <u>760</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>554.94</u>	2	0.16
Casing Volume (gal): <u>209 x3 = 627</u>	4	0.65
Total Volume Purged (gal): <u>640</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0550</u>	<u>Pump On</u>						
<u>0600</u>	<u>10</u>	<u>8</u>	<u>80</u>	<u>7.90</u>	<u>25.3</u>	<u>335</u>	
<u>0620</u>	<u>30</u>	<u>8</u>	<u>240</u>	<u>7.94</u>	<u>25.5</u>	<u>336</u>	
<u>0650</u>	<u>60</u>	<u>8</u>	<u>480</u>	<u>7.95</u>	<u>25.6</u>	<u>333</u>	
<u>0710</u>	<u>80</u>	<u>8</u>	<u>640</u>	<u>7.96</u>	<u>25.6</u>	<u>332</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2008-116</u>	<u>0710</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>fer</u>	<u>x</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

205



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-2-16  
 Well ID: BMO-2008-13B Weather: \_\_\_\_\_  
 ADWR No: \_\_\_\_\_ Sampler: \_\_\_\_\_

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
Casing Diameter (in): _____	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>212.84</u>	2	0.16
Casing Volume (gal): _____ x3 = _____	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): _____	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other: _____

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other: _____

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-21-16  
 Well ID: BMO-2008-13M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Shuman

### WELL DATA

Well Depth (ft bls):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	2	0.16
Static Water Level (ft bmp): <u>213.22</u>	4	0.65
Casing Volume (gal): <u>x3 =</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-25-16  
 Well ID: BMO-2010-1M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shuman

### WELL DATA

Well Depth (ft bls): <u>550</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5.1</u>	2	0.16
Static Water Level (ft bmp): <u>212.23</u>	4	0.65
Casing Volume (gal): <u>344.4 x 3 = 1033.2</u>	5	1.02
Total Volume Purged (gal): <u>1035</u>	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0850</u>	<b>Pump On</b>						
<u>0905</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.88</u>	<u>23.0</u>	<u>582</u>	
<u>0950</u>	<u>60</u>	<u>5</u>	<u>375</u>	<u>7.90</u>	<u>23.2</u>	<u>590</u>	
<u>1050</u>	<u>120</u>	<u>3</u>	<u>555</u>	<u>7.94</u>	<u>23.3</u>	<u>645</u>	
<u>1150</u>	<u>180</u>	<u>3</u>	<u>735</u>	<u>7.95</u>	<u>23.4</u>	<u>642</u>	
<u>1250</u>	<u>240</u>	<u>3</u>	<u>915</u>	<u>7.96</u>	<u>23.4</u>	<u>644</u>	
<u>1330</u>	<u>280</u>	<u>3</u>	<u>1035</u>	<u>7.93</u>	<u>23.3</u>	<u>646</u>	
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2010-1M</u>	<u>1330</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: 337.7

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-13-16  
 Well ID: BMO-2010-2M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Sherman

### WELL DATA

Well Depth (ft bis): <u>264.66</u> Casing Diameter (in): _____ Static Water Level (ft bmp): _____ Casing Volume (gal): _____ x3 = _____ Total Volume Purged (gal): _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Casing Capacity</th> </tr> <tr> <th style="text-align: center;">Nominal Size (inches)</th> <th style="text-align: center;">Gallons per Linear Foot</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">2</td><td style="text-align: center;">0.16</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">0.65</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">1.02</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">1.47</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">2.61</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">4.08</td></tr> </tbody> </table> <p style="text-align: center;">Casing Volume = gallons/foot * water column (feet)</p>	Casing Capacity		Nominal Size (inches)	Gallons per Linear Foot	2	0.16	4	0.65	5	1.02	6	1.47	8	2.61	10	4.08
Casing Capacity																	
Nominal Size (inches)	Gallons per Linear Foot																
2	0.16																
4	0.65																
5	1.02																
6	1.47																
8	2.61																
10	4.08																

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	<b>Pump On</b>						
	<b>Pump Off</b>						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/12/16  
 Well ID: BMO-2010-3B Weather: Sunny, clear, 70s  
 ADWR No: 219970 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>330</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>119.21</u>	2	0.16
Casing Volume (gal): <u>215</u> x3 = <u>645</u>	4	0.65
Total Volume Purged (gal): <u>735</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>07:37</u>	<u>Pump On</u>						
<u>07:52</u>	<u>15</u>	<u>7</u>	<u>105</u>	<u>7.37</u>	<u>21.2</u>	<u>429.6</u>	
<u>08:07</u>	<u>30</u>	<u>7</u>	<u>210</u>	<u>7.56</u>	<u>21.1</u>	<u>425.1</u>	
<u>08:22</u>	<u>45</u>	<u>7</u>	<u>315</u>	<u>7.59</u>	<u>21.0</u>	<u>425.3</u>	
<u>08:37</u>	<u>60</u>	<u>7</u>	<u>420</u>	<u>7.60</u>	<u>21.1</u>	<u>424.7</u>	
<u>08:52</u>	<u>75</u>	<u>7</u>	<u>525</u>	<u>7.60</u>	<u>21.2</u>	<u>425.0</u>	
<u>09:07</u>	<u>90</u>	<u>7</u>	<u>630</u>	<u>7.57</u>	<u>21.1</u>	<u>424.5</u>	
<u>09:22</u>	<u>105</u>	<u>7</u>	<u>735</u>	<u>7.59</u>	<u>21.0</u>	<u>424.9</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2010-3B</u>	<u>09:25</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/12/16  
 Well ID: BMO-2010-3M Weather: sunny & clear, 80s  
 ADWR No: 219969 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>532</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>121.56</u>	2	0.16
Casing Volume (gal): <u>418.65</u> x3 = <u>1256</u>	4	0.65
Total Volume Purged (gal): <u>1260</u>	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:27</u>	<u>Pump On</u>						
<u>09:47</u>	<u>20</u>	<u>7</u>	<u>140</u>	<u>7.85</u>	<u>21.5</u>	<u>331.5</u>	
<u>10:07</u>	<u>40</u>	<u>7</u>	<u>280</u>	<u>7.76</u>	<u>22.3</u>	<u>382.4</u>	
<u>10:27</u>	<u>60</u>	<u>7</u>	<u>420</u>	<u>7.77</u>	<u>22.5</u>	<u>386.9</u>	
<u>10:47</u>	<u>80</u>	<u>7</u>	<u>560</u>	<u>7.77</u>	<u>22.8</u>	<u>383.9</u>	
<u>11:07</u>	<u>100</u>	<u>7</u>	<u>700</u>	<u>7.77</u>	<u>22.7</u>	<u>384.3</u>	
<u>11:27</u>	<u>120</u>	<u>7</u>	<u>840</u>	<u>7.77</u>	<u>22.9</u>	<u>384.1</u>	
<u>11:47</u>	<u>140</u>	<u>7</u>	<u>980</u>	<u>7.75</u>	<u>22.8</u>	<u>383.9</u>	
<u>12:07</u>	<u>160</u>	<u>7</u>	<u>1120</u>	<u>7.74</u>	<u>23.0</u>	<u>383.1</u>	
<u>12:27</u>	<u>180</u>	<u>7</u>	<u>1260</u>	<u>7.75</u>	<u>22.7</u>	<u>383.3</u>	<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2010-3M</u>	<u>LXM 12:32</u> <u>04:2</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-17-16  
 Well ID: BMO-2012-1M Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shura

WELL DATA		
Well Depth (ft bis): <u>405</u>	Casing Capacity	
Casing Diameter (in): <u>5 1/2</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>215.57</u>	2	0.16
Casing Volume (gal): <u>193.1 x3 = 579.3</u>	4	0.65
Total Volume Purged (gal): <u>600</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0850</u>	<u>Pump On</u>						
<u>0900</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>7.11</u>	<u>23.4</u>	<u>933</u>	
<u>0920</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>7.09</u>	<u>23.3</u>	<u>931</u>	
<u>0950</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>7.14</u>	<u>23.3</u>	<u>929</u>	
<u>1030</u>	<u>100</u>	<u>6</u>	<u>600</u>	<u>7.15</u>	<u>23.3</u>	<u>928</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2012-1M</u>	<u>1030</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>✓</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

189.4





# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: BMO-2014-1BL Weather: Sunny & clear, 70s  
 ADWR No: 917394 Sampler: LXM

WELL DATA		
Well Depth (ft bls):	<u>366</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>124.85 ft</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>246</u> x3 = <u>738</u>	2
Total Volume Purged (gal):	<u>780</u>	4
		5
		6
		8
		10
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>07:49</u>	<u>Pump On</u>						
<u>08:04</u>	<u>15</u>	<u>13</u>	<u>195</u>	<u>7.63</u>	<u>22.2</u>	<u>689.1</u>	
<u>08:19</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.47</u>	<u>21.9</u>	<u>689.5</u>	
<u>08:34</u>	<u>45</u>	<u>13</u>	<u>585</u>	<u>7.44</u>	<u>22.1</u>	<u>689.9</u>	
<u>08:49</u>	<u>60</u>	<u>13</u>	<u>780</u>	<u>7.47</u>	<u>21.9</u>	<u>690.7</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-1BL</u>	<u>08:53</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: BMO-2014-1BU Weather: Sunny & clear, 70s  
 ADWR No: 917393 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>273</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>125.23</u>	5	<u>1.02</u>
	6	1.47
Casing Volume (gal): <u>151</u> x3 = <u>452</u>	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:05</u>	<u>Pump On</u>						
<u>09:15</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.51</u>	<u>21.6</u>	<u>740.6</u>	
<u>09:25</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.41</u>	<u>21.7</u>	<u>735.6</u>	
<u>09:35</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.45</u>	<u>21.6</u>	<u>730.1</u>	
<u>09:45</u>	<u>40</u>	<u>13</u>	<u>520</u>	<u>7.45</u>	<u>21.6</u>	<u>724.8</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-1BU</u>	<u>09:48</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP20160714</u>	<u>1800</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: BMC-2014-2BL Weather: Sunny, 80s  
 ADWR No: 017452 Sampler: LXM

WELL DATA		
Well Depth (ft bls):	<u>396</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>127.85</u>	Gallons per Linear Foot
Casing Volume (gal):	<del>130274</del> x3 = <u>391821</u> <u>LXM 840</u> <u>LXM</u>	2 0.16
Total Volume Purged (gal):		4 0.65
		5 <u>1.02</u>
		6 1.47
		8 2.61
		10 4.08
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>10:37</u>	<u>Pump On</u>						
<u>10:52</u>	<u>15</u>	<u>14</u>	<u>210</u>	<u>7.34</u>	<u>22.0</u>	<u>1192</u>	
<u>11:07</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.34</u>	<u>21.9</u>	<u>1191</u>	
<u>11:22</u>	<u>45</u>	<u>14</u>	<u>630</u>	<u>7.28</u>	<u>22.3</u>	<u>1188</u>	
<u>11:37</u>	<u>60</u>	<u>14</u>	<u>840</u>	<u>7.27</u>	<u>21.9</u>	<u>1182</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMC-2014-2BL</u>	<u>11:45</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: BMO-2014-2BU Weather: Sunny 80s  
 ADWR No: 917453 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>275</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>LXM 125.23 - 127.93</u>	2	0.16
Casing Volume (gal): <u>150 x3 = 449</u>	4	0.65
Total Volume Purged (gal): <u>560</u>	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>11:55</u>	<u>Pump On</u>						
<u>12:05</u>	<u>10</u>	<u>14</u>	<u>140</u>	<u>7.55</u>	<u>21.5</u>	<u>535.1</u>	
<u>12:15</u>	<u>20</u>	<u>14</u>	<u>280</u>	<u>7.56</u>	<u>21.5</u>	<u>534.8</u>	
<u>12:25</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.56</u>	<u>21.1</u>	<u>535.7</u>	
<u>12:35</u>	<u>40</u>	<u>14</u>	<u>560</u>	<u>7.56</u>	<u>21.4</u>	<u>536.6</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-2BU</u>	<u>12:41</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field parameters stabilized.

Purged well until field parameters stabilized.

Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: ~~BMO-2014-3BL~~ 1 Date: 7/14/16  
 Well ID: BMO-2014-3BL Weather: Sunny, 80s  
 ADWR No: 917527 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>40' ± 521</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>139.44</u>	2	0.16
Casing Volume (gal): <u>389 x3 = 1168</u>	4	0.65
Total Volume Purged (gal): <u>1300</u>	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>14:21</u>	<u>Pump On</u>						
<u>14:41</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.62</u>	<u>24.7</u>	<u>432.5</u>	
<u>15:01</u>	<u>40</u>	<u>13</u>	<u>520</u>	<u>7.60</u>	<u>22.9</u>	<u>426.1</u>	
<u>15:21</u>	<u>60</u>	<u>13</u>	<u>780</u>	<u>7.60</u>	<u>22.6</u>	<u>423.8</u>	
<u>15:41</u>	<u>80</u>	<u>13</u>	<u>1040</u>	<u>7.65</u>	<u>23.1</u>	<u>421.6</u>	
<u>16:01</u>	<u>100</u>	<u>13</u>	<u>1300</u>	<u>7.62</u>	<u>22.7</u>	<u>419.4</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-3BL</u>	<u>16:09</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: BMO-2014-3BU Weather: Sunny, 80s  
 ADWR No: 967494 Sampler: LXMJ

WELL DATA		
Well Depth (ft bis): <u>288</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>140.55</u>	2	0.16
Casing Volume (gal): <u>150</u> x3 = <u>451</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>13:28</u>	<u>Pump On</u>						
<u>13:38</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.63</u>	<u>21.5</u>	<u>472.5</u>	
<u>13:48</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.54</u>	<u>21.5</u>	<u>469.0</u>	
<u>13:58</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.57</u>	<u>21.6</u>	<u>466.3</u>	
<u>14:08</u>	<u>40</u>	<u>13</u>	<u>520</u>	<u>7.56</u>	<u>21.3</u>	<u>465.9</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-3BU</u>	<u>14:13</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/13/16  
 Well ID: BMO-2014-4B Weather: Sunny & clear, 80s  
 ADWR No: 917620 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>258</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>134.64</u>	2	0.16
Casing Volume (gal): <u>125.83</u> x3 = <u>377.5</u>	4	0.65
Total Volume Purged (gal): <u>420</u>	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>07:43</u>	<u>Pump On</u>						
<u>07:53</u>	<u>10</u>	<u>14</u>	<u>140</u>	<u>7.53</u>	<u>21.3</u>	<u>476.9</u>	
<u>08:03</u>	<u>20</u>	<u>14</u>	<u>280</u>	<u>7.56</u>	<u>21.1</u>	<u>477.2</u>	
<u>08:13</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.55</u>	<u>21.3</u>	<u>478.3</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-4B</u>	<u>08:22</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP20160713</u>	<u>1800</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/13/15  
 Well ID: BMO-2014-4BL Weather: clear & sunny, 80s  
 ADWR No: 917619 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>261</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>132.02</u>	2	0.16
Casing Volume (gal): <u>131.56 x3 = 395</u>	4	0.65
Total Volume Purged (gal): <u>396</u>	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>08:31</u>	<u>Pump On</u>						
<u>08:42</u>	<u>11</u>	<u>12</u>	<u>132</u>	<u>7.61</u>	<u>21.8</u>	<u>632.5</u>	
<u>08:53</u>	<u>22</u>	<u>12</u>	<u>264</u>	<u>7.52</u>	<u>21.6</u>	<u>656.1</u>	
<u>09:04</u>	<u>33</u>	<u>12</u>	<u>396</u>	<u>7.51</u>	<u>21.5</u>	<u>653.5</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-4BL</u>	<u>09:10</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/13/16  
 Well ID: BMO-2015-1B Weather: Sunny, clear, 80s  
 ADWR No: 917622 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>244</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp): <u>139.5</u>	4	0.65
	5	<u>1.02</u>
Casing Volume (gal): <u>106.59 x3 = 320</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>520</u>	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:45</u>	<u>Pump On</u>						
<u>09:55</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.08</u>	<u>21.8</u>	<u>720.1</u>	
<u>10:05</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.48</u>	<u>21.3</u>	<u>690.6</u>	
<u>10:15</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.48</u>	<u>21.3</u>	<u>681.8</u>	
<u>10:25</u>	<u>40</u>	<u>13</u>	<u>520</u>	<u>7.52</u>	<u>21.2</u>	<u>675.3</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-1B</u>	<u>10:31</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field paremeters stabilized.

Purged well until field parameters stabilized.

Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/13/16  
 Well ID: BMO-2015-1BL Weather: sunny & clear, 80s  
 ADWR No: 917621 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>241</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>131.31</u>	2	0.16
Casing Volume (gal): <u>110</u> x3 = <u>329</u>	4	0.65
Total Volume Purged (gal): <u>360</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>10:43</u>	Pump On						
<u>10:53</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.55</u>	<u>21.6</u>	<u>765.8</u>	
<u>11:03</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.48</u>	<u>21.9</u>	<u>765.3</u>	
<u>11:13</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.49</u>	<u>21.6</u>	<u>763.8</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-1BL</u>	<u>11:20</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/13/16  
 Well ID: BMO-2015-2B Weather: sunny & clear, 80s  
 ADWR No: 917827 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>272</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>149.88</u>	2	0.16
Casing Volume (gal): <u>125</u> x3 = <u>374</u>	4	0.65
Total Volume Purged (gal): <u>520</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>12:00</u>	<u>Pump On</u>						
<u>12:10</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.64</u>	<u>22.6</u>	<u>878.0</u>	
<u>12:20</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.32</u>	<u>22.3</u>	<u>850.3</u>	
<u>12:30</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.33</u>	<u>21.9</u>	<u>839.9</u>	
<del><u>12:40</u></del>	<del><u>40</u></del>	<del><u>13</u></del>					
<u>12:40</u>	<u>40</u>	<u>13</u>	<u>520</u>	<u>7.33</u>	<u>21.8</u>	<u>837.2</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-2B</u>	<u>12:44</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field parameters stabilized.

Purged well until field parameters stabilized.

Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/13/16  
 Well ID: BMO-2015-2BL Weather: Sunny & clear, 90s  
 ADWR No: 917828 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>272</u>	Casing Capacity	
Casing Diameter (in): <u>LXM 48.52 5</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp): <u>148.52</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>126 x3 = 378</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>390</u>	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>12:56</u>	<u>Pump On</u>						
<u>13:06</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.36</u>	<u>22.3</u>	<u>925.5</u>	
<u>13:16</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.32</u>	<u>22.3</u>	<u>914.6</u>	
<u>13:26</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.33</u>	<u>21.8</u>	<u>903.7</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-2BL</u>	<u>13:33</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NIP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/21/16  
 Well ID: Burke Weather: cloudy, 80s  
 ADWR No: 212268 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>781</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>use 587.06 from 8/3/15</u>	2	0.16
Casing Volume (gal): <u>285</u> x3 = <u>855</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>16:20</u>	<u>Pump On</u>						
<u>16:25</u>	<u>5</u>			<u>8.01</u>	<u>27.0</u>	<u>483.6</u>	
<u>16:30</u>	<u>10</u>			<u>8.00</u>	<u>26.6</u>	<u>477.7</u>	
<u>16:35</u>	<u>15</u>			<u>7.98</u>	<u>26.4</u>	<u>478.0</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Burke</u>	<u>16:40</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP20160721</u>	<u>18:00</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: sonde became tangled under well cap; needs to be extracted

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: one grab from tank spigot

Additional Comments: from tank

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: Chambers Weather: Sunny, 80s  
 ADWR No: 629807 Sampler: VNI

WELL DATA		
Well Depth (ft bls): <u>245</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp):	4	0.65
	5	1.02
Casing Volume (gal): <u>x3 =</u>	6	1.47
	8	2.61
Total Volume Purged (gal):	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1200</u>	<u>Pump On</u>						
<u>1203</u>	<u>3</u>	<u>13</u>	<u>39</u>	<u>7.40</u>	<u>23.5</u>	<u>455.6</u>	
<u>1206</u>	<u>6</u>	<u>13</u>	<u>78</u>	<u>7.47</u>	<u>22.9</u>	<u>459.5</u>	
<u>1209</u>	<u>9</u>	<u>13</u>	<u>117</u>	<u>7.49</u>	<u>22.8</u>	<u>459.8</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Chambers</u>	<u>1214</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>3000.0</u>	<u>NIP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input checked="" type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input checked="" type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/20/16  
 Well ID: COB MW-1B Weather: Sunny, 80s  
 ADWR No: 903992 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>500</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>6</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>240.06</u>	5	1.02
	6	<u>1.47</u>
Casing Volume (gal): <u>382</u> x3 = <u>1146</u>	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:56</u>	<u>Pump On</u>						
<u>10:11</u>	<u>15</u>	<u>18</u>	<u>270</u>	<u>6.61</u>	<u>23.0</u>	<u>2494</u>	<u>outside spigot</u>
<u>10:26</u>	<u>30</u>	<u>18</u>	<u>540</u>	<u>6.59</u>	<u>21.5</u>	<u>2476</u>	<u>inside spigot</u>
<u>10:41</u>	<u>45</u>	<u>18</u>	<u>828</u>	<u>6.63</u>	<u>22.1</u>	<u>2435</u>	<u>outside spigot</u>
<u>10:56</u>	<u>60</u>	<u>18</u>	<u>1080</u>	<u>6.65</u>	<u>21.6</u>	<u>2414</u>	<u>inside spigot</u>
<u>11:11</u>	<u>75</u>	<u>18</u>	<u>1350</u>	<u>6.63</u>	<u>21.8</u>	<u>2405</u>	<u>outside spigot</u>
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>COB-MW-1B</u>	<u>11:20</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Sample taken from outside spigot.

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/20/16  
 Well ID: COB MW-2 Weather: Sunny, 70s  
 ADWR No: 903984 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>162</u>	Casing Capacity	
Casing Diameter (in): <u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>130.90</u>	2	0.16
Casing Volume (gal): <u>20</u> x3 = <u>61</u>	4	0.65
Total Volume Purged (gal): <u>90</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>08:19</u>	<u>Pump On</u>						
<u>08:24</u>	<u>5</u>	<u>6</u>	<u>30</u>	<u>7.61</u>	<u>20.3</u>	<u>523.2</u>	
<u>08:29</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>7.51</u>	<u>20.0</u>	<u>525.6</u>	
<u>08:34</u>	<u>15</u>	<u>6</u>	<u>90</u>	<u>7.52</u>	<u>20.0</u>	<u>523.7</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>COB-MW-2</u>	<u>08:40</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Hand filtered sample.

---



---



---





# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/20/16  
 Well ID: COB MW-3 Weather: Sunny, 70s  
 ADWR No: 903823 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>300</u>	Casing Capacity	
Casing Diameter (in): <u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>120.25</u>	2	0.16
Casing Volume (gal): <u>117</u> $x3 = 350.5$	4	0.65
Total Volume Purged (gal): <u>378</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>07:20</u>	<u>Pump On</u>						
<u>07:27</u>	<u>7</u>	<u>18</u>	<u>126</u>	<u>7.59</u>	<u>20.5</u>	<u>511.9</u>	
<u>07:34</u>	<u>14</u>	<u>18</u>	<u>252</u>	<u>7.47</u>	<u>20.4</u>	<u>508.5</u>	
<u>07:41</u>	<u>21</u>	<u>18</u>	<u>378</u>	<u>7.48</u>	<u>20.4</u>	<u>507.4</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>COB-MW-3</u>	<u>07:46</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field parameters stabilized.

Purged well until field parameters stabilized.

Other:

Additional Comments: Hand filtered sample.

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: L Date: 7/20/16  
 Well ID: COB WL Weather: Sunny, 80s  
 ADWR No: 593116 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>150</u>	Casing Capacity	
Casing Diameter (in): <u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>84.80</u>	2	0.16
Casing Volume (gal): <u>42</u> x3 = <u>137</u>	4	<u>0.65</u>
Total Volume Purged (gal): <u>~177</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>11:55</u>	<u>Pump On</u>						
<u>12:00</u>	<u>5</u>	<u>6</u>	<u>30</u>	<u>7.06</u>	<u>21.0</u>	<u>1202</u>	
<u>12:05</u>	<u>10</u>	<u>1.13</u>	<u>41.3</u>	<u>7.28</u>	<u>22.7</u>	<u>1184</u>	
<u>12:25</u>	<u>30</u>	<u>1.13</u>	<u>63.9</u>	<u>7.21</u>	<u>22.3</u>	<u>1184</u>	
<u>12:45</u>	<u>50</u>	<u>1.13</u>	<u>86.5</u>	<u>7.18</u>	<u>22.4</u>	<u>1182</u>	
<u>13:05</u>	<u>70</u>	<u>1.13</u>	<u>109.1</u>	<u>7.24</u>	<u>22.7</u>	<u>1184</u>	
<u>13:25</u>	<u>90</u>	<u>1.13</u>	<u>131.7</u>	<u>7.13</u>	<u>22.3</u>	<u>1182</u>	
<u>13:45</u>	<u>110</u>	<u>1.13</u>	<u>154.3</u>	<u>7.10</u>	<u>22.8</u>	<u>1183</u>	
<u>14:05</u>	<u>130</u>	<u>1.13</u>	<u>176.9</u>	<u>7.12</u>	<u>22.5</u>	<u>1184</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>COB-WL</u>	<u>14:07</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Hand filtered sample.

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/25/16  
 Well ID: Cooper Weather: Sunny, 80s  
 ADWR No: 623564 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>325</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	2	0.16
Casing Volume (gal): <u>x3 = 0</u>	4	0.65
Total Volume Purged (gal): <u>150</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>10:55</u>	<u>Pump On</u>						
<u>11:00</u>	<u>5</u>	<u>10</u>	<u>50</u>	<u>7.73</u>	<u>22.5</u>	<u>425.1</u>	
<u>11:05</u>	<u>10</u>	<u>10</u>	<u>100</u>	<u>7.64</u>	<u>22.4</u>	<u>420.2</u>	
<u>11:10</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.62</u>	<u>22.4</u>	<u>420.2</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Cooper</u>	<u>11:15</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input checked="" type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input checked="" type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-18-16  
 Well ID: Cooper C Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Slawny

WELL DATA		
Well Depth (ft bls): <u>220</u>	Casing Capacity	
Casing Diameter (in): <u>6"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>162.78</u>	2	0.16
Casing Volume (gal): <u>84.2 x 3 = 252.6</u>	4	0.65
Total Volume Purged (gal): <u>297</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1115</u>	<u>Pump On</u>						
<u>1125</u>	<u>10</u>	<u>8.5</u>	<u>85</u>	<u>6.93</u>	<u>26.0</u>	<u>1475</u>	
<u>1135</u>	<u>20</u>	<u>8.5</u>	<u>170</u>	<u>6.90</u>	<u>25.4</u>	<u>1464</u>	
<u>1145</u>	<u>30</u>	<u>8.5</u>	<u>297</u>	<u>6.92</u>	<u>25.2</u>	<u>1468</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Cooper C</u>	<u>1145</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>309</u>	<u>Flu</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:  
57.3



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/18/16  
 Well ID: Dodson Weather: Sunny, 80s  
 ADWR No: 644927 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>200</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>103.91</u>	2	0.16
Casing Volume (gal): <u>141</u> x3 = <u>423</u>	4	0.65
Total Volume Purged (gal): <u>560</u>	5	1.02
	6	<u>1.47</u>
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>15:40</u>	<u>Pump On</u>						
<u>15:50</u>	<u>10</u>	<u>14</u>	<u>140</u>	<u>7.36</u>	<u>21.4</u>	<u>2314</u>	
<u>16:00</u>	<u>20</u>	<u>14</u>	<u>280</u>	<u>7.28</u>	<u>20.7</u>	<u>2291</u>	
<u>16:10</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.26</u>	<u>20.7</u>	<u>2280</u>	
<u>16:20</u>	<u>40</u>	<u>14</u>	<u>560</u>	<u>7.28</u>	<u>20.7</u>	<u>2233</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Dodson</u>	<u>16:25</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/11/10  
 Well ID: Douglass 791 Weather: Sunny, 90s  
 ADWR No: 592791 Sampler: VNH

WELL DATA		
Well Depth (ft bls): <u>200</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5</u>	2	0.16
Static Water Level (ft bmp): <u>32.09</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>x3 =</u>	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
							Pump On
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<del>WLD</del>							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: WLD

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/11/2016  
 Well ID: Douglass 792 Weather: sunny & clear, 90s  
 ADWR No: 592792 Sampler: LXM & VNH

WELL DATA		
Well Depth (ft bls):	<u>200</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>83.48</u>	Gallons per Linear Foot
Casing Volume (gal):	x3 =	2 0.16
Total Volume Purged (gal):		4 0.65
		5 1.02
		6 1.47
		8 2.61
		10 4.08
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION								
Sample Collection Point:								
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
<u>WLO</u>								

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other: WLO

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/12/16  
 Well ID: East Weather: Sunny, 90s  
 ADWR No: 599769 Sampler: VH

WELL DATA		
Well Depth (ft bis): <u>125</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>65.02</u>	2	0.16
Casing Volume (gal): <u>88 x3 = 264</u>	4	0.65
Total Volume Purged (gal): <u>264</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1650</u>	<u>Pump On</u>						
<u>1658</u>	<u>8</u>	<u>11</u>	<u>88</u>	<u>7.29</u>	<u>22.8</u>	<u>612.9</u>	
<u>1706</u>	<u>16</u>	<u>11</u>	<u>176</u>	<u>7.24</u>	<u>21.6</u>	<u>615.8</u>	
<u>1714</u>	<u>24</u>	<u>11</u>	<u>264</u>	<u>7.30</u>	<u>21.3</u>	<u>615.9</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>East</u>	<u>1720</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>3000.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field paremeters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

**Additional Comments:**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/22/16  
 Well ID: Echave Weather: Sunny, 70s  
 ADWR No: 219449 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>345</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>use 218.4 from 1/18/13</u>	2	0.16
Casing Volume (gal): <u>186</u> x3 = <u>558</u>	4	0.65
Total Volume Purged (gal): <u>105</u>	5	1.02
	6	<u>1.47</u>
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:05</u>	<u>Pump On</u>						
<u>09:10</u>	<u>5</u>	<u>7</u>	<u>35</u>	<u>7.95</u>	<u>26.8</u>	<u>393.1</u>	
<u>09:15</u>	<u>10</u>	<u>7</u>	<u>70</u>	<u>7.90</u>	<u>27.1</u>	<u>390.8</u>	
<u>09:20</u>	<u>15</u>	<u>7</u>	<u>105</u>	<u>7.86</u>	<u>27.5</u>	<u>391.5</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Echave</u>	<u>09:25</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/12/16  
 Well ID: Eppelle 641 Weather: 80s, sunny  
 ADWR No: 205641 Sampler: VNH

WELL DATA		
Well Depth (ft bls): <u>265</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>38.41</u>	2	0.16
Casing Volume (gal): <u>591 x3 = 1773</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0853</u>	<u>Pump On</u>						
<u>0908</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.23</u>	<u>21.8</u>	<u>639.2</u>	
<u>0923</u>	<u>30</u>	<u>11</u>	<u>330</u>	<u>7.44</u>	<u>21.4</u>	<u>652.8</u>	
<u>0938</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.39</u>	<u>21.3</u>	<u>665.0</u>	
<u>0953</u>	<u>60</u>	<u>11</u>	<u>660</u>	<u>7.49</u>	<u>21.3</u>	<u>636.4</u>	
<u>1001</u>	<u>68</u>	<u>11</u>	<u>748</u>	<u>7.61</u>	<u>21.7</u>	<u>595.2</u>	<u>Pumped Dry</u>
<u>1031</u>				<u>7.64</u>	<u>26.5</u>	<u>613.6</u>	<u>Immediately Dry</u>
<u>1051</u>				<u>7.73</u>	<u>25.3</u>	<u>578.2</u>	<u>Immediately Dry</u>
<u>1111</u>				<u>7.84</u>	<u>24.6</u>	<u>576.6</u>	<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Eppelle 641</u>	<u>1111</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP20160712</u>	<u>1800</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: Pumped Dry @ 68min, unstable parameters.  
Wait 30min for recharge, pumped dry in 10sec.  
Wait 30min between readings; each time pumped dry  
in under 10sec.

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/18/16  
 Well ID: Franco 383 Weather: Sunny, 80s  
 ADWR No: 221383 Sampler: LXM

WELL DATA			
Well Depth (ft bls): <u>711</u>	Casing Capacity		
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot	
Static Water Level (ft bmp): <u>197.32</u>	2	0.16	
Casing Volume (gal): <u>524</u> $x3 = 1571$	4	0.65	
Total Volume Purged (gal): <u>660</u>	5	1.02	
	6	1.47	
	8	2.61	
	10	4.08	
Casing Volume = gallons/foot * water column (feet)			

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>13:30</u>	<u>Pump On</u>						
<u>13:45</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.69</u>	<u>26.0</u>	<u>1039</u>	
<u>14:00</u>	<u>30</u>	<u>11</u>	<u>330</u>	<u>7.63</u>	<u>26.1</u>	<u>1037</u>	
<u>14:15</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.64</u>	<u>26.0</u>	<u>1040</u>	
<u>14:30</u>	<u>60</u>	<u>11</u>	<u>660</u>	<u>7.63</u>	<u>26.0</u>	<u>1040</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Franco 383</u>	<u>14:31</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Purge minimum 1 well volume & parameters stabilized

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/25/16  
 Well ID: Goar Ranch Weather: Sunny, 80s  
 ADWR No: 610695 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>250</u>	Casing Capacity	
Casing Diameter (in): <u>7</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>191.83</u>	2	0.16
Casing Volume (gal): <u>x3 = 0</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<del>WLO</del>							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field paremeters stabilized.
- Purged well until field parameters stabilized.
- Other: WLO

Additional Comments: WLO

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-18-16  
 Well ID: Hoban Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shum

WELL DATA		
Well Depth (ft bls): <u>300</u>	Casing Capacity	
Casing Diameter (in): <u>5.11</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>171.05'</u>	2	0.16
Casing Volume (gal): <u>131.5 x 3 = 394.5</u>	4	0.65
Total Volume Purged (gal): <u>528</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1000</u>	<u>Pump On</u>						
<u>1010</u>	<u>10</u>	<u>17.6</u>	<u>176</u>	<u>6.76</u>	<u>22.2</u>	<u>1917</u>	
<u>1020</u>	<u>20</u>	<u>17.6</u>	<u>352</u>	<u>6.72</u>	<u>22.0</u>	<u>1920</u>	
<u>1030</u>	<u>30</u>	<u>17.6</u>	<u>528</u>	<u>6.67</u>	<u>22.0</u>	<u>1923</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Hoban</u>	<u>1030</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Te</u>	<u>✓</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

129



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/27/16  
 Well ID: Howard 312 Weather: Sunny, 80s  
 ADWR No: 221312 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>980</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>207.89</u>	2	0.16
Casing Volume (gal): <u>788</u> x3 = <u>2363</u>	4	0.65
Total Volume Purged (gal): <u>810</u>	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>12:14</u>	<u>Pump On</u>						
<u>12:29</u>	<u>15</u>	<u>9</u>	<u>135</u>	<u>8.14</u>	<u>24.4</u>	<u>633.3</u>	
<u>12:44</u>	<u>30</u>	<u>9</u>	<u>270</u>	<u>8.12</u>	<u>24.5</u>	<u>609.6</u>	
<u>13:09</u>	<u>45</u>	<u>9</u>	<u>405</u>	<u>8.10</u>	<u>25.4</u>	<u>606.5</u>	
<u>13:24</u>	<u>60</u>	<u>9</u>	<u>540</u>	<u>8.11</u>	<u>25.8</u>	<u>608.6</u>	
<u>13:39</u>	<u>75</u>	<u>9</u>	<u>675</u>	<u>8.13</u>	<u>26.3</u>	<u>612.5</u>	
<u>13:54</u>	<u>90</u>	<u>9</u>	<u>810</u>	<u>8.12</u>	<u>26.3</u>	<u>612.6</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Howard 312</u>	<u>13:57</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Purged minimum 1 well volume & stable parameters

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/27/16  
 Well ID: Howard NR Weather: partly cloudy 70s  
 ADWR No: NR Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>220</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>157.93</u>	2	0.16
Casing Volume (gal): <u>x3 = 0</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	<u>1.47</u>
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<del>WLO</del>							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: WLO

Additional Comments: WLO

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/25/16  
 Well ID: Keefer Weather: Sunn, 80s  
 ADWR No: 209744 Sampler: LXM

WELL DATA		
Well Depth (ft bbs): <u>245</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>143.37</u>	2	0.16
Casing Volume (gal): <u>149 x3 = 448</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>11:58</u>	<u>Pump On</u>						
<u>12:13</u>	<u>15</u>	<u>5</u>	<u>75</u>	<u>7.46</u>	<u>23.0</u>	<u>471.8</u>	
<u>12:28</u>	<u>30</u>	<u>5</u>	<u>150</u>	<u>7.41</u>	<u>22.8</u>	<u>473.7</u>	
<u>12:43</u>	<u>45</u>	<u>5</u>	<u>225</u>	<u>7.42</u>	<u>22.2</u>	<u>477.9</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Keefer</u>	<u>12:45</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input checked="" type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---





# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: McConnell 265 Weather: sunny, 80s  
 ADWR No: 539265 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>216</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>6</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>167.70</u>	5	1.02
	6	<u>1.47</u>
Casing Volume (gal): <u>x3 = 0</u>	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<del>WLO</del>							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Looked for spigot to purge & sample, could not find any

Additional Comments: except at 459. Not written on Well Info sheet.  
WLO

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: McConnell 459 Weather: Sunny, 80s  
 ADWR No: 221459 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>863</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>167.13</u>	2	0.16
Casing Volume (gal): <u>710</u> x3 = <u>2129</u>	4	0.65
Total Volume Purged (gal): <u>800</u>	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>15:30</u>	<u>Pump On</u>						
<u>15:50</u>	<u>20</u>	<u>10</u>	<u>200</u>	<u>8.22</u>	<u>27.5</u>	<u>445.2</u>	<u>very faint sulfur odor?</u>
<u>16:10</u>	<u>40</u>	<u>10</u>	<u>400</u>	<u>8.10</u>	<u>25.9</u>	<u>447.0</u>	<u>very faint sulfur odor?</u>
<u>16:30</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>8.09</u>	<u>25.4</u>	<u>449.2</u>	
<u>16:50</u>	<u>80</u>	<u>10</u>	<u>800</u>	<u>8.08</u>	<u>25.6</u>	<u>455.3</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>McConnell 459</u>	<u>16:52</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Purge 1 well volume & parameters stabilized

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/25/16  
 Well ID: Mazder Weather: Sunny, 80s  
 ADWR No: 35-71891 Sampler: LXM

WELL DATA			
Well Depth (ft b/s):	<u>351</u>	Casing Capacity	
Casing Diameter (in):	<u>6</u>		
Static Water Level (ft bmp):	<u>293.40</u>	Nominal Size (inches)	Gallons per Linear Foot
		2	0.16
Casing Volume (gal):	$x3 = 0$	4	0.65
		5	1.02
		6	<u>1.47</u>
		8	2.61
Total Volume Purged (gal):		10	4.08
		Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
Pump On							
<u>WLO</u>							
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>WLO</u>							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: WLO

Additional Comments: WLO

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: Moore Weather: Sunny, 70s  
 ADWR No: 538847 Sampler: VNI

WELL DATA		
Well Depth (ft bls): <u>220</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp):	4	0.65
	5	1.02
Casing Volume (gal): <u>x3 =</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>360</u>	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0900</u>	<b>Pump On</b>						
<u>0910</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.55</u>	<u>23.2</u>	<u>443.6</u>	
<u>0920</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.56</u>	<u>22.5</u>	<u>449.1</u>	
<u>0930</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.55</u>	<u>23.0</u>	<u>445.8</u>	
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Moore</u>	<u>0935</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>3000.0</u>	<u>NP</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other:

**Additional Comments:**

---



---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/11/16  
 Well ID: Ness Weather: sunny & clear, 90s  
 ADWR No: 509127 Sampler: LXM & VNH

WELL DATA		
Well Depth (ft bls):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
812	2	0.16
Casing Diameter (in): <u>6</u>	4	0.65
Static Water Level (ft bmp): <u>556.90*</u>	5	1.02
Casing Volume (gal): <u>375</u> x3 = <u>1125</u>	6	<u>1.47</u>
Total Volume Purged (gal): <u>1170</u>	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>14:05</u>	<u>Pump On</u>						
<u>14:20</u>	<u>15</u>	<u>13</u>	<u>195</u>	<u>7.48</u>	<u>28.7</u>	<u>543.8</u>	
<u>14:35</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.62</u>	<u>28.2</u>	<u>542.9</u>	
<u>14:50</u>	<u>45</u>	<u>13</u>	<u>585</u>	<u>7.59</u>	<u>28.5</u>	<u>546.0</u>	
<u>15:05</u>	<u>60</u>	<u>13</u>	<u>780</u>	<u>7.61</u>	<u>28.4</u>	<u>546.2</u>	
<u>15:20</u>	<u>75</u>	<u>13</u>	<u>975</u>	<u>7.63</u>	<u>28.5</u>	<u>546.6</u>	
<u>15:35</u>	<u>90</u>	<u>13</u>	<u>1170</u>	<u>7.60</u>	<u>28.5</u>	<u>545.2</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Ness</u>	<u>15:42</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:
WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: \* Pump turned on right as water level collected; water level slightly dynamic.

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/15/16  
 Well ID: Noteman Weather: Sunny & clear 90s  
 ADWR No: 212483 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>470</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>Use 327.54 from 2/25/09</u>	2	0.16
Casing Volume (gal): <u>145</u> x3 = <u>435</u>	4	0.65
Total Volume Purged (gal):	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>12:20</u>	<u>Pump On</u>						
<u>12:30</u>	<u>10</u>	<u>13</u>		<u>6.93</u>	<u>25.2</u>	<u>1416</u>	
<u>12:40</u>	<u>20</u>	<u>13</u>		<u>6.76</u>	<u>23.9</u>	<u>1413</u>	
<u>12:50</u>	<u>30</u>	<u>13</u>		<u>6.77</u>	<u>23.8</u>	<u>1412</u>	
<u>13:00</u>	<u>40</u>	<u>13</u>		<u>6.79</u>	<u>23.9</u>	<u>1412</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Noteman</u>	<u>13:05</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No.: 287030 Client: Freeport Copper Queen Branch  
 Task No.: 2.0 Date: 9/29/16  
 Well ID: NSO-02 Weather: SUNNY 70<sup>s</sup>  
 ADWR No: \_\_\_\_\_ Sampler: BSD

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>103.99</u>	5	1.02
	6	1.47
Casing Volume (gal): _____ x3 = _____	8	2.61
	10	4.08
Total Volume Purged (gal): _____	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	<b>Pump On</b>						
	<b>Pump Off</b>						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other: \_\_\_\_\_

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field paremeters stabilized.

Purged well until field parameters stabilized.

Other: \_\_\_\_\_

Additional Comments: ON AWC project, Risk w/AWC  
Kevin Quint w/ NSO and Nicky from Test Division present

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 2.0 Date: 9/30/16  
 Well ID: NSD-03 Weather: Sunny 70<sup>3</sup>  
 ADWR No: \_\_\_\_\_ Sampler: B50

WELL DATA		
Well Depth (ft bls):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	2	0.16
Static Water Level (ft bmp): <u>89.50</u>	4	0.65
Casing Volume (gal): <u>x3 =</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: NWC-02 Weather: sunny w/ clouds, 70s  
 ADWR No: 562944 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>312</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>167.43</u>	2	0.16
Casing Volume (gal): <u>213</u> x3 = <u>638</u>	4	0.65
Total Volume Purged (gal): <u>720</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:05</u>	<u>Pump On</u>						
<u>09:07</u>	<u>2</u>	<u>120</u>	<u>240</u>	<u>7.70</u>	<u>21.8</u>	<u>431.9</u>	
<u>09:09</u>	<u>4</u>	<u>120</u>	<u>480</u>	<u>7.58</u>	<u>21.5</u>	<u>435.0</u>	
<u>09:11</u>	<u>6</u>	<u>120</u>	<u>720</u>	<u>7.54</u>	<u>21.4</u>	<u>434.4</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC-02</u>	<u>09:14</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: hand filter

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 10 Date: 9/29/16  
 Well ID: NWC-03 CAP Weather: Sunny 70's  
 ADWR No: \_\_\_\_\_ Sampler: BSD

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>130.38</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>x3 =</u>	8	2.61
	10	4.08
Total Volume Purged (gal): _____	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: Water level only

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: NWC-04 Weather: Sunny, 70s  
 ADWR No: 551849 Sampler: LXMP

WELL DATA		
Well Depth (ft bls): <u>462</u>	Casing Capacity	
Casing Diameter (in): <u>10</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>No WL</u>	2	0.16
Casing Volume (gal): <u>x3 = 0</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:43</u>	<u>Pump On</u>						
<u>09:48</u>	<u>5</u>	<u>17</u>		<u>7.41</u>	<u>23.7</u>	<u>872.7</u>	
<u>09:53</u>	<u>10</u>	<u>17</u>		<u>7.42</u>	<u>23.7</u>	<u>906.2</u>	
<u>09:58</u>	<u>15</u>	<u>17</u>		<u>7.45</u>	<u>23.8</u>	<u>907.3</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC04</u>	<u>10:03</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well Southwestern utilities installed a wire that blocks the sounding pipe.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments: hand filter

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: NWC-06 Weather: sunny w/some thin clouds, 70s  
 ADWR No: 575700 Sampler: LXMJ

WELL DATA		
Well Depth (ft bls): <u>340</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>167.73</u>	2	0.16
Casing Volume (gal): <u>450</u> x3 = <u>1349</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>08:20</u>	<u>Pump On</u>						
<u>08:23</u>	<u>3</u>	<u>150</u>	<u>450</u>	<u>7.61</u>	<u>22.1</u>	<u>409.7</u>	
<u>08:26</u>	<u>6</u>	<u>150</u>	<u>900</u>	<u>7.59</u>	<u>21.8</u>	<u>409.3</u>	
<u>08:29</u>	<u>9</u>	<u>150</u>	<u>1350</u>	<u>7.58</u>	<u>21.9</u>	<u>409.1</u>	
<u>08:32</u>	<u>12</u>	<u>150</u>	<u>1800</u>	<u>7.58</u>	<u>21.8</u>	<u>409.1</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC-06</u>	<u>08:40</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other:

Additional Comments: hand filter

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: L Date: 7/11/2016  
 Well ID: Palmer Weather: Sunny & clear, 90s  
 ADWR No: 578819 Sampler: LXM & VNH

WELL DATA		
Well Depth (ft bis): <u>220</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
unable to sample							
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

- WATER LEVEL MEASUREMENT COLLECTION**
- Water level measurement collected.
  - No water level measurement collected. No access to wellhead/No port in wellhead
  - No water level measurement collected. Obstruction in well.
  - No water level measurement collected. Well is pumping.
  - Other:

- WELL PURGING INFORMATION**
- Purged 3 well volumes and field parameters stabilized.
  - Purged 3 well volumes based on previous water level and field parameters stabilized.
  - Purged well until field parameters stabilized.
  - Other:

Additional Comments: unable to sample -> no water flow or pressure from spiget connected to our hose. Tried to sample from storage tank on garage but there is no ladder to reach the tank.



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/24/16  
 Well ID: Olmos Weather: Sunny, 90s  
 ADWR No: 224745 Sampler: WH

WELL DATA		
Well Depth (ft bls): <u>306</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp): <u>Use 145.84 from 11/3/16</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>235 x 3 = 705</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>704</u>	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1535</u>	<u>Pump On</u>						
<u>1551</u>	<u>16</u>	<u>11</u>	<u>176</u>	<u>7.44</u>	<u>23.0</u>	<u>438.9</u>	
<u>1607</u>	<u>32</u>	<u>11</u>	<u>352</u>	<u>7.54</u>	<u>22.7</u>	<u>441.5</u>	
<u>1623</u>	<u>48</u>	<u>11</u>	<u>528</u>	<u>7.53</u>	<u>22.6</u>	<u>448.3</u>	
<u>1639</u>	<u>64</u>	<u>11</u>	<u>704</u>	<u>7.58</u>	<u>22.5</u>	<u>445.9</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Olmos</u>	<u>1644</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>308.0</u>	<u>NP</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other:

**Additional Comments:**

---



---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/11/16  
 Well ID: Osborn Weather: Sunny & clear, 90s  
 ADWR No: 643436 Sampler: VNII & LXM

WELL DATA		
Well Depth (ft bls): <u>258</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): _____	2	0.16
Casing Volume (gal): _____ x3 = _____	4	0.65
Total Volume Purged (gal): _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
17:00	—	—	—	7.56	37.8	515.4	
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Osborn	17:00	Poly	250mL	1	300.0	NP	Y

- WATER LEVEL MEASUREMENT COLLECTION**
- Water level measurement collected.
  - No water level measurement collected. No access to wellhead/No port in wellhead
  - No water level measurement collected. Obstruction in well.
  - No water level measurement collected. Well is pumping.
  - Other:

- WELL PURGING INFORMATION**
- Purged 3 well volumes and field parameters stabilized.
  - Purged 3 well volumes based on previous water level and field parameters stabilized.
  - Purged well until field parameters stabilized.
  - Other: No purge. Sample from storage tank.

Additional Comments: Per owner, water in tank is well water for minimum of one year. Hand filter.



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/22/16  
 Well ID: Parra Weather: Sunny, 80s  
 ADWR No: 576415 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>355</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>use 280.99 from 7/20/99</u>	2	0.16
Casing Volume (gal): <u>109</u> x3 = <u>327</u>	4	0.65
Total Volume Purged (gal): <u>324</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>11:08</u>	<u>Pump On</u>						
<u>11:17</u>	<u>9</u>	<u>12</u>		<u>7.10</u>	<u>23.1</u>	<u>1148</u>	
<u>11:26</u>	<u>18</u>	<u>12</u>		<u>7.18</u>	<u>22.5</u>	<u>1153</u>	
<u>11:35</u>	<u>27</u>	<u>12</u>		<u>7.17</u>	<u>22.6</u>	<u>1151</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Parra</u>	<u>11:45</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: Pionke 395 Weather: Sunny, 80s  
 ADWR No: \_\_\_\_\_ Sampler: LXM

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
Casing Diameter (in): _____	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>156.55</u>	2	0.16
Casing Volume (gal): _____ x3 = _____	4	0.65
Total Volume Purged (gal): _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point: \_\_\_\_\_

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>WLO</u>							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: WLO

Additional Comments: WLO

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: Pionke 517 Weather: Sunny, 80s  
 ADWR No: 221517 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>604</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>153.32</u>	5	<u>1.02</u>
	6	1.47
Casing Volume (gal): <u>473</u> x3 = <u>1420</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>500</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>12:20</u>	<u>Pump On</u>						
<u>12:40</u>	<u>20</u>	<u>5</u>	<u>100</u>	<u>7.82</u>	<u>23.3</u>	<u>429.6</u>	
<u>13:00</u>	<u>40</u>	<u>5</u>	<u>200</u>	<u>7.70</u>	<u>23.3</u>	<u>392.8</u>	
<u>13:20</u>	<u>60</u>	<u>5</u>	<u>300</u>	<u>7.71</u>	<u>23.2</u>	<u>390.9</u>	
<u>13:40</u>	<u>80</u>	<u>5</u>	<u>400</u>	<u>7.65</u>	<u>23.2</u>	<u>389.3</u>	
<u>14:00</u>	<u>100</u>	<u>5</u>	<u>500</u>	<u>7.67</u>	<u>23.2</u>	<u>389.2</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Pionke 517</u>	<u>14:07</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Rurge minimum 1 well volume & parameters stable

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/27/16  
 Well ID: Power 639 Weather: partly cloudy, 70s  
 ADWR No: 222639 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>480</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>294.81</u>	2	0.16
Casing Volume (gal): <u>272</u> x3 = <u>817</u>	4	0.65
Total Volume Purged (gal): <u>900</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:24</u>	<u>Pump On</u>						
<u>09:39</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.39</u>	<u>22.1</u>	<u>940.1</u>	
<u>09:54</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.34</u>	<u>21.5</u>	<u>945.1</u>	
<u>10:09</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.32</u>	<u>22.0</u>	<u>970.1</u>	
<u>10:24</u>	<u>75</u>	<u>10</u>	<u>750</u>	<u>7.31</u>	<u>21.7</u>	<u>983.3</u>	
<u>10:39</u>	<u>90</u>	<u>10</u>	<u>900</u>	<u>7.27</u>	<u>22.2</u>	<u>992.0</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Power 639</u>	<u>10:46</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.C</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

**Additional Comments:**

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: Ramirez Weather: Sunny, 80s  
 ADWR No: 216425 Sampler: VH

WELL DATA		
Well Depth (ft bls): <u>300</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp): <u>165.52</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>198</u> x3 = <u>594</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>660</u>	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1017</u>	<u>Pump On</u>						
<u>1032</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.65</u>	<u>24.2</u>	<u>418.5</u>	
<u>1047</u>	<u>30</u>	<u>11</u>	<u>330</u>	<u>7.55</u>	<u>23.7</u>	<u>419.4</u>	
<u>1102</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.57</u>	<u>23.8</u>	<u>420.3</u>	
<u>1117</u>	<u>60</u>	<u>11</u>	<u>660</u>	<u>7.55</u>	<u>23.6</u>	<u>420.5</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Ramirez</u>	<u>1122</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>320.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/12/10  
 Well ID: Ray Weather: Sunny, 80s  
 ADWR No: 803772 Sampler: JNH

WELL DATA		
Well Depth (ft bls): <u>100</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp): <u>53.50</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>121 x3 = 363</u>	6	1.47
	8	2.61
Total Volume Purged (gal):	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1145</u>	<u>Pump On</u>						
<u>1155</u>	<u>10</u>	<u>7</u>	<u>70</u>	<u>6.82</u>	<u>21.9</u>	<u>1405</u>	
<u>1205</u>	<u>20</u>	<u>7</u>	<u>140</u>	<u>6.95</u>	<u>21.4</u>	<u>1409</u>	
<u>1215</u>	<u>30</u>	<u>7</u>	<u>210</u>	<u>7.00</u>	<u>21.7</u>	<u>1410</u>	
<u>1225</u>	<u>40</u>	<u>7</u>	<u>280</u>	<u>7.01</u>	<u>21.9</u>	<u>1405</u>	
<u>1235</u>	<u>50</u>	<u>7</u>	<u>350</u>	<u>7.03</u>	<u>21.6</u>	<u>1419</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Ray</u>	<u>1240</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field paremeters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: Rogers, E Weather: Donny, 80s  
 ADWR No: 216018 Sampler: VH

WELL DATA		
Well Depth (ft bls): <u>285</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>155.55 from 10/8/15</u>	2	0.16
	4	0.65
	5	1.02
	6	1.47
	8	2.61
Casing Volume (gal): <u>190 x3 = 570</u>	10	4.08
Total Volume Purged (gal): <u>600</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1328</u>	<u>Pump On</u>						
<u>1343</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.74</u>	<u>23.4</u>	<u>428.9</u>	
<u>1358</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.75</u>	<u>23.1</u>	<u>432.5</u>	
<u>1413</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.69</u>	<u>22.9</u>	<u>430.4</u>	
<u>1428</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.58</u>	<u>22.7</u>	<u>430.2</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Rogers, E</u>	<u>1433</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>3000.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input checked="" type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: Cannot get sounder past ~ 26 ft

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/25/16  
 Well ID: Ruiz Weather: Sunny, 80s  
 ADWR No: 531770 Sampler: LXM

WELL DATA		Casing Capacity	
Well Depth (ft bls):	Nominal Size (inches)	Gallons per Linear Foot	
<u>312</u>	2	0.16	
Casing Diameter (in): <u>6</u>	4	0.65	
Static Water Level (ft bmp): <u>Use 299.74 from 7/30/15</u>	5	1.02	
Casing Volume (gal): <u>18 x3 = 54</u>	6	1.47	
Total Volume Purged (gal): <u>60</u>	8	2.61	
	10	4.08	
		Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
Pump On							
<u>14:10</u>	<u>3</u>	<u>4</u>	<u>12</u>	<u>7.24</u>	<u>22.0</u>	<u>848.3</u>	
<u>14:13</u>	<u>6</u>	<u>4</u>	<u>24</u>	<u>7.14</u>	<u>21.2</u>	<u>854.3</u>	
<u>14:16</u>	<u>9</u>	<u>4</u>	<u>36</u>	<u>7.13</u>	<u>21.1</u>	<u>854.1</u>	
<u>14:19</u>	<u>12</u>	<u>4</u>	<u>48</u>	<u>7.14</u>	<u>21.3</u>	<u>854.8</u>	
<u>14:22</u>	<u>15</u>	<u>4</u>	<u>60</u>	<u>7.17</u>	<u>21.2</u>	<u>854.5</u>	
Pump Off							
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)							

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Ruiz</u>	<u>14:32</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input checked="" type="checkbox"/> No water level measurement collected. Obstruction in well. <u>hung up on electric wire (probably) multiple times</u> <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/27/16  
 Well ID: Schwartz Weather: partly cloudy, 80s  
 ADWR No: 210865 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>305</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>130.01</u>	2	0.16
Casing Volume (gal): <u>257</u> x3 = <u>771</u>	4	0.65
Total Volume Purged (gal): <u>1100</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>14:56</u>	<u>Pump On</u>						
<u>15:06</u>	<u>10</u>	<u>10</u>	<u>100</u>	<u>7.51</u>	<u>22.5</u>	<u>611.6</u>	
<u>15:16</u>	<u>20</u>	<u>10</u>	<u>200</u>	<u>7.47</u>	<u>23.3</u>	<u>612.3</u>	
<u>15:26</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.46</u>	<u>22.0</u>	<u>614.2</u>	
<u>15:36</u>	<u>40</u>	<u>10</u>	<u>400</u>	<u>7.44</u>	<u>21.6</u>	<u>614.8</u>	
<u>15:46</u>	<u>50</u>	<u>10</u>	<u>500</u>	<u>7.45</u>	<u>22.4</u>	<u>618.3</u>	
<u>15:56</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.46</u>	<u>22.1</u>	<u>620.9</u>	
<u>16:06</u>	<u>70</u>	<u>10</u>	<u>700</u>				
<u>16:16</u>	<u>80</u>	<u>10</u>	<u>800</u>				
<u>16:45</u>	<u>110</u>	<u>10</u>	<u>1100</u>	<u>7.51</u>	<u>22.3</u>	<u>621.3</u>	<u>Pump Off</u>

missed these readings due to lightning shutdown

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Schwartz</u>	<u>16:55</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP20160727</u>	<u>18:00</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/12/16  
 Well ID: Stephens Weather: sunny & clear, 90s  
 ADWR No: 808560 Sampler: LXM

WELL DATA		
Well Depth (ft bls):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	2	0.16
Static Water Level (ft bmp): <u>52.64</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>x3 =</u>	6	1.47
	8	2.61
Total Volume Purged (gal):	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: None

Additional Comments: WLO

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/11/16  
 Well ID: LXM Ness Swan Weather: Sunny & clear, 90s  
 ADWR No: LXM 509127 NR Sampler: LXM & VNH

WELL DATA																	
Well Depth (ft bls): <u>98</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Casing Capacity</th> </tr> <tr> <th style="width: 50%;">Nominal Size (inches)</th> <th style="width: 50%;">Gallons per Linear Foot</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">0.16</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center; border: 2px solid blue;">0.65</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">1.02</td> </tr> <tr> <td style="text-align: center;">6</td> <td style="text-align: center;">1.47</td> </tr> <tr> <td style="text-align: center;">8</td> <td style="text-align: center;">2.61</td> </tr> <tr> <td style="text-align: center;">10</td> <td style="text-align: center;">4.08</td> </tr> </tbody> </table>	Casing Capacity		Nominal Size (inches)	Gallons per Linear Foot	2	0.16	4	0.65	5	1.02	6	1.47	8	2.61	10	4.08
Casing Capacity																	
Nominal Size (inches)	Gallons per Linear Foot																
2	0.16																
4	0.65																
5	1.02																
6	1.47																
8	2.61																
10	4.08																
Casing Diameter (in): <u>4</u>																	
Static Water Level (ft bmp): <u>35.60</u>																	
Casing Volume (gal): <u>40.56</u> x3 = <u>122</u>																	
Total Volume Purged (gal): <u>200</u>	Casing Volume = gallons/foot * water column (feet)																

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>LXM 16:20</u>	<u>16:25</u>						
<u>14:05</u>							Pump On
<u>14:20</u>	<u>15</u>	<u>10</u>	<u>50</u>	<u>7.53</u>	<u>24.9</u>	<u>502.5</u>	
<u>16:30</u>	<u>10</u>	<u>10</u>	<u>100</u>	<u>7.33</u>	<u>23.8</u>	<u>505.4</u>	
<u>16:35</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.31</u>	<u>22.7</u>	<u>529.7</u>	
<u>16:40</u>	<u>20</u>	<u>10</u>	<u>200</u>	<u>7.30</u>	<u>22.6</u>	<u>504.7</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>LXM 16:43 Swan</u>	<u>16:43</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/15/16  
 Well ID: Thompson 151 Weather: Sunny, 70s  
 ADWR No: 612151 Sampler: LXM & VNH

WELL DATA		
Well Depth (ft bls): <u>210</u>	Casing Capacity	
Casing Diameter (in): <u>7</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: WLO

Additional Comments: WLO

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/15/16  
 Well ID: Thompson 341 Weather: Sunny, 70s  
 ADWR No: 218341 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>285</u>	Casing Capacity	
Casing Diameter (in): <u>7</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>Use 167.09 from Thompson 151 8/13-8/31/15</u>	2	0.16
	4	0.65
	5 <i>LXM</i>	1.02
	6 <del>8/13-8/31/15</del>	1.47
	8	2.61
Casing Volume (gal): <u>236</u> x3 = <u>708</u> <i>8/3/15</i>	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
<u>09:43</u>				<u>7.41</u>	<u>22.9</u>	<u>423.2</u>	
<u>09:48</u>				<u>7.44</u>	<u>23.0</u>	<u>424.4</u>	
<u>09:53</u>				<u>7.45</u>	<u>22.4</u>	<u>420.8</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Thompson 341</u>	<u>10:03</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Intermittent purge as tank is very full

Additional Comments: owner requested we do not overfill the tank during purge; intermittent purging

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-17-16  
 Well ID: TM-2A Weather: \_\_\_\_\_  
 ADWR No: \_\_\_\_\_ Sampler: \_\_\_\_\_

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): <u>333.90</u>	4	0.65
Casing Volume (gal): _____ x3 = _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): _____		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other: \_\_\_\_\_

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-21-16  
 Well ID: TM-6 Weather: \_\_\_\_\_  
 ADWR No: \_\_\_\_\_ Sampler: \_\_\_\_\_

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): <u>163.08</u>	4	0.65
Casing Volume (gal): _____ x3 = _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): _____ Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other: _____

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other: _____

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-15-16  
 Well ID: TM-7 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Swann

### WELL DATA

Well Depth (ft bis):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	2	0.16
Static Water Level (ft bmp):	4	0.65
Casing Volume (gal): <span style="float: right;">x3 =</span>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		
Total Volume Purged (gal):		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1330</u>	<u>Pump On</u>						
<u>1332</u>	<u>2</u>	<u>10</u>	<u>20</u>	<u>7.22</u>	<u>21.0</u>	<u>640</u>	
<u>1342</u>	<u>—</u>						
<u>1344</u>	<u>4</u>	<u>10</u>	<u>40</u>	<u>7.43</u>	<u>21.0</u>	<u>642</u>	
<u>1354</u>	<u>—</u>						
<u>1356</u>	<u>6</u>	<u>10</u>	<u>60</u>	<u>7.46</u>	<u>21.2</u>	<u>639</u>	
<u>1406</u>	<u>—</u>						
<u>1408</u>	<u>8</u>	<u>10</u>	<u>80</u>	<u>7.47</u>	<u>21.2</u>	<u>638</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TM-7</u>	<u>1408</u>	<u>PL</u>	<u>750</u>	<u>1</u>	<u>300</u>	<u>Fe</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

Sampled per Clear Creek method

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/13/16  
 Well ID: TM-10 Weather: Cloudy, maybe rain, 90s  
 ADWR No: 522696 Sampler: LXM & VNH

WELL DATA		
Well Depth (ft bis): <u>290</u>	Casing Capacity	
Casing Diameter (in): <u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>269.35</u>	2	0.16
Casing Volume (gal): <u>13.42 x3 =</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>15:15</u>	<u>Pump On</u>						
<u>15:17</u>				<u>7.22</u>	<u>22.3</u>	<u>515.8</u>	
<u>15:27</u>				<u>7.76</u>	<u>22.0</u>	<u>514.9</u>	
<u>15:37</u>				<u>7.75</u>	<u>21.9</u>	<u>513.3</u>	
<u>15:47</u>				<u>7.73</u>	<u>22.0</u>	<u>514.9</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TM-10</u>	<u>15:49</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input checked="" type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: Wait 10 min between readings for recharge.  
Hand filter.



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 9-14-16  
 Well ID: TM-15 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Sherrin

WELL DATA			Casing Capacity	
Well Depth (ft bls):	<u>325</u>		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	<u>4"</u>		2	0.16
Static Water Level (ft bmp):	<u>NA</u>		4	0.65
Casing Volume (gal):	<u>x3 =</u>		5	1.02
Total Volume Purged (gal):	<u>420</u>		6	1.47
			8	2.61
			10	4.08
			Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1300</u>	<u>Pump On</u>						
<u>1320</u>	<u>20</u>	<u>2</u>	<u>140</u>	<u>7.42</u>	<u>23.6</u>	<u>380</u>	
<u>1340</u>	<u>40</u>	<u>3</u>	<u>280</u>	<u>7.44</u>	<u>23.1</u>	<u>382</u>	
<u>1400</u>	<u>60</u>	<u>7</u>	<u>420</u>	<u>7.45</u>	<u>23.1</u>	<u>381</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TM-15</u>	<u>1400</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other:

Additional Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-25-16  
 Well ID: TM-16 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher & Shuman

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
Casing Diameter (in): _____	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>59.24</u>	2	0.16
Casing Volume (gal): _____ x3 = _____	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): _____	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-18-16  
 Well ID: TM-19A Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L Shum

WELL DATA			Casing Capacity	
Well Depth (ft bls): <u>200</u>		Nominal Size (inches)	Gallons per Linear Foot	
Casing Diameter (in): <u>4"</u>		2	0.16	
Static Water Level (ft bmp): <u>207.24'</u>		4	0.65	
Casing Volume (gal): <u>320</u> x3 = <u>960</u>		5	1.02	
Total Volume Purged (gal): <u>1000</u>		6	1.47	
		8	2.61	
		10	4.08	
			Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0900</u>	<u>Pump On</u>						
<u>0915</u>	<u>15</u>	<u>25</u>	<u>375</u>	<u>7.22</u>	<u>24.3</u>	<u>508</u>	
<u>0925</u>	<u>25</u>	<u>25</u>	<u>625</u>	<u>7.26</u>	<u>24.7</u>	<u>506</u>	
<u>0940</u>	<u>40</u>	<u>25</u>	<u>1000</u>	<u>7.27</u>	<u>24.1</u>	<u>505</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TM-19A</u>	<u>0940</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>None</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other: \_\_\_\_\_

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

492.3

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 8-18-16  
 Well ID: TM-42 Weather: Sunny  
 ADWR No: \_\_\_\_\_ Sampler: Christopher L. Swann

### WELL DATA

Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): <u>219.89</u>	4	0.65
Casing Volume (gal): _____ x3 = _____	5	1.02
Total Volume Purged (gal): _____	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

### FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/20/16  
 Well ID: TVI 236 Weather: Partly cloudy, 80s  
 ADWR No: 802236 Sampler: LXM

WELL DATA		Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Well Depth (ft bls): <u>222</u>		2 <u>12 in. =</u>	0.16
Casing Diameter (in): <u>12</u>		4 <u>5.87</u>	0.65
Static Water Level (ft bmp): <u>128.90</u>		6 <u>gal/ft</u>	1.02
Casing Volume (gal): <u>546</u> x3 = <u>1639</u>		8	2.61
		10	4.08
Total Volume Purged (gal):		Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
Pump On							
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<del>wl0</del>							

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: unable to sample from pipe discharge w/o maintenance

Additional Comments: Waiting on Bob Barnes to call regarding pond maintenance so that sampling at TVI 236 can be rescheduled. Reeds are blocking pipe discharge, & pipe cannot be accessed currently



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 2.0 Date: 9/26/16  
 Well ID: TVI 275 236 Weather: Sunny 60's - 70's  
 ADWR No: \_\_\_\_\_ Sampler: BSD

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): <u>128.26</u>	4	0.65
	5	1.02
Casing Volume (gal): _____ x3 = _____	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): _____	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>7:46</u>	Pump On						
<u>7:55</u>				<u>7.42</u>	<u>17.0</u>	<u>511.9</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other: _____

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other: <u>ran for 10 min to clear drop pipe. collected sample</u>

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: TVE 713 Weather: Sunny, 70s  
 ADWR No: 56713 Sampler: VH

WELL DATA		
Well Depth (ft bls): <u>200</u>	<b>Casing Capacity</b>	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>133.11</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
Pump On							
Pump Off							

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<del>N/A</del>							

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field paremeters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: N/A

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/14/16  
 Well ID: TVE 875 Weather: Sunny, 70s  
 ADWR No: 568875 Sampler: VH

WELL DATA		
Well Depth (ft bls): <u>330</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
Total Volume Purged (gal): <u>4500</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0803</u>	<b>Pump On</b>						
<u>0806</u>	<u>3</u>	<u>500</u>	<u>1500</u>	<u>7.30</u>	<u>21.8</u>	<u>921.1</u>	
<u>0809</u>	<u>6</u>	<u>500</u>	<u>3000</u>	<u>7.26</u>	<u>21.6</u>	<u>922.3</u>	
<u>0812</u>	<u>9</u>	<u>500</u>	<u>4500</u>	<u>7.28</u>	<u>21.6</u>	<u>919.1</u>	
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TVE 875</u>	<u>0819</u>	<u>Poly</u>	<u>350mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input checked="" type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input checked="" type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/22/16  
 Well ID: Weed Weather: Sunny, 80s  
 ADWR No: 544535 Sampler: LXM

WELL DATA		
Well Depth (ft bls):	<u>320</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):		Gallons per Linear Foot
Casing Volume (gal):	x3 =	2
Total Volume Purged (gal):		4
		5
		6
		8
		10
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:58</u>	<u>Pump On</u>						
<u>10:03</u>	<u>5</u>	<u>10</u>		<u>7.84</u>	<u>23.0</u>	<u>376.5</u>	
<u>10:08</u>	<u>10</u>	<u>10</u>		<u>7.86</u>	<u>22.8</u>	<u>375.9</u>	
<u>10:13</u>	<u>15</u>	<u>10</u>		<u>7.89</u>	<u>22.9</u>	<u>376.2</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Weed</u>	<u>10:18</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input checked="" type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input checked="" type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: Weiskopf 802 Weather: Sunny, 80s  
 ADWR No: 641802 Sampler: LXNP

WELL DATA		
Well Depth (ft bls): <u>200</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>150.95</u>	2	0.16
Casing Volume (gal): <u>72</u> x3 = <u>216</u>	4	0.65
Total Volume Purged (gal): <u>225</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>17:30</u>	<u>Pump On</u>						
<u>17:45</u>	<u>15</u>	<u>5</u>	<u>75</u>	<u>7.02</u>	<u>25.4</u>	<u>1519</u>	
<u>18:00</u>	<u>30</u>	<u>5</u>	<u>150</u>	<u>7.00</u>	<u>23.9</u>	<u>1572</u>	
<u>18:15</u>	<u>45</u>	<u>5</u>	<u>225</u>	<u>7.00</u>	<u>22.8</u>	<u>1483</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Weiskopf 802</u>	<u>18:20</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/26/16  
 Well ID: Weiskopf 897 Weather: partly cloudy, 80s  
 ADWR No: 221897 Sampler: LXM

WELL DATA		
Well Depth (ft bls): <u>1030</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>150.63</u>	2	0.16
Casing Volume (gal): <u>897 x3 = 2691</u>	4	0.65
Total Volume Purged (gal): <u>LXM 840 - 360</u>	5	<u>1.02</u>
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>18:02</u>	<u>Pump On</u>						
<u>18:12</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.75</u>	<u>23.0</u>	<u>387.5</u>	
<u>18:22</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.77</u>	<u>23.1</u>	<u>387.2</u>	
<u>18:32</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.81</u>	<u>23.8</u>	<u>387.0</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION								
Sample Collection Point:								
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
<u>Weiskopf 897</u>	<u>18:36</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>	

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input checked="" type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments: parameter readings cut short due to weather & time, sample still collected

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 7/15/16  
 Well ID: Zander Weather: Sunny, 90s  
 ADWR No: 205126 Sampler: VHT

WELL DATA		
Well Depth (ft bls):	<u>280</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>151.25</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>189 x3 = 567</u>	2 0.16
Total Volume Purged (gal):	<u>600</u>	4 0.65
		5 1.02
		6 1.47
		8 2.61
		10 4.08
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1042</u>	<u>Pump On</u>						
<u>1052</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.33</u>	<u>23.2</u>	<u>430.6</u>	
<u>1102</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.52</u>	<u>22.4</u>	<u>431.5</u>	
<u>1112</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.55</u>	<u>22.3</u>	<u>433.9</u>	
<u>1122</u>	<u>40</u>	<u>12</u>	<u>480</u>	<u>7.54</u>	<u>22.4</u>	<u>433.6</u>	
<u>1132</u>	<u>50</u>	<u>12</u>	<u>600</u>	<u>7.53</u>	<u>22.4</u>	<u>434.1</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Zander</u>	<u>1142</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---



---

Date	State well	Ladd House	Old house well	Middle #2	Stevenson Windmill	WSS-2015-01	
6/24/2011	262.51	288	84				
9/29/2011	262.28	276.58	83.62				
12/16/2011	264.32	250.68	84.8				
2/15/2012	262.24	253.8	84.67				
6/11/2012	264.04	258.9	85.7				
9/26/2012	261.75	255.76	84.96				
12/19/2012	261.94	249.43	86.27				
3/22/2013	324.62	250.51	85.18				Pump running
3/27/2013	266.68						
6/14/2013	261.51	282.3	86.54				Pump running
6/27/2013		270			250.85		
9/24/2013	261.38	250.8	82.66	219.6	250.85 (9-25-13)		
12/3-4/2013	260.85	251.36	84.48	217.44	250.79		
2/25/2014	261.04	253.36	85.27	217.59	250.75		
6/4/2014	262.53	259.63	85.88	218.27	250.93		
9/10/2014	263.68	248.34	86.15	219.04	250.97		
11/20/2014	261.18	268.66	80.95	213.58	250.66		
3/24/2015	261.44	248.46	83.73	214.18	250.25		
9/17/2015	264.32	243.05	86.44	216.39	250.17		
12/16/2015			86.81				
3/24/2016	261.79	266.62	87.22	217.85	250.17	169.56 (3-31-16)	
9/28/2016	262.8	246.14	86.11	219.8	250.21	170.21	

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/02/2016  
 Well ID: BMO-2014-1BL Weather: pt. cloudy, 74  
 ADWR No: 55-917393 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>366</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>124.93</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>245.89 x 3 = 737.67</u>	2 0.16
Total Volume Purged (gal):	<u>906</u>	4 0.65
		5 1.02
		6 1.47
		8 2.61
		10 4.08
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1312</u>	<u>Pump On</u>						
<u>1317</u>	<u>5</u>	<del>11</del>	<del>55</del>	<u>7.22</u>	<u>21.1</u>	<u>687.8</u>	<u>gpm closer to 12...</u>
<u>1327</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.29</u>	<u>21.6</u>	<u>689.7</u>	<u>calculative @ 11</u>
<u>1337</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.29</u>	<u>21.7</u>	<u>688.2</u>	<u>to prevent under-purging</u>
<u>1347</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.29</u>	<u>21.7</u>	<u>689.1</u>	<u>actual gpm ~ 11.7-11.8</u>
<u>1357</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.30</u>	<u>21.7</u>	<u>689.5</u>	
<u>1407</u>	<u>55</u>	<u>11</u>	<u>605</u>	<u>7.29</u>	<u>21.7</u>	<u>689.7</u>	
<u>1417</u>	<u>65</u>	<u>11</u>	<u>715</u>	<u>7.29</u>	<u>21.6</u>	<u>690.1</u>	
<u>1427</u>	<u>75</u>	<u>11</u>	<u>825</u>	<u>7.28</u>	<u>21.6</u>	<u>689.9</u>	
<u>1433</u>	<del>81</del>						<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-1BL</u>	<u>14:31</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0'</u>	<u>NO</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/02/2016  
 Well ID: BMO-2014-1B4 Weather: pt. Cloudy, 74°F  
 ADWR No: 55-917394 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>273</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>125.32</u>	2	0.16
Casing Volume (gal): <u>150.63 x 3 = 451.89</u>	4	0.65
Total Volume Purged (gal): <u>624</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1212</u>	<u>Pump On</u>						
<u>1217</u>	<u>5</u>	<u>12</u>	<u>60</u>	<u>7.34</u>	<u>21.1</u>	<u>747.1</u>	
<u>1227</u>	<u>15</u>	<u>12</u>	<u>180</u>	<u>7.27</u>	<u>21.0</u>	<u>742.7</u>	
<u>1237</u>	<u>25</u>	<u>12</u>	<u>300</u>	<u>7.28</u>	<u>20.9</u>	<u>734.2</u>	
<u>1247</u>	<u>35</u>	<u>12</u>	<u>420</u>	<u>7.29</u>	<u>20.9</u>	<u>727.2</u>	
<u>1257</u>	<u>45</u>	<u>12</u>	<u>540</u>	<u>7.29</u>	<u>20.9</u>	<u>719.5</u>	
<u>1304</u>	<u>Pump Off</u>						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-1B4</u>	<u>13:01</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>no</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/02/2018  
 Well ID: BMO-2014-2BL Weather: partly cloudy, 62°  
 ADWR No: 55-917452 Sampler: JA

WELL DATA			
Well Depth (ft bls):	<u>396</u>	Casing Capacity	
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	<u>128.39</u>	2	0.16
Casing Volume (gal):	<u>272.96 x 3 = 818.9</u>	4	0.65
Total Volume Purged (gal):	<u>9.35</u>	5	1.02
		6	1.47
		8	2.61
		10	4.08
		Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0852</u>	Pump On						
<u>0902</u>	<u>5</u>	<u>11</u>	<u>55</u>	<u>7.41</u>	<u>20.2</u>	<u>1167</u>	
<u>0912</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.25</u>	<u>20.7</u>	<u>1193</u>	
<u>0922</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.22</u>	<u>20.8</u>	<u>1194</u>	
<u>0932</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.21</u>	<u>20.9</u>	<u>1191</u>	
<u>0942</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.19</u>	<u>20.9</u>	<u>1189</u>	
<u>0952</u>	<u>55</u>	<u>11</u>	<u>605</u>	<u>7.19</u>	<u>20.9</u>	<u>1187</u>	
<u>1002</u>	<u>65</u>	<u>11</u>	<u>715</u>	<u>7.19</u>	<u>20.9</u>	<u>1185</u>	
<u>1012</u>	<u>75</u>	<u>11</u>	<u>825</u>	<u>7.18</u>	<u>20.8</u>	<u>1184</u>	
<u>1020</u>	<u>85</u>	<u>11</u>	<u>935</u>				Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-2BL</u>	<u>10:16</u>	<u>1017</u>	<u>250 mL</u>	<u>1</u>	<u>300.00</u>	<u>No</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/02/2016  
 Well ID: BMO-2014-2B4 Weather: partly cloudy, 65°F  
 ADWR No: 55-417453 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>276</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>128.37</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>150.58 x3 = 451.75</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>583</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>10:35</u>	<u>Pump On</u>						
<u>10:40</u>	<u>5</u>	<u>11</u>	<u>55</u>	<u>7.40</u>	<u>20.2</u>	<u>533.1</u>	
<u>10:50</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.41</u>	<u>20.2</u>	<u>533.5</u>	
<u>11:00</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.40</u>	<u>20.3</u>	<u>533.6</u>	
<u>11:10</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.39</u>	<u>20.2</u>	<u>534.4</u>	
<u>11:20</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.39</u>	<u>20.2</u>	<u>535.9</u>	
<u>11:28</u>							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-2B4</u>	<u>11:25</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>No</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input checked="" type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other:

WELL PURGING INFORMATION
<input checked="" type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/02/2016  
 Well ID: BMO-2014-3BL Weather: cloudy, 74°F  
 ADWR No: 55-917527 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>521</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>139.66</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>388.96 x 3 = 1,166.9</u>	2: 0.16 4: 0.65 5: 1.02 6: 1.47 8: 2.61 10: 4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1512</u>	<u>Pump On</u>						
<u>1517</u>	<u>5</u>	<u>11</u>	<u>55</u>	<u>7.38</u>	<u>20.7</u>	<u>437.6</u>	
<u>1527</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.41</u>	<u>21.2</u>	<u>433.8</u>	
<u>1537</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.43</u>	<u>21.4</u>	<u>429.9</u>	
<u>1547</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.41</u>	<u>21.5</u>	<u>428.9</u>	
<u>1557</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.40</u>	<u>21.5</u>	<u>427.8</u>	
<u>1607</u>	<u>55</u>	<u>11</u>	<u>605</u>	<u>7.40</u>	<u>21.5</u>	<u>427.7</u>	
<u>1617</u>	<u>65</u>	<u>11</u>	<u>715</u>	<u>7.41</u>	<u>21.5</u>	<u>427.2</u>	
<u>1627</u>	<u>75</u>	<u>11</u>	<u>825</u>	<u>7.41</u>	<u>21.5</u>	<u>425.9</u>	
<u>1637</u>	<u>85</u>	<u>11</u>	<u>935</u>	<u>7.40</u>	<u>21.5</u>	<u>425.6</u>	<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-3BL</u>	<u>1709</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field parameters stabilized.

Purged well until field parameters stabilized.

Other:

**Additional Comments:**

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/02/2016  
 Well ID: BMO-2014-38L Weather: cloudy, 74°F  
 ADWR No: 55-917527 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>521</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>139.66</u>	2	0.16
Casing Volume (gal): <u>388.96 x3 = 1166.9</u>	4	0.65
Total Volume Purged (gal): <u>1309</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1512</u>	<b>Pump On</b>						
<u>1647</u>	<u>95</u>	<u>11</u>	<u>1045</u>	<u>7.39</u>	<u>21.5</u>	<u>424.8</u>	
<u>1657</u>	<u>105</u>	<u>11</u>	<u>1155</u>	<u>7.40</u>	<u>21.5</u>	<u>425.5</u>	
<u>1707</u>	<u>115</u>	<u>11</u>	<u>1265</u>	<u>7.40</u>	<u>21.4</u>	<u>423.2</u>	
<u>1711</u>							<b>Pump Off</b>

*continued from last page*

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<del><u>BMO-2014-38L</u></del>	<del><u>1709</u></del>	<del><u>poly</u></del>	<del><u>250 mL</u></del>	<del><u>1</u></del>	<del><u>300.0</u></del>	<del><u>NO</u></del>	<del><u>Y</u></del>

*On pg 1*

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field parameters stabilized.

Purged well until field parameters stabilized.

Other:

**Additional Comments:**

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/02/2016  
 Well ID: BMO-2014-3BU Weather: cloudy, 72°F  
 ADWR No: 55-917494 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>288</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>140.83</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>150.08 x3 = 450.2</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>550</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<del>1717</del>	Pump On						
1722	5	11	55	7.41	19.9	483.6	
1732	15	11	165	7.39	20.1	475.2	
1742	25	11	275	7.40	20.0	471.8	
1752	35	11	385	7.40	20.0	471.4	
1802	45	11	495	7.40	20.0	471.1	
<del>1807</del>							Pump Off

~~1807~~ FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-3BU	18:04	Poly	250mL	1	300.0	NO	Y

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/01/2016  
 Well ID: BMO-2014-4B Weather: partly cloudy, 74°F  
 ADWR No: 55-917620 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>258</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>134.87</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>125.64 x3 = 376.84</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>506</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>11:27</u>	<u>Pump On</u>						
<u>11:32</u>	<u>5</u>	<u>12</u>	<u>60</u>	<u>7.54</u>	<u>20.4</u>	<u>468.8</u>	
<u>11:42</u>	<u>15</u>	<u>12</u>	<u>180</u>	<u>7.56</u>	<u>20.4</u>	<u>470.1</u>	
<u>11:52</u>	<u>25</u>	<u>11</u>	<u>290</u>	<u>7.57</u>	<u>20.5</u>	<u>470.9</u>	
<u>12:02</u>	<u>35</u>	<u>12</u>	<u>410</u>	<u>7.58</u>	<u>20.6</u>	<u>472.7</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-4B</u>	<u>12:10</u>	<u>POLY</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>Y</u>
<u>DUP20161101</u>	<u>10:00</u>	<u>POLY</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>Y</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.

No water level measurement collected. No access to wellhead/No port in wellhead

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.

Purged 3 well volumes based on previous water level and field parameters stabilized.

Purged well until field parameters stabilized.

Other:

**Additional Comments:**

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/01/2016  
 Well ID: BMO-2014-4BL Weather: partly sunny, 70°  
 ADWR No: 55-917619 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>261</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>134.30</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>129.2 x3 = 387.7</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>484</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1231</u>	<u>Pump On</u>						
<u>1236</u>	<u>5</u>	<u>11</u>	<u>55</u>	<u>7.58</u>	<u>21.0</u>	<u>626.2</u>	
<u>1246</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.48</u>	<u>20.9</u>	<u>648.1</u>	
<u>1256</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.46</u>	<u>20.9</u>	<u>661.2</u>	
<u>1306</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.47</u>	<u>20.9</u>	<u>665.8</u>	
							Pump Off

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-4BL</u>	<u>1311</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>Y</u>
<u>EQB20161101</u>	<u>1247</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>N</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/01/2016  
 Well ID: BMO-2015-1B Weather: Partly cloudy, 72°F  
 ADWR No: 55-917622 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>244</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5</u>	2	0.16
Static Water Level (ft bmp): <u>130.38</u>	4	0.65
Casing Volume (gal): <u>115.9 x3 = 347.7</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): <u>473</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1457</u>	<u>Pump On</u>						
<u>15:03</u>	<u>5</u>	<u>11</u>	<u>55</u>	<u>7.45</u>	<u>20.4</u>	<u>729.3</u>	
<u>1513</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.48</u>	<u>20.4</u>	<u>716.2</u>	
<u>1523</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.45</u>	<u>20.5</u>	<u>696.7</u>	
<u>1533</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.44</u>	<u>20.4</u>	<u>683.6</u>	
<u>1541</u>	<u>Pump Off</u>						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-1B</u>	<u>1538</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>no</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/01/2016  
 Well ID: BMO-2015-1BL Weather: cloudy, 30°F  
 ADWR No: 55-917621 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>241</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>131.66</u>	2	0.16
Casing Volume (gal): <u>111.5 x3 = 334.5</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): <u>528</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1400</u>	<u>Pump On</u>						
<u>1405</u>	<u>5</u>	<u>11</u>	<u>55</u>	<u>7.41</u>	<u>20.6</u>	<u>774.4</u>	
<u>1415</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.44</u>	<u>20.6</u>	<u>772.8</u>	
<u>1425</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.51</u>	<u>20.5</u>	<u>771.8</u>	
<u>1435</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.41</u>	<u>20.6</u>	<u>770.0</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-1BL</u>	<u>1443</u>	<u>poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>Y</u>
<u>FB20161101</u>	<u>1408</u>	<u>poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>N</u>

**WATER LEVEL MEASUREMENT COLLECTION**

Water level measurement collected.  
 No water level measurement collected. No access to wellhead/No port in wellhead  
 No water level measurement collected. Obstruction in well.  
 No water level measurement collected. Well is pumping.  
 Other:

**WELL PURGING INFORMATION**

Purged 3 well volumes and field parameters stabilized.  
 Purged 3 well volumes based on previous water level and field parameters stabilized.  
 Purged well until field parameters stabilized.  
 Other:

**Additional Comments:**

---



---



---





# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/1/16  
 Well ID: BMO-2015-2B Weather: Partly cloudy, 60's  
 ADWR No: 55-917827 Sampler: JA/MML

WELL DATA		
Well Depth (ft bls):	<u>268</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>150.30</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>120 x3 = 360</u>	2 0.16
Total Volume Purged (gal):	<u>396</u>	4 0.65
		5 1.02
		6 1.47
		8 2.61
		10 4.08
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:09</u>	<u>Pump On</u>						
<u>09:14</u>	<u>5 min</u>	<u>11</u>	<u>55</u>	<u>7.16</u>	<u>20.5</u>	<u>895.3</u>	
<u>09:24</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.23</u>	<u>20.6</u>	<u>868.9</u>	
<u>09:34</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.25</u>	<u>20.6</u>	<u>856.0</u>	
<u>09:44</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.26</u>	<u>20.6</u>	<u>848.1</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-2B</u>	<u>09:45</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300-0</u>	<u>NO</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/1/16  
 Well ID: BMO-2015-2BL Weather: Partly Cloudy  
 ADWR No: 55-917828 Sampler: JA/MML

WELL DATA		
Well Depth (ft bls):	<u>272</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
		Gallons per Linear Foot
Static Water Level (ft bmp):	<u>149.00</u>	2 0.16
Casing Volume (gal):	<u>125</u> x3 = <u>376</u>	4 0.65
		5 1.02
		6 1.47
Total Volume Purged (gal):	<u>407</u>	8 2.61
		10 4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>10:00</u>	<u>Pump On</u>						
<u>10:05</u>	<u>5</u>	<u>11</u>	<u>55</u>	<u>7.23</u>	<u>20.6</u>	<u>931.2</u>	
<u>10:15</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.23</u>	<u>20.8</u>	<u>920.8</u>	
<u>10:25</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.24</u>	<u>20.8</u>	<u>911.9</u>	
<u>10:35</u>	<u>35</u>	<u>11</u>	<u>385</u>	<u>7.24</u>	<u>20.8</u>	<u>905.7</u>	
							<u>Pump Off</u>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-2BL</u>	<u>10:37</u>	<u>Poly</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other:

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other:

Additional Comments:

---



---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 12/15/2016  
 Well ID: NSD-2 Weather: Mostly sunny, 58°F  
 ADWR No: 55-527587 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>120</u>	Casing Capacity	
Casing Diameter (in): <u>12</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>103.4</u>	2	0.16
Casing Volume (gal): _____ x3 = _____	4	0.65
Total Volume Purged (gal): _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: Water level only.

---



---



---

# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: \_\_\_\_\_ Date: 12/15/2016  
 Well ID: NSD-3 Weather: mostly Sunny, 68°F  
 ADWR No: 55-527586 Sampler: DA

WELL DATA		
Well Depth (ft bls): <u>100</u>	Casing Capacity	
Casing Diameter (in): <u>12</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>92.4</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): _____	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
	Pump Off						

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point: \_\_\_\_\_

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: Water level only.

---



---



---



# Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch  
 Task No: 1 Date: 11/02/2016  
 Well ID: NWC-04 Weather: Clear Partly cloudy, 58°F  
 ADWR No: \_\_\_\_\_ Sampler: JA

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
Casing Diameter (in): _____	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>N/A</u>	2	0.16
Casing Volume (gal): _____ x3 = _____	4	0.65
Total Volume Purged (gal): _____	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>0709</u>	<b>Pump On</b>						
<u>0730</u>		<u>13 gpm</u>		<u>7.28</u>	<u>22.6</u>	<u>856.7</u>	
<u>0732</u>				<u>7.32</u>	<u>22.5</u>	<u>887.8</u>	
<u>0736</u>				<u>7.32</u>	<u>22.8</u>	<u>897.2</u>	
<u>0738</u>				<u>7.32</u>	<u>23.0</u>	<u>900.6</u>	
							<b>Pump Off</b>

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

### SAMPLE INFORMATION

Sample Collection Point: \_\_\_\_\_

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC-04</u>	<u>0740</u>	<u>20L</u>	<u>250L</u>	<u>1</u>	<u>300.0</u>	<u>NO</u>	<u>Y</u>

### WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: \_\_\_\_\_

### WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: \_\_\_\_\_

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**APPENDIX B**  
**ANALYTICAL REPORTS**



February 17, 2016

Victoria Hermosilla  
Clear Creek Associates  
221 N. Court Ave., Suite 101  
Tucson, AZ 85701

TEL 520-240-4773  
FAX (520) 622-4040

Work Order No.: 16A0522

RE: CQB Quarterly Monitoring

Dear Victoria Hermosilla,

Turner Laboratories, Inc. received 20 sample(s) on 01/15/2016 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,  
Turner Laboratories, Inc.  
ADHS License AZ0066

Max DiSante  
Technical Director

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Date Received:** 01/15/2016

**Work Order Sample Summary**

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Matrix</b>	<b>Collection Date/Time</b>
16A0522-01	AWC-03	Ground Water	01/13/2016 1053
16A0522-02	AWC-04	Ground Water	01/13/2016 1122
16A0522-03	AWC-02	Ground Water	01/13/2016 1315
16A0522-04	Olmos	Ground Water	01/13/2016 1652
16A0522-05	Power 639	Ground Water	01/14/2016 0939
16A0522-06	Weed	Ground Water	01/14/2016 1023
16A0522-07	Schwartz	Ground Water	01/14/2016 1240
16A0522-08	Dup2016011	Ground Water	01/11/2016 1800
16A0522-09	FB20160111	Ground Water	01/11/2016 1530
16A0522-10	EQB20160111	Ground Water	01/11/2016 1535
16A0522-11	COB MW-2	Ground Water	01/11/2016 0959
16A0522-12	COB WL	Ground Water	01/11/2016 1240
16A0522-13	Panagakos	Ground Water	01/11/2016 1515
16A0522-14	Dodson	Ground Water	01/12/2016 0906
16A0522-15	TVI 236	Ground Water	01/12/2016 1229
16A0522-16	NWC-06	Ground Water	01/12/2016 1325
16A0522-17	NWC-02	Ground Water	01/12/2016 1359
16A0522-18	NWC-04	Ground Water	01/12/2016 1457
16A0522-19	Ruiz	Ground Water	01/12/2016 1615
16A0522-20	AWC-05	Ground Water	01/13/2016 1029



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Date Received:** 01/15/2016

**Case Narrative**

---

This report was originally generated on 1/29/2016. It is being revised on 2/17/2016 to include analytes reported to the MDL, which was not on the original report.

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

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:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-01

**Client Sample ID:** AWC-03  
**Collection Date/Time:** 01/13/2016 1053  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	44		5.0		mg/L	1	01/15/2016 1445	01/15/2016 1643	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-02

**Client Sample ID:** AWC-04  
**Collection Date/Time:** 01/13/2016 1122  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	27		5.0		mg/L	1	01/15/2016 1445	01/15/2016 1701	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-03

**Client Sample ID:** AWC-02  
**Collection Date/Time:** 01/13/2016 1315  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.3		5.0		mg/L	1	01/15/2016 1445	01/15/2016 1720	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-04

**Client Sample ID:** Olmos  
**Collection Date/Time:** 01/13/2016 1652  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.0		5.0		mg/L	1	01/15/2016 1445	01/15/2016 1738	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-05

**Client Sample ID:** Power 639  
**Collection Date/Time:** 01/14/2016 0939  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	300		50		mg/L	10	01/15/2016 1445	01/18/2016 2200	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-06

**Client Sample ID:** Weed  
**Collection Date/Time:** 01/14/2016 1023  
**Matrix:** Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	14		5.0		mg/L	1	01/15/2016 1615	01/15/2016 1815	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-07

**Client Sample ID:** Schwartz  
**Collection Date/Time:** 01/14/2016 1240  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	130		25		mg/L	5	01/15/2016 1615	01/18/2016 2218	MR



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-08

**Client Sample ID:** Dup2016011  
**Collection Date/Time:** 01/11/2016 1800  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	450		130		mg/L	25	01/15/2016 1615	01/18/2016 2236	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-09

**Client Sample ID:** FB20160111  
**Collection Date/Time:** 01/11/2016 1530  
**Matrix:** Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.0	0.50	5.0	E4	mg/L	1	01/18/2016 1515	01/18/2016 1704	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-10

**Client Sample ID:** EQB20160111  
**Collection Date/Time:** 01/11/2016 1535  
**Matrix:** Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.0	0.50	5.0	E4	mg/L	1	01/18/2016 1515	01/18/2016 1723	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-11

**Client Sample ID:** COB MW-2  
**Collection Date/Time:** 01/11/2016 0959  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	41		5.0		mg/L	1	01/18/2016 1515	01/18/2016 1741	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-12

**Client Sample ID:** COB WL  
**Collection Date/Time:** 01/11/2016 1240  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	73		10		mg/L	2	01/18/2016 1515	01/19/2016 2135	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-13

**Client Sample ID:** Panagakos  
**Collection Date/Time:** 01/11/2016 1515  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	440		130		mg/L	25	01/18/2016 1645	01/19/2016 2154	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-14

**Client Sample ID:** Dodson  
**Collection Date/Time:** 01/12/2016 0906  
**Matrix:** Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	49		10		mg/L	2	01/18/2016 1645	01/19/2016 2212	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-15

**Client Sample ID:** TVI 236  
**Collection Date/Time:** 01/12/2016 1229  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	44		5.0		mg/L	1	01/18/2016 1645	01/18/2016 1855	MR



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-16

**Client Sample ID:** NWC-06  
**Collection Date/Time:** 01/12/2016 1325  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.5		5.0		mg/L	1	01/18/2016 1645	01/18/2016 1914	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-17

**Client Sample ID:** NWC-02  
**Collection Date/Time:** 01/12/2016 1359  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	6.2		5.0		mg/L	1	01/18/2016 1645	01/18/2016 1932	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-18

**Client Sample ID:** NWC-04  
**Collection Date/Time:** 01/12/2016 1457  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	190		25		mg/L	5	01/19/2016 0930	01/20/2016 1533	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-19

**Client Sample ID:** Ruiz  
**Collection Date/Time:** 01/12/2016 1615  
**Matrix:** Ground Water

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	190		25		mg/L	5	01/19/2016 0930	01/20/2016 1552	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16A0522  
**Lab Sample ID:** 16A0522-20

**Client Sample ID:** AWC-05  
**Collection Date/Time:** 01/13/2016 1029  
**Matrix:** Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	14		5.0		mg/L	1	01/19/2016 0930	01/19/2016 1736	MR

Client: Clear Creek Associates  
 Project: CQB Quarterly Monitoring  
 Work Order: 16A0522  
 Date Received: 01/15/2016

## QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch 1601123 - IC PREP</b>										
<b>Blank (1601123-BLK1)</b>				Prepared & Analyzed: 01/15/2016						
Sulfate	1.4	5.0	mg/L							
<b>LCS (1601123-BS1)</b>				Prepared & Analyzed: 01/15/2016						
Sulfate	13	5.0	mg/L	12.50		101	90-110			
<b>LCS Dup (1601123-BSD1)</b>				Prepared & Analyzed: 01/15/2016						
Sulfate	13	5.0	mg/L	12.50		100	90-110	0.4	10	
<b>Matrix Spike (1601123-MS1)</b>				Source: 16A0492-01		Prepared & Analyzed: 01/15/2016				
Sulfate	22	5.0	mg/L	12.50	9.8	95	80-120			
<b>Matrix Spike Dup (1601123-MSD1)</b>				Source: 16A0492-01		Prepared & Analyzed: 01/15/2016				
Sulfate	22	5.0	mg/L	12.50	9.8	94	80-120	0.2	10	
<b>Batch 1601148 - IC PREP</b>										
<b>Blank (1601148-BLK1)</b>				Prepared & Analyzed: 01/18/2016						
Sulfate	ND	5.0	mg/L							
<b>LCS (1601148-BS1)</b>				Prepared & Analyzed: 01/18/2016						
Sulfate	12	5.0	mg/L	12.50		98	90-110			
<b>LCS Dup (1601148-BSD1)</b>				Prepared & Analyzed: 01/18/2016						
Sulfate	12	5.0	mg/L	12.50		99	90-110	0.4	10	
<b>Matrix Spike (1601148-MS1)</b>				Source: 16A0564-01		Prepared & Analyzed: 01/18/2016				
Sulfate	17	5.0	mg/L	12.50	5.7	92	80-120			
<b>Matrix Spike Dup (1601148-MSD1)</b>				Source: 16A0564-01		Prepared & Analyzed: 01/18/2016				
Sulfate	17	5.0	mg/L	12.50	5.7	93	80-120	0.5	10	
<b>Batch 1601162 - IC PREP</b>										
<b>Blank (1601162-BLK1)</b>				Prepared & Analyzed: 01/19/2016						
Sulfate	ND	5.0	mg/L							
<b>LCS (1601162-BS1)</b>				Prepared & Analyzed: 01/19/2016						
Sulfate	12	5.0	mg/L	12.50		99	90-110			
<b>LCS Dup (1601162-BSD1)</b>				Prepared & Analyzed: 01/19/2016						
Sulfate	12	5.0	mg/L	12.50		99	90-110	0.1	10	
<b>Matrix Spike (1601162-MS1)</b>				Source: 16A0572-01		Prepared & Analyzed: 01/19/2016				
Sulfate	25	5.0	mg/L	12.50	14	90	80-120			
<b>Matrix Spike Dup (1601162-MSD1)</b>				Source: 16A0572-01		Prepared & Analyzed: 01/19/2016				
Sulfate	25	5.0	mg/L	12.50	14	92	80-120	0.7	10	

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Turner Labs, Suite 104  
 Phoenix, Arizona 85745  
 (602) 588-2588  
 (520) 882-9788  
 www.turnerlabs.com

TURNER WORK ORDER # 16A0522 DATE 1/15/16 PAGE 1 OF 2

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

<input type="checkbox"/> Acids	<input type="checkbox"/> Base Neutrals	<input type="checkbox"/> 625/8270	<input type="checkbox"/> Volatile Organics	<input type="checkbox"/> 624	<input type="checkbox"/> TTHMS	<input type="checkbox"/> HAAS	<input type="checkbox"/> Chloride	<input type="checkbox"/> NO <sub>2</sub>	<input type="checkbox"/> NO <sub>3</sub>	<input type="checkbox"/> TKN	<input type="checkbox"/> 1664	<input type="checkbox"/> TPH	<input type="checkbox"/> Oil & Grease	<input type="checkbox"/> TCLP Analysis	<input type="checkbox"/> Sem-VOA	<input type="checkbox"/> Pestic	<input type="checkbox"/> Metals	<input type="checkbox"/> Total	<input type="checkbox"/> RCR48	<input type="checkbox"/> Cyanide	<input type="checkbox"/> Amen.	<input type="checkbox"/> WAD	<input type="checkbox"/> SDWA-INORGANICS	<input type="checkbox"/> PRIMARY	<input type="checkbox"/> SECONDARY	<input type="checkbox"/> Coliform	<input type="checkbox"/> MPN	<input type="checkbox"/> pH	<input type="checkbox"/> COD	<input type="checkbox"/> TSS	<input type="checkbox"/> BOD
--------------------------------	--	-----------------------------------	--	------------------------------	--------------------------------	-------------------------------	-----------------------------------	--	--	------------------------------	-------------------------------	------------------------------	---------------------------------------	--	----------------------------------	---------------------------------	---------------------------------	--------------------------------	--------------------------------	----------------------------------	--------------------------------	------------------------------	--	----------------------------------	------------------------------------	-----------------------------------	------------------------------	-----------------------------	------------------------------	------------------------------	------------------------------

NUMBER OF CONTAINERS

CLIENT NAME CAB Quarterly Monitoring  
 CONTACT NAME Victoria Harnosila  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave Tucson AZ  
 ZIP 85701 PHONE 602-3222 EMAIL vharnosila@clearcreek.com  
 SAMPLER'S SIGNATURE [Signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*
<u>AWC-03</u>	<u>1/13/16</u>	<u>1053</u>		<u>GW</u>
<u>AWC-04</u>	<u>1/13/16</u>	<u>1122</u>		<u>GW</u>
<u>AWC-02</u>	<u>1/13/16</u>	<u>1315</u>		<u>GW</u>
<u>Olmos</u>	<u>1/13/16</u>	<u>1652</u>		<u>GW</u>
<u>Power 639</u>	<u>1/14/16</u>	<u>0939</u>		<u>GW</u>
<u>Need</u>	<u>1/14/16</u>	<u>1023</u>		<u>GW</u>
<u>Schwartz</u>	<u>1/14/16</u>	<u>1240</u>		<u>GW</u>
<u>DUP2016011</u>	<u>1/11/16</u>	<u>1800</u>		<u>GW</u>
<u>F32016011</u>	<u>1/11/16</u>	<u>1530</u>		<u>DW</u>
<u>E032016011</u>	<u>1/11/16</u>	<u>1535</u>		<u>DW</u>

1. RELINQUISHED BY: [Signature]  
 Signature Victoria Harnosila  
 Printed Name Clear Creek Associates  
 Firm 1/15/16, 1015  
 Date/Time

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

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

4. RECEIVED BY: [Signature]  
 Signature  
 Printed Name  
 Firm  
 Date/Time

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

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

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 20  
 Temperature 22  
 Wet Ice  
 Ambient  
 Blue Ice

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

CUSTOMER INFORMATION:  
 Custody Seals   
 Container Intact   
 COC / Labels Agree

PRESERVATION CONFIRMATION:  
 Preservation Confirmation  
 Appropriate Head Space  
 Received Within Hold Time

SPECIAL INSTRUCTIONS/COMMENTS:

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Turner Labs, Inc.  
 1645522  
 11/15/16  
 DATE  
 2  
 OF  
 PAGE

TURNER WORK ORDER # \_\_\_\_\_  
 PROJECT NAME COB Quarterly Monitoring  
 CONTACT NAME Victoria Hermosillo  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N Court Ave Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosillo@clearcreekassociates.com  
 SAMPLER'S SIGNATURE [Signature]

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

NUMBER OF CONTAINERS	Base Neutrals 625/8270	Volatiles 624	THMS 8260	HAAS	Chloride	Sulfate	Resistivity	TKN	1664	TPH	VOA	TCP	Metals	Dissolved	Total	Cyanide	SDWA-INORGANICS	SDWA-ORGANICS	MPN	Fecal	BOD
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLE I.D.	LAB I.D.	DATE	TIME	SAMPLE MATRIX*
COB MW-2		1/11/16	0959	GW
COB WL		1/11/16	1240	GW
Panagakos		1/11/16	1515	GW
Dodson		1/12/16	0906	GW
TVI 236		1/12/16	1229	GW
NWC-016		1/12/16	1325	GW
NWC-02		1/12/16	1359	GW
NWC-04		1/12/16	1457	GW
Ruiz		1/12/16	1615	GW
AWC-05		1/13/16	1029	GW

1. RELINQUISHED BY: [Signature]  
 Signature: Victoria Hermosillo  
 Printed Name: Clear Creek Associates  
 Firm: 1/15/16, 1015  
 Date/Time: \_\_\_\_\_

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

3. RELINQUISHED BY: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Printed Name: TURNER LABORATORIES, INC.  
 Firm: \_\_\_\_\_  
 Date/Time: 1/15/16 1015

4. RECEIVED BY: [Signature]  
 Signature: [Signature]  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

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 \_\_\_\_\_

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

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

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

SPECIAL INSTRUCTIONS/COMMENTS:

REPORT RECEIPT:  
 Total Containers 20  
 Temperature 2.2  
 Wet Ice  
 Ambient  
 Blue Ice

COMPLIANCE ANALYSIS:  Yes  No  
 ADEQ FORMS:  Yes  No  
 MAIL ADEQ FORMS:  Yes  No

CUSTOMER CONFIRMATION:  
 Preservation Confirmation  
 Appropriate Head Space  
 Received Within Hold Time





February 18, 2016

Chris Sherman  
Freeport McMoran - Copper Queen Branch  
36 W Highway 92  
Bisbee, AZ 85603-1047

TEL (520) 432-6206  
FAX

Work Order No.: 16B0307  
Order Name: 287030

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 21 sample(s) on 02/05/2016 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

Max DiSante  
Technical Director

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Date Received:** 02/05/2016

**Order: 287030****Work Order Sample Summary**

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Matrix</b>	<b>Collection Date/Time</b>
16B0307-01	BMO-2010-3B	Ground Water	02/02/2016 1010
16B0307-02	BMO-2010-3M	Ground Water	02/02/2016 1309
16B0307-03	TM-10	Ground Water	02/02/2016 1531
16B0307-04	BMO-2014-4B	Ground Water	02/03/2016 0916
16B0307-05	BMO-2014-4BL	Ground Water	02/03/2016 0959
16B0307-06	BMO-2015-1B	Ground Water	02/03/2016 1048
16B0307-07	BMO-2015-1BL	Ground Water	02/03/2016 1129
16B0307-08	BMO-2015-2B	Ground Water	02/03/2016 1242
16B0307-09	BMO-2015-2BL	Ground Water	02/03/2016 1327
16B0307-10	BMO-2014-1BL	Ground Water	02/04/2016 0942
16B0307-11	BMO-2014-1BM	Ground Water	02/04/2016 1026
16B0307-12	BMO-2014-2BL	Ground Water	02/04/2016 1156
16B0307-13	BMO-2014-2BU	Ground Water	02/04/2016 1236
16B0307-14	BMO-2014-3BU	Ground Water	02/04/2016 1338
16B0307-15	BMO-2014-3BL	Ground Water	02/04/2016 1509
16B0307-16	DUP20160203	Ground Water	02/03/2016 1200
16B0307-17	DUP20160204	Ground Water	02/04/2016 1200
16B0307-18	FBB20160203	Ground Water	02/03/2016 1135
16B0307-19	EQB20160203	Ground Water	02/03/2016 1138
16B0307-20	FB20160204	Ground Water	02/04/2016 1211
16B0307-21	EQB20160204	Ground Water	02/04/2016 1213

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Date Received:** 02/05/2016

**Case Narrative**

---

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:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-01

**Client Sample ID:** BMO-2010-3B  
**Collection Date/Time:** 02/02/2016 1010  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	16	0.50	5.0		mg/L	1	02/05/2016 1440	02/05/2016 1555	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-02

**Client Sample ID:** BMO-2010-3M  
**Collection Date/Time:** 02/02/2016 1309  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.5	0.50	5.0		mg/L	1	02/05/2016 1440	02/05/2016 1614	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-03

**Client Sample ID:** TM-10  
**Collection Date/Time:** 02/02/2016 1531  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	5.3	0.50	5.0		mg/L	1	02/05/2016 1440	02/05/2016 1632	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-04

**Client Sample ID:** BMO-2014-4B  
**Collection Date/Time:** 02/03/2016 0916  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	58	1.0	10		mg/L	2	02/05/2016 1640	02/09/2016 0334	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-05

**Client Sample ID:** BMO-2014-4BL  
**Collection Date/Time:** 02/03/2016 0959  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	170	2.5	25		mg/L	5	02/05/2016 1640	02/09/2016 0353	MR



**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-06

**Client Sample ID:** BMO-2015-1B  
**Collection Date/Time:** 02/03/2016 1048  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	170	2.5	25		mg/L	5	02/05/2016 1640	02/09/2016 0411	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-07

**Client Sample ID:** BMO-2015-1BL  
**Collection Date/Time:** 02/03/2016 1129  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	220	5.0	50		mg/L	10	02/05/2016 1640	02/09/2016 0430	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-08

**Client Sample ID:** BMO-2015-2B  
**Collection Date/Time:** 02/03/2016 1242  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	250	5.0	50		mg/L	10	02/08/2016 1620	02/11/2016 2028	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-09

**Client Sample ID:** BMO-2015-2BL  
**Collection Date/Time:** 02/03/2016 1327  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	280	5.0	50		mg/L	10	02/08/2016 1620	02/11/2016 2047	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-10

**Client Sample ID:** BMO-2014-1BL  
**Collection Date/Time:** 02/04/2016 0942  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	150	2.5	25		mg/L	5	02/08/2016 1620	02/11/2016 2200	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-11

**Client Sample ID:** BMO-2014-1BM  
**Collection Date/Time:** 02/04/2016 1026  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	160	2.5	25		mg/L	5	02/08/2016 1620	02/11/2016 2219	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-12

**Client Sample ID:** BMO-2014-2BL  
**Collection Date/Time:** 02/04/2016 1156  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	430	10	100		mg/L	20	02/09/2016 1027	02/11/2016 2237	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-13

**Client Sample ID:** BMO-2014-2BU  
**Collection Date/Time:** 02/04/2016 1236  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	57	1.0	10		mg/L	2	02/09/2016 1027	02/11/2016 2256	MR



**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-14

**Client Sample ID:** BMO-2014-3BU  
**Collection Date/Time:** 02/04/2016 1338  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	7.7	0.50	5.0		mg/L	1	02/09/2016 1120	02/09/2016 1122	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-15

**Client Sample ID:** BMO-2014-3BL  
**Collection Date/Time:** 02/04/2016 1509  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.4	0.50	5.0		mg/L	1	02/09/2016 1120	02/09/2016 1140	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-16

**Client Sample ID:** DUP20160203  
**Collection Date/Time:** 02/03/2016 1200  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	220	5.0	50		mg/L	10	02/09/2016 1155	02/11/2016 2314	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-17

**Client Sample ID:** DUP20160204  
**Collection Date/Time:** 02/04/2016 1200  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	430	10	100		mg/L	20	02/09/2016 1155	02/11/2016 2333	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-18

**Client Sample ID:** FBB20160203  
**Collection Date/Time:** 02/03/2016 1135  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.2	0.50	5.0		mg/L	1	02/09/2016 1155	02/09/2016 1235	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-19

**Client Sample ID:** EQB20160203  
**Collection Date/Time:** 02/03/2016 1138  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.0	0.50	5.0		mg/L	1	02/09/2016 1235	02/09/2016 1254	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-20

**Client Sample ID:** FB20160204  
**Collection Date/Time:** 02/04/2016 1211  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.1	0.50	5.0		mg/L	1	02/09/2016 1235	02/09/2016 1312	MR

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16B0307  
**Lab Sample ID:** 16B0307-21

**Client Sample ID:** EQB20160204  
**Collection Date/Time:** 02/04/2016 1213  
**Matrix:** Ground Water  
**Order Name:** 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.1	0.50	5.0		mg/L	1	02/09/2016 1235	02/09/2016 1331	MR



Client: Freeport McMoran - Copper Queen Branch  
 Project: CQB  
 Work Order: 16B0307  
 Date Received: 02/05/2016

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch 1602071 - E300</b>										
<b>Blank (1602071-BLK1)</b>				Prepared & Analyzed: 02/05/2016						
Sulfate	ND	5.0	mg/L							
<b>LCS (1602071-BS1)</b>				Prepared & Analyzed: 02/05/2016						
Sulfate	12	5.0	mg/L	12.50		94	90-110			
<b>LCS Dup (1602071-BSD1)</b>				Prepared & Analyzed: 02/05/2016						
Sulfate	12	5.0	mg/L	12.50		96	90-110	2	10	
<b>Matrix Spike (1602071-MS1)</b>				<b>Source: 16B0313-01</b>		Prepared & Analyzed: 02/05/2016				
Sulfate	24	5.0	mg/L	12.50	14	87	80-120			
<b>Matrix Spike Dup (1602071-MSD1)</b>				<b>Source: 16B0313-01</b>		Prepared & Analyzed: 02/05/2016				
Sulfate	25	5.0	mg/L	12.50	14	88	80-120	0.5	10	
<b>Batch 1602089 - E300</b>										
<b>Blank (1602089-BLK1)</b>				Prepared & Analyzed: 02/08/2016						
Sulfate	ND	5.0	mg/L							
<b>LCS (1602089-BS1)</b>				Prepared & Analyzed: 02/08/2016						
Sulfate	12	5.0	mg/L	12.50		97	90-110			
<b>LCS Dup (1602089-BSD1)</b>				Prepared & Analyzed: 02/08/2016						
Sulfate	12	5.0	mg/L	12.50		98	90-110	0.6	10	
<b>Matrix Spike (1602089-MS3)</b>				<b>Source: 16B0346-01RE1</b>		Prepared: 02/08/2016 Analyzed: 02/11/2016				
Sulfate	27		mg/L	12.50	16	89	80-120			
<b>Matrix Spike Dup (1602089-MSD3)</b>				<b>Source: 16B0346-01RE1</b>		Prepared: 02/08/2016 Analyzed: 02/11/2016				
Sulfate	27		mg/L	12.50	16	91	80-120	0.9	10	
<b>Batch 1602097 - E300</b>										
<b>Blank (1602097-BLK1)</b>				Prepared & Analyzed: 02/09/2016						
Sulfate	ND	5.0	mg/L							
<b>LCS (1602097-BS1)</b>				Prepared & Analyzed: 02/09/2016						
Sulfate	12	5.0	mg/L	12.50		96	90-110			
<b>LCS Dup (1602097-BSD1)</b>				Prepared & Analyzed: 02/09/2016						
Sulfate	12	5.0	mg/L	12.50		98	90-110	1	10	
<b>Matrix Spike (1602097-MS1)</b>				<b>Source: 16B0419-01</b>		Prepared & Analyzed: 02/09/2016				
Sulfate	42	5.0	mg/L	12.50	31	86	80-120			
<b>Matrix Spike (1602097-MS2)</b>				<b>Source: 16B0307-15</b>		Prepared & Analyzed: 02/09/2016				
Sulfate	19	5.0	mg/L	12.50	8.4	86	80-120			
<b>Matrix Spike Dup (1602097-MSD1)</b>				<b>Source: 16B0419-01</b>		Prepared & Analyzed: 02/09/2016				
Sulfate	43	5.0	mg/L	12.50	31	93	80-120	2	10	
<b>Matrix Spike Dup (1602097-MSD2)</b>				<b>Source: 16B0307-15</b>		Prepared & Analyzed: 02/09/2016				
Sulfate	19	5.0	mg/L	12.50	8.4	87	80-120	0.7	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 # 1680307 DATE \_\_\_\_\_ PAGE 1 OF 2

PROJECT NAME <u>CAB Quarterly # 287030</u>		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX		
CONTACT NAME: <u>Chris Sherman/Victoria Hernandez</u>				
COMPANY NAME: <u>Freepoint McMoran CAB</u>				
ADDRESS: <u>36 Highway 92</u>				
CITY <u>Bisbee</u> STATE <u>AZ</u> ZIP CODE <u>85603</u>				
PHONE <u>520 508 7063</u> FAX <u>520 432 1395</u>				
SAMPLER'S SIGNATURE <u>[Signature]</u>				
NUMBER OF CONTAINERS				
504 - 300.0 Unfiltered				
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*
BMD-2010-3B	2/2/16	1010		GW
BMD-2010-3M	2/2/16	1309		GW
TM-10	2/2/16	1531		GW
BMD-2014-4B	2/3/16	0916		GW
BMD-2014-4BL	2/3/16	0959		GW
BMD-2015-1B	2/3/16	1048		GW
BMD-2015-1BL	2/3/16	1129		GW
BMD-2015-2B	2/3/16	1242		GW
BMD-2015-2BL	2/3/16	1327		GW
BMD-2014-1BL	2/4/16	0942		GW
BMD-2014-1BL	2/4/16	1026		GW
1. RELINQUISHED BY: <u>[Signature]</u> Signature <u>Victoria Hernandez</u> Printed Name <u>Chris Sherman/Victoria Hernandez</u> Firm <u>Clear Creek Associates</u> Date/Time <u>2/6/16 0827</u>		2. RECEIVED BY: <u>[Signature]</u> Signature _____ Printed Name _____ Firm _____ Date/Time _____		
3. RELINQUISHED BY: Signature _____ Printed Name _____ Firm _____ Date/Time _____		4. RECEIVED BY: <u>[Signature]</u> Signature <u>[Signature]</u> Printed Name <u>[Signature]</u> Firm <u>TURNER LABORATORIES, INC.</u> <u>[Signature]</u> Date/Time <u>0827</u>		
TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard (approx. 10 days)* Next day <input type="checkbox"/> 2 Day <input type="checkbox"/> 5 Day* Email Preliminary Results To: _____ * 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 <input checked="" type="checkbox"/> Y <input type="checkbox"/> N P.O. # _____ Bill to: <u>CAB</u>		SPECIAL INSTRUCTIONS/COMMENTS: Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seals <input type="checkbox"/> Yes <input type="checkbox"/> No ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No Container Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No COC/Labels Agree <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Received Within Hold Time <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Preservation Confirmation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Appropriate Head Space <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No All samples filtered with a 0.45µm filter, unless noted. Copy Results to Ben Daigneau + Bill Hart, + Victoria Hernandez		
SAMPLE RECEIPT: Total Containers <u>2</u> Temperature <u>1.1</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice				



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 # \_\_\_\_\_ DATE \_\_\_\_\_ PAGE 2 OF 2

<p>PROJECT NAME <u>CAB Quarterly # 287030</u></p> <p>CONTACT NAME: <u>Chris Sherman</u></p> <p>COMPANY NAME: <u>Freeport McMoran CAB</u></p> <p>ADDRESS: <u>36 Highway 92</u></p> <p>CITY <u>Bisbee</u> STATE <u>AZ</u> ZIP CODE <u>85603</u></p> <p>PHONE <u>520 508 7063</u> FAX <u>520 432 1395</u></p> <p>SAMPLER'S SIGNATURE <u>[Signature]</u></p>	<p>NUMBER OF CONTAINERS</p>	<p>CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX</p>
<p>1. RELINQUISHED BY:</p> <p>Signature <u>[Signature]</u></p> <p>Printed Name <u>Chris Sherman</u></p> <p>Firm <u>Freeport McMoran</u></p> <p>Date/Time <u>2/5/10 0827</u></p>	<p>TURNAROUND REQUIREMENTS:</p> <p><input checked="" type="checkbox"/> Standard (approx. 10 days)*</p> <p>Next day <input type="checkbox"/> 2 Day <input type="checkbox"/> 5 Day*</p> <p>Email Preliminary Results To: _____</p> <p>* Working Days</p>	<p>REPORT REQUIREMENTS:</p> <p><input type="checkbox"/> I. Routine Report</p> <p><input type="checkbox"/> II. Report (includes DUP, MS, MSD, as required, may be charged as samples)</p> <p><input type="checkbox"/> III. Date Validation Report (includes All Raw Data)</p> <p>Add 10% to invoice</p>
<p>2. RECEIVED BY:</p> <p>Signature _____</p> <p>Printed Name _____</p> <p>Firm _____</p> <p>Date/Time _____</p>	<p>INVOICE INFORMATION:</p> <p>Account <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>P.O. # _____</p> <p>Bill to: <u>CAB</u></p>	<p>SAMPLE RECEIPT:</p> <p>Total Containers _____</p> <p>Temperature _____</p> <p><input type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice</p>
<p>3. RELINQUISHED BY:</p> <p>Signature _____</p> <p>Printed Name _____</p> <p>Firm _____</p> <p>Date/Time _____</p>	<p>SPECIAL INSTRUCTIONS/COMMENTS:</p> <p>Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Custody Seals <input type="checkbox"/></p> <p>ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Container Intact <input checked="" type="checkbox"/></p> <p>Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> COC/Labels Agree <input checked="" type="checkbox"/></p> <p>Preservation Confirmation <input type="checkbox"/></p> <p>Appropriate Head Space <input type="checkbox"/></p> <p>Received Within Hold Time <input type="checkbox"/></p> <p><u>All samples filtered with a 0.45µm filter, unless noted.</u></p> <p><u>Copy Results to Ben Daigneau + Bill Hart, [Signature]</u></p>	
<p>* LEGEND</p> <p>DW = DRINKING WATER</p> <p>GW = GROUNDWATER</p> <p>SD = SOLID</p> <p>SG = SLUDGE</p> <p>SL = SOIL</p> <p>ST = STORMWATER</p> <p>WW = WASTEWATER</p>		



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
Work Order: **W6C0278**  
Reported: 18-Mar-16 16:49

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2012-1M	W6C0278-01	Ground Water	03-Mar-16 11:15	CLS	16-Mar-2016	
BMO-2008-1G	W6C0278-02	Ground Water	03-Mar-16 13:30	CRS	16-Mar-2016	
BMO-2008-3B	W6C0278-03	Ground Water	03-Mar-16 14:20	CRS	16-Mar-2016	
BMO-2008-6M	W6C0278-04	Ground Water	14-Mar-16 07:55	CRS	16-Mar-2016	
BMO-2008-6B	W6C0278-05	Ground Water	14-Mar-16 08:45	CRS	16-Mar-2016	
BMO-2008-5M	W6C0278-06	Ground Water	14-Mar-16 10:10	CRS	16-Mar-2016	
BMO-2008-5B	W6C0278-07	Ground Water	14-Mar-16 10:45	CRS	16-Mar-2016	
TM-7	W6C0278-08	Ground Water	14-Mar-16 11:38	CRS	16-Mar-2016	
BMO-2008-11G	W6C0278-09	Ground Water	15-Mar-16 13:05	CRS	16-Mar-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **BMO-2012-1M**

SVL Sample ID: **W6C0278-01 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 03-Mar-16 11:15

Received: 16-Mar-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	222	mg/L	3.00	1.30	10	W612226	DT	03/18/16 14:29	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **BMO-2008-1G**

SVL Sample ID: **W6C0278-02 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 03-Mar-16 13:30

Received: 16-Mar-16

Sampled By: CRS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	108	mg/L	3.00	1.30	10	W612226	DT	03/18/16 14:39	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **BMO-2008-3B**

SVL Sample ID: **W6C0278-03 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 03-Mar-16 14:20

Received: 16-Mar-16

Sampled By: CRS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	136	mg/L	3.00	1.30	10	W612226	DT	03/18/16 14:49	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **BMO-2008-6M**

SVL Sample ID: **W6C0278-04 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Mar-16 07:55

Received: 16-Mar-16

Sampled By: CRS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	229	mg/L	3.00	1.30	10	W612226	DT	03/18/16 14:59	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director





Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **BMO-2008-6B**

SVL Sample ID: **W6C0278-05 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Mar-16 08:45

Received: 16-Mar-16

Sampled By: CRS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	12.4	mg/L	1.50	0.65	5	W612226	DT	03/18/16 15:08	D1
-----------	----------------	------	------	------	------	---	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **BMO-2008-5M**

SVL Sample ID: **W6C0278-06 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Mar-16 10:10

Received: 16-Mar-16

Sampled By: CRS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	142	mg/L	3.00	1.30	10	W612226	DT	03/18/16 15:18	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **BMO-2008-5B**

SVL Sample ID: **W6C0278-07 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Mar-16 10:45

Received: 16-Mar-16

Sampled By: CRS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	237	mg/L	3.00	1.30	10	W612226	DT	03/18/16 15:28	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **TM-7**

SVL Sample ID: **W6C0278-08 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Mar-16 11:38

Received: 16-Mar-16

Sampled By: CRS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	130	mg/L	1.50	0.65	5	W612226	DT	03/18/16 15:58	D2
-----------	----------------	-----	------	------	------	---	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6C0278**

Reported: 18-Mar-16 16:49

Client Sample ID: **BMO-2008-11G**

SVL Sample ID: **W6C0278-09 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 15-Mar-16 13:05

Received: 16-Mar-16

Sampled By: CRS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	12.2	mg/L	0.30	0.13		W612226	DT	03/18/16 16:07	
-----------	----------------	------	------	------	------	--	---------	----	----------------	--

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



Freeport McMoRan - Bisbee  
 36 West Hwy 92  
 Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
 Work Order: **W6C0278**  
 Reported: 18-Mar-16 16:49

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
--------	---------	-------	--------	-----	-----	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.13	0.30	W612226	18-Mar-16	
-----------	----------------	------	-------	------	------	---------	-----------	--

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
--------	---------	-------	------------	----------	--------	-------------------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	10.2	10.0	102	90 - 110	W612226	18-Mar-16	
-----------	----------------	------	------	------	-----	----------	---------	-----------	--

**Quality Control - MATRIX SPIKE Data**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
--------	---------	-------	--------------	-------------------	-----------------	--------	-------------------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	22.7	12.2	10.0	105	90 - 110	W612226	18-Mar-16	
-----------	----------------	------	------	------	------	-----	----------	---------	-----------	--

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
--------	---------	-------	------------	--------------	-------------	----	-----	-----------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	22.6	22.7	10.0	104	0.2	20	W612226	18-Mar-16	
-----------	----------------	------	------	------	------	-----	-----	----	---------	-----------	--

**Notes and Definitions**

- D1 Sample required dilution due to matrix.
- D2 Sample required dilution due to high concentration of target analyte.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6D0036**

Reported: 11-Apr-16 12:44

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
COOPER	W6D0036-01	Ground Water	31-Mar-16 09:20	CLS	05-Apr-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W6D0036**

Reported: 11-Apr-16 12:44

Client Sample ID: **COOPER**

SVL Sample ID: **W6D0036-01 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 31-Mar-16 09:20

Received: 05-Apr-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	28.8	mg/L	0.30	0.13		W615158	DT	04/08/16 12:56	
-----------	----------------	------	------	------	------	--	---------	----	----------------	--

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director





Freeport McMoRan - Bisbee  
 36 West Hwy 92  
 Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
 Work Order: **W6D0036**  
 Reported: 11-Apr-16 12:44

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.13	0.30	W615158	08-Apr-16	

**Filtered Anions by Ion Chromatography**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	90 - 110	W615158	08-Apr-16	

**Filtered Anions by Ion Chromatography**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
EPA 300.0	Sulfate as SO4	mg/L	141	133	10.0	R > 4S	90 - 110	W615158	08-Apr-16	D2,M3

**Quality Control - MATRIX SPIKE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
EPA 300.0	Sulfate as SO4	mg/L	142	141	10.0	R > 4S	1.1	20	W615158	08-Apr-16	D2,M3

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
EPA 300.0	Sulfate as SO4	mg/L	142	141	10.0	R > 4S	1.1	20	W615158	08-Apr-16	D2,M3

**Notes and Definitions**

- D2 Sample required dilution due to high concentration of target analyte.
- M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



April 26, 2016

Victoria Hermosilla  
Clear Creek Associates  
221 N. Court Ave., Suite 101  
Tucson, AZ 85701

TEL 520-240-4773  
FAX (520) 622-4040

Work Order No.: 16D0327  
Order Name: Well Expansion sulfate

RE: CQB Quarterly Monitoring

Dear Victoria Hermosilla,

Turner Laboratories, Inc. received 16 sample(s) on 04/07/2016 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,  
Turner Laboratories, Inc.  
ADHS License AZ0066

Max DiSante  
Technical Director

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Date Received:** 04/07/2016

**Order:** Well Expansion sulfates 20+ samples

## **Work Order Sample Summary**

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Matrix</b>	<b>Collection Date/Time</b>
16D0327-01	BMO-2014-4B	Ground Water	04/05/2016 0909
16D0327-02	BMO-2014-4BL	Ground Water	04/05/2016 0953
16D0327-03	BMO-2015-1B	Ground Water	04/05/2016 1049
16D0327-04	BMO-2015-1BL	Ground Water	04/05/2016 1131
16D0327-05	BMO-2015-2B	Ground Water	04/05/2016 1234
16D0327-06	BMO-2015-2BL	Ground Water	04/05/2016 1322
16D0327-07	NWC-04	Ground Water	04/05/2016 1427
16D0327-08	BMO-2014-1BL	Ground Water	04/06/2016 0847
16D0327-09	BMO-2014-1BU	Ground Water	04/06/2016 0939
16D0327-10	BMO-2014-2BL	Ground Water	04/06/2016 1112
16D0327-11	BMO-2014-2BU	Ground Water	04/06/2016 1320
16D0327-12	BMO-2014-3BU	Ground Water	04/06/2016 1423
16D0327-13	BMO-2014-3BL	Ground Water	04/06/2016 1610
16D0327-14	DUP20160405	Ground Water	04/05/2016 1300
16D0327-15	EQB20160405	Ground Water	04/05/2016 1328
16D0327-16	FB20160405	Ground Water	04/05/2016 1337

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Date Received:** 04/07/2016

**Case Narrative**

---

This report was originally generated on 4/21/2016. It is being revised on 4/26/2016 to include data reported to the MDL.

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

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:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-01

**Client Sample ID:** BMO-2014-4B  
**Collection Date/Time:** 04/05/2016 0909  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	53		10		mg/L	2	04/08/2016 1035	04/08/2016 1953	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-02

**Client Sample ID:** BMO-2014-4BL  
**Collection Date/Time:** 04/05/2016 0953  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	170		25		mg/L	5	04/08/2016 1035	04/08/2016 2107	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-03

**Client Sample ID:** BMO-2015-1B  
**Collection Date/Time:** 04/05/2016 1049  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	180		25		mg/L	5	04/08/2016 1035	04/08/2016 2125	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-04

**Client Sample ID:** BMO-2015-1BL  
**Collection Date/Time:** 04/05/2016 1131  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	230		50		mg/L	10	04/08/2016 1035	04/08/2016 2144	MR



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-05

**Client Sample ID:** BMO-2015-2B  
**Collection Date/Time:** 04/05/2016 1234  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	260		50		mg/L	10	04/08/2016 1035	04/08/2016 2202	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-06

**Client Sample ID:** BMO-2015-2BL  
**Collection Date/Time:** 04/05/2016 1322  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	300		50		mg/L	10	04/08/2016 1035	04/08/2016 2220	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-07

**Client Sample ID:** NWC-04  
**Collection Date/Time:** 04/05/2016 1427  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	190		25		mg/L	5	04/08/2016 1035	04/08/2016 1420	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-08

**Client Sample ID:** BMO-2014-1BL  
**Collection Date/Time:** 04/06/2016 0847  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	150		25		mg/L	5	04/08/2016 1035	04/08/2016 1438	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-09

**Client Sample ID:** BMO-2014-1BU  
**Collection Date/Time:** 04/06/2016 0939  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	170		25		mg/L	5	04/08/2016 1035	04/08/2016 1456	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-10

**Client Sample ID:** BMO-2014-2BL  
**Collection Date/Time:** 04/06/2016 1112  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	460		50		mg/L	10	04/08/2016 1035	04/08/2016 2239	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-11

**Client Sample ID:** BMO-2014-2BU  
**Collection Date/Time:** 04/06/2016 1320  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	59		10		mg/L	2	04/11/2016 1730	04/12/2016 0716	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-12

**Client Sample ID:** BMO-2014-3BU  
**Collection Date/Time:** 04/06/2016 1423  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.3		5.0		mg/L	1	04/11/2016 1730	04/12/2016 0734	MR



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-13

**Client Sample ID:** BMO-2014-3BL  
**Collection Date/Time:** 04/06/2016 1610  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.6		5.0		mg/L	1	04/11/2016 1730	04/12/2016 0753	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-14

**Client Sample ID:** DUP20160405  
**Collection Date/Time:** 04/05/2016 1300  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	290		50		mg/L	10	04/08/2016 1035	04/08/2016 1858	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-15

**Client Sample ID:** EQB20160405  
**Collection Date/Time:** 04/05/2016 1328  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.1	0.50	5.0	E4	mg/L	1	04/11/2016 1730	04/12/2016 0811	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Lab Sample ID:** 16D0327-16

**Client Sample ID:** FB20160405  
**Collection Date/Time:** 04/05/2016 1337  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.1	0.50	5.0	E4	mg/L	1	04/11/2016 1730	04/12/2016 0830	MR

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16D0327  
**Date Received:** 04/07/2016

**QC Summary**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch 1604080 - IC PREP</b>										
<b>Blank (1604080-BLK1)</b>				Prepared & Analyzed: 04/08/2016						
Sulfate	1.2	5.0	mg/L							
<b>LCS (1604080-BS1)</b>				Prepared & Analyzed: 04/08/2016						
Sulfate	12	5.0	mg/L	12.50		100	90-110			
<b>LCS Dup (1604080-BSD1)</b>				Prepared & Analyzed: 04/08/2016						
Sulfate	12	5.0	mg/L	12.50		98	90-110	1	10	
<b>Matrix Spike (1604080-MS2)</b>				<b>Source: 16D0327-08</b>		Prepared & Analyzed: 04/08/2016				
Sulfate	41		mg/L	12.50	30	87	80-120			
<b>Matrix Spike (1604080-MS3)</b>				<b>Source: 16D0327-09</b>		Prepared: 04/08/2016 Analyzed: 04/09/2016				
Sulfate	46		mg/L	12.50	34	91	80-120			
<b>Matrix Spike Dup (1604080-MSD2)</b>				<b>Source: 16D0327-08</b>		Prepared & Analyzed: 04/08/2016				
Sulfate	42		mg/L	12.50	30	89	80-120	0.5	10	
<b>Matrix Spike Dup (1604080-MSD3)</b>				<b>Source: 16D0327-09</b>		Prepared: 04/08/2016 Analyzed: 04/09/2016				
Sulfate	46		mg/L	12.50	34	92	80-120	0.4	10	

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 16DO327 DATE 4/7/16 PAGE 1 OF 2

PROJECT NAME Quarterly Sampling # 287030  
 CONTACT NAME Chris Sherman Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #107 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE [Signature]

NUMBER OF CONTAINERS		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
SAMPLE I.D.	SAMPLE MATRIX*	DATE	TIME
BMO-2014-4B	GW	4/5/16	0909
BMO-2014-4BL	GW	4/5/16	0953
BMO-2015-1B	GW	4/5/16	1049
BMO-2015-1BL	GW	4/5/16	1131
BMO-2015-2B	GW	4/5/16	1234
BMO-2015-2BL	GW	4/5/16	1322
NWC-04	GW	4/5/16	1427
BMO-2014-1BL	GW	4/6/16	0847
BMO-2014-1BL	GW	4/6/16	0939
BMO-2014-2BL	GW	4/6/16	1112

<input type="checkbox"/> Acids	<input type="checkbox"/> Base Neutrals 625/8270	<input type="checkbox"/> Volatile Organics 624	<input type="checkbox"/> TTHMS	<input type="checkbox"/> HAAS	<input type="checkbox"/> Chloride	<input type="checkbox"/> NO <sub>3</sub>	<input type="checkbox"/> NO <sub>2</sub>	<input type="checkbox"/> TKN	<input type="checkbox"/> 1664	<input type="checkbox"/> TPH	<input type="checkbox"/> Oil & Grease	<input type="checkbox"/> TCP Analysis	<input type="checkbox"/> Sem-VOA	<input type="checkbox"/> PstL	<input type="checkbox"/> Metals	<input type="checkbox"/> Total	<input type="checkbox"/> RCR18	<input type="checkbox"/> Cyanide	<input type="checkbox"/> Amen.	<input type="checkbox"/> SDWA-INORGANICS	<input type="checkbox"/> WAD	<input type="checkbox"/> SECONDARY	<input type="checkbox"/> Coliform	<input type="checkbox"/> P1A	<input type="checkbox"/> Fecal	<input type="checkbox"/> Turb	<input type="checkbox"/> BOD	<input type="checkbox"/> COD	<input type="checkbox"/> TSS
--------------------------------	---	--	--------------------------------	-------------------------------	-----------------------------------	--	--	------------------------------	-------------------------------	------------------------------	---------------------------------------	---------------------------------------	----------------------------------	-------------------------------	---------------------------------	--------------------------------	--------------------------------	----------------------------------	--------------------------------	--	------------------------------	------------------------------------	-----------------------------------	------------------------------	--------------------------------	-------------------------------	------------------------------	------------------------------	------------------------------

1. RELINQUISHED BY: [Signature]  
 Signature Victoria Hermosilla  
 Printed Name Clear Creek Associates  
 Firm 4/7/16 13:11  
 Date/Time

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

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

4. RECEIVED BY: [Signature]  
 Signature  
 Printed Name  
 FIRM TURNER LABORATORIES, INC.  
 Date/Time 4/7/16 13:11

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

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

REPORT REQUIREMENTS:  
 I. Routine Report  
 II. Report (includes DUF, 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:  
 Total Containers 16  
 Temperature 3.6  
 Wet Ice  
 Ambient  
 Blue Ice

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

SPECIAL INSTRUCTIONS/COMMENTS:

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1600327 DATE 4/7/16 PAGE 2 OF 2

PROJECT NAME Charter Sampling # 287030  
 CONTACT NAME Chris Sherman/Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N Court Ave #101 Tucson AZ  
 ZIP 85701 PHONE 622-3922 EMAIL thermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE [Signature]

**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
BMO-2014-28U	4/6/16	1320		GW	1	
BMO-2014-38U	4/6/16	1423		GW	1	
BMO-2014-38L	4/6/16	1610		GW	1	
DUP20160405	4/5/16	1300		GW	1	
EQB20160405	4/5/16	1328		DW	1	
FB20160405	4/5/16	1327		DW	1	

**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
BMO-2014-28U	4/6/16	1320		GW	1	
BMO-2014-38U	4/6/16	1423		GW	1	
BMO-2014-38L	4/6/16	1610		GW	1	
DUP20160405	4/5/16	1300		GW	1	
EQB20160405	4/5/16	1328		DW	1	
FB20160405	4/5/16	1327		DW	1	

1. RELINQUISHED BY: [Signature]  
 Signature: Victoria Hermosilla  
 Printed Name: Clear Creek Associates  
 Firm: Clear Creek Associates  
 Date/Time: 4/7/16 13:11

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

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

4. RECEIVED BY: [Signature]  
 Signature: [Signature]  
 Printed Name: TURNER LABORATORIES, INC.  
 Firm: TURNER LABORATORIES, INC.  
 Date/Time: 4/7/16 1311

**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 sample.) \_\_\_\_\_  
 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: 16  
 Temperature: 3.6  
 Wet Ice  
 Ambient  
 Blue Ice

**COMPLIANCE ANALYSIS:**  Yes  No  
**ADEQ FORMS:**  Yes  No  
**MAIL ADEQ FORMS:**  Yes  No

**CUSTOMER INFORMATION:**  
 Preservation Confirmation   
 Appropriate Head Space   
 Received Within Hold Time

**SPECIAL INSTRUCTIONS/COMMENTS:**  
 \* LEGEND  
 SAMPLE MATRIX  
 DW = DRINKING WATER  
 GW = GROUNDWATER  
 SD = SOLID  
 SG = SLUDGE  
 SL = SOIL  
 ST = STORMWATER  
 WW = WASTEWATER



August 01, 2016

Victoria Hermosilla  
Clear Creek Associates  
221 N. Court Ave., Suite 101  
Tucson, AZ 85701

TEL 520-240-4773  
FAX (520) 622-4040

RE: CQB Quarterly Monitoring

Work Order No.: 16G0558  
Order Name: Well Expansion  
sulfates 20+ samples

Dear Victoria Hermosilla,

Turner Laboratories, Inc. received 41 sample(s) on 07/15/2016 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

Dawn Weyer  
Project Manager



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Date Received:** 07/15/2016

**Order:** Well Expansion sulfates 20+ samples

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
16G0558-01	Eppele 641	Ground Water	07/12/2016 1111
16G0558-02	FB20160712	Drinking Water	07/12/2016 1114
16G0558-03	EQB20160712	Drinking Water	07/12/2016 1116
16G0558-04	Dup20160712	Ground Water	07/12/2016 1800
16G0558-05	Ray	Ground Water	07/12/2016 1240
16G0558-06	East	Ground Water	07/12/2016 1720
16G0558-07	TVI 875	Ground Water	07/14/2016 0819
16G0558-08	Moore	Ground Water	07/14/2016 0935
16G0558-09	Ramirez	Ground Water	07/14/2016 1122
16G0558-10	Chambers	Ground Water	07/14/2016 1214
16G0558-11	Rogers, E	Ground Water	07/14/2016 1433
16G0558-12	Olmos	Ground Water	07/14/2016 1644
16G0558-13	Zander	Ground Water	07/15/2016 1142
16G0558-14	Noteman	Ground Water	07/15/2016 1305
16G0558-15	Banks 986	Ground Water	07/12/2016 1633
16G0558-16	BMO-2010-3M	Ground Water	07/12/2016 1232
16G0558-17	BMO-2010-3B	Ground Water	07/12/2016 0925
16G0558-18	BMO-2014-2BU	Ground Water	07/14/2016 1241
16G0558-19	BMO-2014-2BL	Ground Water	07/14/2016 1145
16G0558-20	BMO-2014-3BU	Ground Water	07/14/2016 1413
16G0558-21	Bima	Ground Water	07/15/2016 1122
16G0558-22	Thompson 341	Ground Water	07/15/2016 1003
16G0558-23	BMO-2014-3BL	Ground Water	07/14/2016 1609
16G0558-24	Dup20160714	Ground Water	07/14/2016 1800
16G0558-25	FB2016714	Ground Water	07/14/2016 1112
16G0558-26	EQB2016714	Ground Water	07/14/2016 1115
16G0558-27	BMO-2015-1B	Ground Water	07/13/2016 1031
16G0558-28	Dup20160713	Ground Water	07/13/2016 1800
16G0558-29	BMO-2014-4B	Ground Water	07/13/2016 0822
16G0558-30	BMO-2015-1BL	Ground Water	07/13/2016 1120
16G0558-31	BMO-2014-1BU	Ground Water	07/14/2016 0948
16G0558-32	BMO-2014-1BL	Ground Water	07/14/2016 0853

16G0558-33	TM-10	Ground Water	07/13/2016 1549
16G0558-34	BMO-2014-4BL	Ground Water	07/13/2016 0910
16G0558-35	FB20160713	Drinking Water	07/13/2016 0857
16G0558-36	EQB20160713	Drinking Water	07/13/2016 0859
16G0558-37	Osborn	Ground Water	07/11/2016 1700
16G0558-38	Swan	Ground Water	07/11/2016 1643
16G0558-39	Ness	Ground Water	07/11/2016 1542
16G0558-40	BMO-2015-2B	Ground Water	07/13/2016 1244
16G0558-41	BMO-2015-2BL	Ground Water	07/13/2016 1333

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Date Received:** 07/15/2016

**Case Narrative**

---

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

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:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-01

**Client Sample ID:** Eppele 641  
**Collection Date/Time:** 07/12/2016 1111  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	19		5.0		mg/L	1	07/20/2016 1306	07/20/2016 1329	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-02

**Client Sample ID:** FB20160712  
**Collection Date/Time:** 07/12/2016 1114  
**Matrix:** Drinking Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.2	0.10	5.0	E4	mg/L	1	07/20/2016 1306	07/20/2016 1347	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-03

**Client Sample ID:** EQB20160712  
**Collection Date/Time:** 07/12/2016 1116  
**Matrix:** Drinking Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	1.2	0.10	5.0	E4	mg/L	1	07/20/2016 1406	07/20/2016 1406	KM
---------	-----	------	-----	----	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-04

**Client Sample ID:** Dup20160712  
**Collection Date/Time:** 07/12/2016 1800  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	19		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1436	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-05

**Client Sample ID:** Ray  
**Collection Date/Time:** 07/12/2016 1240  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	130		25		mg/L	5	07/25/2016 1410	07/26/2016 0151	KM



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-06

**Client Sample ID:** East  
**Collection Date/Time:** 07/12/2016 1720  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	15		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1513	KM
---------	----	--	-----	--	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-07

**Client Sample ID:** TVI 875  
**Collection Date/Time:** 07/14/2016 0819  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	270		50		mg/L	10	07/25/2016 1410	07/26/2016 0210	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-08

**Client Sample ID:** Moore  
**Collection Date/Time:** 07/14/2016 0935  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	7.9		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1550	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-09

**Client Sample ID:** Ramirez  
**Collection Date/Time:** 07/14/2016 1122  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.6		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1608	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-10

**Client Sample ID:** Chambers  
**Collection Date/Time:** 07/14/2016 1214  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	13		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1627	KM
---------	----	--	-----	--	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-11

**Client Sample ID:** Rogers, E  
**Collection Date/Time:** 07/14/2016 1433  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	6.7		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1740	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-12

**Client Sample ID:** Olmos  
**Collection Date/Time:** 07/14/2016 1644  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.0		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1759	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-13

**Client Sample ID:** Zander  
**Collection Date/Time:** 07/15/2016 1142  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	7.1		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1817	KM
---------	-----	--	-----	--	------	---	-----------------	-----------------	----



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-14

**Client Sample ID:** Noteman  
**Collection Date/Time:** 07/15/2016 1305  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	260		50		mg/L	10	07/25/2016 1410	07/26/2016 0228	KM
---------	-----	--	----	--	------	----	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-15

**Client Sample ID:** Banks 986  
**Collection Date/Time:** 07/12/2016 1633  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	69		25		mg/L	5	07/25/2016 1410	07/26/2016 0247	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-16

**Client Sample ID:** BMO-2010-3M  
**Collection Date/Time:** 07/12/2016 1232  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	10		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1913	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-17

**Client Sample ID:** BMO-2010-3B  
**Collection Date/Time:** 07/12/2016 0925  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	17		5.0		mg/L	1	07/20/2016 1406	07/20/2016 1931	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-18

**Client Sample ID:** BMO-2014-2BU  
**Collection Date/Time:** 07/14/2016 1241  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	60		25		mg/L	5	07/25/2016 1410	07/26/2016 0305	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-19

**Client Sample ID:** BMO-2014-2BL  
**Collection Date/Time:** 07/14/2016 1145  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	440		100		mg/L	20	07/25/2016 1410	07/26/2016 0323	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-20

**Client Sample ID:** BMO-2014-3BU  
**Collection Date/Time:** 07/14/2016 1413  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	8.6		5.0		mg/L	1	07/20/2016 1406	07/20/2016 2026	KM
---------	-----	--	-----	--	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-21

**Client Sample ID:** Bima  
**Collection Date/Time:** 07/15/2016 1122  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	270		50		mg/L	10	07/25/2016 1410	07/26/2016 0342	KM



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-22

**Client Sample ID:** Thompson 341  
**Collection Date/Time:** 07/15/2016 1003  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	8.5		5.0		mg/L	1	07/20/2016 1406	07/20/2016 2159	KM
---------	-----	--	-----	--	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-23

**Client Sample ID:** BMO-2014-3BL  
**Collection Date/Time:** 07/14/2016 1609  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.8		5.0		mg/L	1	07/20/2016 1406	07/20/2016 2217	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-24

**Client Sample ID:** Dup20160714  
**Collection Date/Time:** 07/14/2016 1800  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	170		50		mg/L	10	07/25/2016 1410	07/26/2016 0400	KM
---------	-----	--	----	--	------	----	-----------------	-----------------	----

Client: Clear Creek Associates  
Project: CQB Quarterly Monitoring  
Work Order: 16G0558  
Lab Sample ID: 16G0558-25

Client Sample ID: FB2016714  
Collection Date/Time: 07/14/2016 1112  
Matrix: Ground Water  
Order Name: Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
----------	--------	-----	-----	------	-------	----	-----------	---------------	---------

Anions by Ion Chromatography-E300

Sulfate	1.2	0.10	5.0	E4	mg/L	1	07/20/2016 1406	07/20/2016 2254	KM
---------	-----	------	-----	----	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-26

**Client Sample ID:** EQB2016714  
**Collection Date/Time:** 07/14/2016 1115  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.4	0.10	5.0	E4	mg/L	1	07/20/2016 1406	07/20/2016 2312	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-27

**Client Sample ID:** BMO-2015-1B  
**Collection Date/Time:** 07/13/2016 1031  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	170		50		mg/L	10	07/25/2016 1410	07/26/2016 0514	KM
---------	-----	--	----	--	------	----	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-28

**Client Sample ID:** Dup20160713  
**Collection Date/Time:** 07/13/2016 1800  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	48		10		mg/L	2	07/25/2016 1410	07/26/2016 0533	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-29

**Client Sample ID:** BMO-2014-4B  
**Collection Date/Time:** 07/13/2016 0822  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	48		10		mg/L	2	07/25/2016 1410	07/26/2016 0551	KM
---------	----	--	----	--	------	---	-----------------	-----------------	----



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-30

**Client Sample ID:** BMO-2015-1BL  
**Collection Date/Time:** 07/13/2016 1120  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	230		50		mg/L	10	07/25/2016 1410	07/26/2016 0609	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-31

**Client Sample ID:** BMO-2014-1BU  
**Collection Date/Time:** 07/14/2016 0948  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	170		50		mg/L	10	07/25/2016 1410	07/26/2016 0628	KM
---------	-----	--	----	--	------	----	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-32

**Client Sample ID:** BMO-2014-1BL  
**Collection Date/Time:** 07/14/2016 0853  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	150		50		mg/L	10	07/25/2016 1410	07/26/2016 0646	KM
---------	-----	--	----	--	------	----	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-33

**Client Sample ID:** TM-10  
**Collection Date/Time:** 07/13/2016 1549  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	6.7		5.0		mg/L	1	07/20/2016 1406	07/21/2016 0217	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-34

**Client Sample ID:** BMO-2014-4BL  
**Collection Date/Time:** 07/13/2016 0910  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	170		50		mg/L	10	07/25/2016 1410	07/26/2016 0705	KM
---------	-----	--	----	--	------	----	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-35

**Client Sample ID:** FB20160713  
**Collection Date/Time:** 07/13/2016 0857  
**Matrix:** Drinking Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	1.3	0.10	5.0	E4	mg/L	1	07/20/2016 1406	07/21/2016 0254	KM
---------	-----	------	-----	----	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-36

**Client Sample ID:** EQB20160713  
**Collection Date/Time:** 07/13/2016 0859  
**Matrix:** Drinking Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	1.2	0.10	5.0	E4	mg/L	1	07/20/2016 1406	07/21/2016 0312	KM
---------	-----	------	-----	----	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-37

**Client Sample ID:** Osborn  
**Collection Date/Time:** 07/11/2016 1700  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	19		5.0		mg/L	1	07/20/2016 1406	07/21/2016 0331	KM



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-38

**Client Sample ID:** Swan  
**Collection Date/Time:** 07/11/2016 1643  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	19		5.0		mg/L	1	07/20/2016 1406	07/21/2016 0349	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-39

**Client Sample ID:** Ness  
**Collection Date/Time:** 07/11/2016 1542  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	50		5.0		mg/L	1	07/20/2016 1406	07/21/2016 0407	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-40

**Client Sample ID:** BMO-2015-2B  
**Collection Date/Time:** 07/13/2016 1244  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	250		50		mg/L	10	07/25/2016 1410	07/26/2016 0723	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Lab Sample ID:** 16G0558-41

**Client Sample ID:** BMO-2015-2BL  
**Collection Date/Time:** 07/13/2016 1333  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	300		50		mg/L	10	07/25/2016 1410	07/26/2016 0742	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0558  
**Date Received:** 07/15/2016

**QC Summary**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch 1607165 - E300</b>										
<b>Blank (1607165-BLK1)</b>				Prepared & Analyzed: 07/20/2016						
Sulfate	1.2	5.0	mg/L							
<b>LCS (1607165-BS1)</b>				Prepared & Analyzed: 07/20/2016						
Sulfate	12	5.0	mg/L	12.50		99	90-110			
<b>LCS Dup (1607165-BSD1)</b>				Prepared & Analyzed: 07/20/2016						
Sulfate	12	5.0	mg/L	12.50		99	90-110	0.3	10	
<b>Matrix Spike (1607165-MS1)</b>				Source: 16G0558-01		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	31	5.0	mg/L	12.50	19	93	80-120			
<b>Matrix Spike (1607165-MS2)</b>				Source: 16G0558-03		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	12	5.0	mg/L	12.50	1.2	90	80-120			
<b>Matrix Spike (1607165-MS3)</b>				Source: 16G0558-06		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	26	5.0	mg/L	12.50	15	91	80-120			
<b>Matrix Spike (1607165-MS4)</b>				Source: 16G0558-08		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	19	5.0	mg/L	12.50	7.9	91	80-120			
<b>Matrix Spike (1607165-MS5)</b>				Source: 16G0558-10		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	24	5.0	mg/L	12.50	13	88	80-120			
<b>Matrix Spike Dup (1607165-MSD1)</b>				Source: 16G0558-01		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	31	5.0	mg/L	12.50	19	94	80-120	0.3	10	
<b>Matrix Spike Dup (1607165-MSD2)</b>				Source: 16G0558-03		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	13	5.0	mg/L	12.50	1.2	91	80-120	2	10	
<b>Matrix Spike Dup (1607165-MSD3)</b>				Source: 16G0558-06		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	26	5.0	mg/L	12.50	15	91	80-120	0.1	10	
<b>Matrix Spike Dup (1607165-MSD4)</b>				Source: 16G0558-08		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	20	5.0	mg/L	12.50	7.9	93	80-120	1	10	
<b>Matrix Spike Dup (1607165-MSD5)</b>				Source: 16G0558-10		Prepared: 07/20/2016 Analyzed: 07/21/2016				
Sulfate	24	5.0	mg/L	12.50	13	90	80-120	0.7	10	



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1660550 DATE 7/15/16 PAGE 1 OF 4

PROJECT NAME CoB Quarterly Monitoring 287030  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE Leandra Marshall

## CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

<input type="checkbox"/> Acids	<input type="checkbox"/> Volatile Organics	<input type="checkbox"/> Base Neutrals	<input type="checkbox"/> 625/8270	<input type="checkbox"/> TTHMS	<input type="checkbox"/> HAAS	<input type="checkbox"/> Sulfate	<input type="checkbox"/> NO <sub>3</sub>	<input type="checkbox"/> NO <sub>2</sub>	<input type="checkbox"/> TKN	<input type="checkbox"/> 1664	<input type="checkbox"/> Oil & Grease	<input type="checkbox"/> TCP Analysis	<input type="checkbox"/> Sem-VOA	<input type="checkbox"/> Pests	<input type="checkbox"/> Metals	<input type="checkbox"/> Total	<input type="checkbox"/> RCRA8	<input type="checkbox"/> WAD	<input type="checkbox"/> SDWA/NORGANICS	<input type="checkbox"/> MPN	<input type="checkbox"/> Coliform	<input type="checkbox"/> Fecal	<input type="checkbox"/> Turb	<input type="checkbox"/> COD	<input type="checkbox"/> TSS	<input type="checkbox"/> BOD
						<input checked="" type="checkbox"/>																				

## NUMBER OF CONTAINERS

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*
<u>Epple 641</u>	<u>7/12/16</u>	<u>1111</u>		<u>GW</u>
<u>FB20160712</u>	<u>7/12/16</u>	<u>1114</u>		<u>DW</u>
<u>EG20160712</u>	<u>7/12/16</u>	<u>1116</u>		<u>DW</u>
<u>DUP20160712</u>	<u>7/12/16</u>	<u>1800</u>		<u>GW</u>
<u>Ray East</u>	<u>7/12/16</u>	<u>1246</u>		<u>GW</u>
<u>TVE 875</u>	<u>7/12/16</u>	<u>1720</u>		<u>GW</u>
<u>Moore</u>	<u>7/14/16</u>	<u>0819</u>		<u>GW</u>
<u>Ramirez</u>	<u>7/14/16</u>	<u>0935</u>		<u>GW</u>
<u>Chambers</u>	<u>7/14/16</u>	<u>1214</u>		<u>GW</u>

1. RELINQUISHED BY:  
 Signature Leandra Marshall  
 Printed Name Leandra X. Marshall  
 Firm Clear Creek Associates  
 Date/Time 7/15/16 16:00

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

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

4. RECEIVED BY:  
 Signature [Signature]  
 Printed Name TURNER LABORATORIES, INC.  
 Firm \_\_\_\_\_  
 Date/Time 7/15/16 1600

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

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

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: COB

SAMPLE RECEIPT:  
 Total Containers 39  
 Temperature 9.8  
 Wet Ice  
 Ambient  
 Blue Ice

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

SPECIAL INSTRUCTIONS/COMMENTS:  
All samples filtered w/ 0.45um filter unless noted.  
Copy results to Ben Daigraev & Bill Holt - Leandra Marshall  
MAITHALLO CLEAR CREEK ASSOCIATES, COB

**CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM**

TURNER WORK ORDER # 1660558 DATE 7/15/16 PAGE 2 OF 4

PROJECT NAME COB Quarterly Monitoring 287080  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Cart Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE Leandrea Marshall

**CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX**

NUMBER OF CONTAINERS		SAMPLE MATRIX*	LAB I.D.	TIME	DATE	ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX																			
Acids	Volatile Organics 625/8270 624					Oil & Grease TPC Analysts Semi-VOA Pest.	Metals Total RCA8	Cyanide Amen WAD	SDWA-NORGANICS PRIMARY	MPN Coliform	Fecal C <sub>2</sub> C <sub>1</sub>	Turb COD	TSS BOD	NO <sub>2</sub>	NO <sub>3</sub>	TKN	TPH 1664								
						625/8270																			
						624																			
						Oil & Grease																			
						TPC Analysts																			
						Semi-VOA																			
						Pest.																			
						Metals																			
						Total																			
						RCA8																			
						Cyanide																			
						Amen																			
						WAD																			
						SDWA-NORGANICS																			
						PRIMARY																			
						SECONDARY																			
						Coliform																			
						MPN																			
						Fecal																			
						C <sub>2</sub>																			
						C <sub>1</sub>																			
						Turb																			

1. RELINQUISHED BY:  
 Signature Leandrea Marshall  
 Printed Name Leandrea X. Marshall  
 Firm Clear Creek Associates  
 Date/Time 7/15/16 16:00

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

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

4. RECEIVED BY:  
 Signature [Signature]  
 Printed Name \_\_\_\_\_  
 Firm TURNER LABORATORIES, INC.  
 Date/Time 7/15/16 1600

TURNAROUND REQUIREMENTS:  
 Standard (approx. 10 days)\*  
 Next Day \_\_\_ 2 Day \_\_\_ 5 Day\*  
 Email Preliminary Results

\* Working Days

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

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: COB  
 Total Containers 39  
 Temperature 9.8  
 Wet Ice  
 Ambient  
 Blue Ice

SAMPLE RECEIPT:

SAFETY INFORMATION:  
 Preservation Confirmation   
 Appropriate Head Space   
 Received Within Hold Time

CUSTOMER INFORMATION:  
 Custody Seals   
 Container Intact   
 COC / Labels Agree

SPECIAL INSTRUCTIONS/COMMENTS:  
All samples filtered w/ 0.45um 9.1bar unless noted. Copy results to Ben Daigrean & Britt Hart. Leandrea Marshall  
Marshall @clearcreekassociates.com

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 166050 DATE 7/15/16 PAGE 3 OF 4

PROJECT NAME COB Quarterly Monitoring 287080  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER SIGNATURE Leandra Marshall

NUMBER OF CONTAINERS		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
Base Neutrals	<input type="checkbox"/>	625/8270	<input type="checkbox"/>
Volatile Organics	<input type="checkbox"/>	624	<input type="checkbox"/>
HAAs	<input type="checkbox"/>	524.2	<input type="checkbox"/>
	<input type="checkbox"/>	8260	<input type="checkbox"/>
Chloride	<input checked="" type="checkbox"/>	Sulfate	<input type="checkbox"/>
NO <sub>3</sub>	<input type="checkbox"/>	TKN	<input type="checkbox"/>
NO <sub>2</sub>	<input type="checkbox"/>	TPH	<input type="checkbox"/>
Oil & Grease	<input type="checkbox"/>	1664	<input type="checkbox"/>
TCP Analysis	<input type="checkbox"/>	Sem-VOA	<input type="checkbox"/>
Pest	<input type="checkbox"/>	Metals	<input type="checkbox"/>
	<input type="checkbox"/>	Total	<input type="checkbox"/>
	<input type="checkbox"/>	RCA8	<input type="checkbox"/>
	<input type="checkbox"/>	Cyanide	<input type="checkbox"/>
	<input type="checkbox"/>	Amn.	<input type="checkbox"/>
	<input type="checkbox"/>	WAD	<input type="checkbox"/>
	<input type="checkbox"/>	SDVA-NORANICS	<input type="checkbox"/>
	<input type="checkbox"/>	PRIMARY	<input type="checkbox"/>
	<input type="checkbox"/>	SECONDARY	<input type="checkbox"/>
	<input type="checkbox"/>	Coliform	<input type="checkbox"/>
	<input type="checkbox"/>	PIA	<input type="checkbox"/>
	<input type="checkbox"/>	Fecal	<input type="checkbox"/>
	<input type="checkbox"/>	Turb	<input type="checkbox"/>
	<input type="checkbox"/>	TSS	<input type="checkbox"/>
	<input type="checkbox"/>	BOD	<input type="checkbox"/>
	<input type="checkbox"/>	COD	<input type="checkbox"/>
	<input type="checkbox"/>	pH	<input type="checkbox"/>
	<input type="checkbox"/>	C <sub>1</sub>	<input type="checkbox"/>
	<input type="checkbox"/>	C <sub>2</sub>	<input type="checkbox"/>

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*
Bima	7/15/16	10:03		GW
Thompson 341	7/15/16	10:03		GW
BMO-2014-3BL	7/14/16	16:09		GW
DUP 2016 07 14	7/14/16	18:00		GW
FB 2016 7 14	7/14/16	11:12		DW
EOB 2016 7 14	7/14/16	11:15		DW
BMD-2015-1B	7/13/16	10:31		GW
DUP 2016 07 13	7/13/16	18:00		GW
BMO-2014-4B	7/13/16	08:22		GW
BMO-2015-1BL	7/13/16	11:20		GW

1. RELINQUISHED BY:  
 Signature: Leandra Marshall  
 Printed Name: Leandra X. Marshall  
 Firm: Clear Creek Associates  
 Date/Time: 7/15/16 16:00

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

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

4. RECEIVED BY:  
 Signature: [Signature]  
 Printed Name: \_\_\_\_\_  
 Firm: TURNER LABORATORIES, INC.  
 Date/Time: 7/15/16 16:00

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

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

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: COB

SAMPLE RECEIPT:  
 Total Containers: 39  
 Temperature: 9.8  
 Wet Ice  
 Ambient  
 Blue Ice

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

Special Instructions/Comments:  
All samples filtered w/ 0.45 micron filter unless noted.  
Copy results to Ben Daigneau & Bill Hart. Leandra Marshall  
lea.x.marshall@gmail.com  
lmarshall@cc



PROJECT NAME CoB Quarterly Monitoring 287030  
CONTACT NAME Victoria Hermosilla  
COMPANY NAME Clear Creek Associates  
ADDRESS 221 N. Court Ave #101 Tucson AZ  
ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
SAMPLER'S SIGNATURE Leandra Marshall

NUMBER OF CONTAINERS

Acids	<input type="checkbox"/>
Base Neutrals 625/8270	<input type="checkbox"/>
Volatle Organics 624 5242 8260	<input type="checkbox"/>
THMS	<input type="checkbox"/>
HAAS	<input type="checkbox"/>
Chloride	<input checked="" type="checkbox"/>
Sulfate	<input type="checkbox"/>
Resistivity	<input type="checkbox"/>
TKN	<input type="checkbox"/>
1664	<input type="checkbox"/>
TPH	<input type="checkbox"/>
Oil & Grease	<input type="checkbox"/>
TCP Analysis	<input type="checkbox"/>
Sem-VOA	<input type="checkbox"/>
Pest	<input type="checkbox"/>
Metals	<input type="checkbox"/>
Total	<input type="checkbox"/>
RCR48	<input type="checkbox"/>
Amen.	<input type="checkbox"/>
Cyanide	<input type="checkbox"/>
WAD	<input type="checkbox"/>
SDMANORGANICS	<input type="checkbox"/>
PRIMARY	<input type="checkbox"/>
SECONDARY	<input type="checkbox"/>
Coliform	<input type="checkbox"/>
PIA	<input type="checkbox"/>
Fecal	<input type="checkbox"/>
Turb	<input type="checkbox"/>
BOD	<input type="checkbox"/>
TSS	<input type="checkbox"/>
COD	<input type="checkbox"/>
pH	<input type="checkbox"/>
Cr <sub>6</sub>	<input type="checkbox"/>
Cr <sub>3</sub>	<input type="checkbox"/>

SAMPLE I.D.	LAB I.D.	TIME	DATE	DATE	SAMPLE MATRIX*
BMO-2014-1BU		09:48	7/14/16		GW
BMO-2014-1BL		08:53	7/14/16		GW
TM-10		15:49	7/13/16		GW
BMO-2014-4BL		09:10	7/13/16		GW
FB20160713		08:57	7/13/16		DW
EQB20160713		08:59	7/13/16		DW
Osborn		17:00	7/11/16		GW
Swan		16:43	7/11/16		GW
Ness		15:42	7/11/16		GW

1. RELINQUISHED BY: Signature <u>Leandra Marshall</u> Printed Name <u>Leandra Marshall</u> Firm <u>Clear Creek Associates</u> Date/Time <u>7/15/16 16:00</u>	2. RECEIVED BY: Signature <u>[Signature]</u> Printed Name <u>[Name]</u> Firm <u>[Firm]</u> Date/Time <u>[Date/Time]</u>	3. RELINQUISHED BY: Signature <u>[Signature]</u> Printed Name <u>[Name]</u> Firm <u>TURNER LABORATORIES, INC.</u> Date/Time <u>7/15/16 16:00</u>	4. RECEIVED BY: Signature <u>[Signature]</u> Printed Name <u>[Name]</u> Firm <u>TURNER LABORATORIES, INC.</u> Date/Time <u>7/15/16 16:00</u>
REPORT REQUIREMENTS: I. Routine Report <u>  </u> II. Report (includes DUP, MS, MSD, as required, may be charged as samples) <u>  </u> III. Date Validation Report (Includes All Raw Data) Add 10% to invoice <u>  </u>		TURNAROUND REQUIREMENTS: Standard (approx. 10 days)* <u>  </u> Next Day 2 Day 5 Day* <u>  </u> Email Preliminary Results <u>  </u> * Working Days	
REPORT INFORMATION: Account <input checked="" type="checkbox"/> Y <u>  </u> N <u>  </u> P.O. # <u>  </u> Bill to: <u>COB</u>		TURNAROUND REQUIREMENTS: Standard (approx. 10 days)* <u>  </u> Next Day 2 Day 5 Day* <u>  </u> Email Preliminary Results <u>  </u> * Working Days	
INVOICE INFORMATION: Account <input checked="" type="checkbox"/> Y <u>  </u> N <u>  </u> P.O. # <u>  </u> Bill to: <u>COB</u>		TURNAROUND REQUIREMENTS: Standard (approx. 10 days)* <u>  </u> Next Day 2 Day 5 Day* <u>  </u> Email Preliminary Results <u>  </u> * Working Days	
SPECIAL INSTRUCTIONS/COMMENTS: <u>All samples filtered w/ 0.45µm filter unless noted. Copy results to Ben Daigneau &amp; Bill Hoetz. Leandra Marshall</u>		SPECIAL INSTRUCTIONS/COMMENTS: <u>All samples filtered w/ 0.45µm filter unless noted. Copy results to Ben Daigneau &amp; Bill Hoetz. Leandra Marshall</u>	
SPECIAL INSTRUCTIONS/COMMENTS: <u>All samples filtered w/ 0.45µm filter unless noted. Copy results to Ben Daigneau &amp; Bill Hoetz. Leandra Marshall</u>		SPECIAL INSTRUCTIONS/COMMENTS: <u>All samples filtered w/ 0.45µm filter unless noted. Copy results to Ben Daigneau &amp; Bill Hoetz. Leandra Marshall</u>	

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1660550 DATE 7/15/16 PAGE 1 OF 4

PROJECT NAME COB Quarterly Monitoring 287030  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE Leandra Marshall

### CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

<input type="checkbox"/> Acids	<input type="checkbox"/> Volatile Organics	<input type="checkbox"/> TTHMS	<input type="checkbox"/> HAAS	<input type="checkbox"/> Chloride	<input type="checkbox"/> Sulfate	<input type="checkbox"/> Resistivity	<input type="checkbox"/> TKN	<input type="checkbox"/> TPH	<input type="checkbox"/> 1664	<input type="checkbox"/> Oil & Grease	<input type="checkbox"/> TCLP Analysis	<input type="checkbox"/> SemVOA	<input type="checkbox"/> Metals	<input type="checkbox"/> Total	<input type="checkbox"/> RCR8	<input type="checkbox"/> Cyanide	<input type="checkbox"/> SDWA-INORGANICS	<input type="checkbox"/> PRIMARY	<input type="checkbox"/> SECONDARY	<input type="checkbox"/> Coliform	<input type="checkbox"/> PIA	<input type="checkbox"/> PH	<input type="checkbox"/> Cd	<input type="checkbox"/> Cr	<input type="checkbox"/> Fecal	<input type="checkbox"/> Turb	<input type="checkbox"/> BOD	<input type="checkbox"/> TSS	<input type="checkbox"/> COD
--------------------------------	--	--------------------------------	-------------------------------	-----------------------------------	----------------------------------	--------------------------------------	------------------------------	------------------------------	-------------------------------	---------------------------------------	--	---------------------------------	---------------------------------	--------------------------------	-------------------------------	----------------------------------	--	----------------------------------	------------------------------------	-----------------------------------	------------------------------	-----------------------------	-----------------------------	-----------------------------	--------------------------------	-------------------------------	------------------------------	------------------------------	------------------------------

### NUMBER OF CONTAINERS

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*
Eppele 641	7/12/16	1111		GW
FB20160712	7/12/16	1114		DW
EB20160712	7/12/16	1116		DW
DUP20160712	7/12/16	1800		GW
Ray	7/12/16	1240		GW
East	7/12/16	1720		GW
TVE 875	7/14/16	0819		GW
Moore	7/14/16	0935		GW
Ramirez	7/14/16	1122		GW
Chambers	7/14/16	1214		GW

### 1. RELINQUISHED BY:

Signature Leandra Marshall  
 Printed Name Leandra Marshall  
 Firm Clear Creek Associates  
 Date/Time 7/15/16 16:00

### 2. RECEIVED BY:

Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

### 3. RELINQUISHED BY:

Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

### 4. RECEIVED BY:

Signature [Signature]  
 Printed Name TURNER LABORATORIES, INC.  
 Firm TURNER LABORATORIES, INC.  
 Date/Time 7/15/16 1600

### REPORT REQUIREMENTS:

I. Routine Report  Yes  No  
 II. Report (includes DUP, MS, MSD, as required, may be charged as samples)  Yes  No  
 III. Date Validation Report (includes All Raw Data) Add 10% to invoice  Yes  No

### TURNAROUND REQUIREMENTS:

Standard (approx. 10 days)\*   
 Next Day 2 Day 5 Day\*   
 Email Preliminary Results   
 \* Working Days

### INVOICE INFORMATION:

Account  Y  N  
 P.O. # \_\_\_\_\_  
 Bill to: COB  
 Total Containers 39  
 Temperature 9.9  
 Wet Ice  
 Ambient  
 Blue Ice

### SAMPLE RECEIPT:

Preservation Confirmation   
 Appropriate Head Space   
 Received Within Hold Time

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

SPECIAL INSTRUCTIONS/COMMENTS:  
All samples filtered w/ 0.45um filter unless noted.  
Copy results to Ben Daigneau & Bill Hood - Leandra Marshall  
MAINTAINING CLEAR CHAIN OF CUSTODY



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1660558 DATE 7/15/16 PAGE 2 OF 4

PROJECT NAME CoB Quarterly Monitoring 287030  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE Leandra Marshall

SAMPLE I.D.	LAB I.D.	DATE	TIME	SAMPLE MATRIX*
Rogers, E		7/14/16	14:33	GW
Omos		7/14/16	16:44	GW
Zender		7/15/16	11:42	GW
Noteman		7/15/16	13:05	GW
Banks 986		7/12/16	16:33	GW
BMO-2014-3M		7/12/16	12:32	GW
BMO-2014-3B		7/12/16	09:25	GW
BMO-2014-2BU		7/14/16	12:41	GW
BMO-2014-2BL		7/14/16	11:45	GW
BMO-2014-3BU		7/14/16	14:13	GW

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

<input type="checkbox"/> Volatile Organics	<input type="checkbox"/> 624	<input type="checkbox"/> 524.2	<input type="checkbox"/> 8260	<input type="checkbox"/> Acids
<input type="checkbox"/> Base Neutrals	<input type="checkbox"/> 625/8270	<input type="checkbox"/> TKN	<input type="checkbox"/> 1664	<input type="checkbox"/> Oil & Grease
<input type="checkbox"/> TCLP Metals	<input type="checkbox"/> TCLP Analysis	<input type="checkbox"/> Sem-VOA	<input type="checkbox"/> Pestic.	<input type="checkbox"/> Total Cyanide
<input type="checkbox"/> SDWA-INORGANICS	<input type="checkbox"/> WAD	<input type="checkbox"/> Amn.	<input type="checkbox"/> RCR48	<input type="checkbox"/> Total
<input type="checkbox"/> PRIMARY	<input type="checkbox"/> SECONDARY	<input type="checkbox"/> MPN	<input type="checkbox"/> Coliform	<input type="checkbox"/> Fecal
<input type="checkbox"/> COD	<input type="checkbox"/> BOD	<input type="checkbox"/> PH	<input type="checkbox"/> C <sub>1</sub>	<input type="checkbox"/> C <sub>2</sub>
<input type="checkbox"/> Turb	<input type="checkbox"/> TSS	<input type="checkbox"/> Chloride	<input type="checkbox"/> Sulfate	<input type="checkbox"/> Resistivity
<input type="checkbox"/> HAAS	<input type="checkbox"/> THMS	<input type="checkbox"/> NO <sub>3</sub>	<input type="checkbox"/> NO <sub>2</sub>	<input type="checkbox"/> TPH

1. RELINQUISHED BY: Leandra Marshall  
 Signature: Leandra X. Marshall  
 Printed Name: Clear Creek Associates  
 Firm: Clear Creek Associates  
 Date/Time: 7/15/16 16:00

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

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

4. RECEIVED BY: Victoria Hermosilla  
 Signature: Victoria Hermosilla  
 Printed Name: TURNER LABORATORIES, INC.  
 Firm: Turner Laboratories, Inc.  
 Date/Time: 7/15/16 16:00

REPORT REQUIREMENTS:  
 I. Routine Report  Yes  No  
 II. Report (includes DUP, MS, MSD, as required, may be charged as samples)  Yes  No  
 III. Date Validation Report (includes All Raw Data) Add 10% to invoice  Yes  No

TURNAROUND REQUIREMENTS:  
 Standard (approx. 10 days)\*  Yes  No  
 Next Day 2 Day 5 Day\*  Yes  No  
 Email Preliminary Results  Yes  No  
 \* Working Days

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

INVOICE INFORMATION:  
 Account  Y  N  
 P.O. # \_\_\_\_\_  
 Bill to: COB  
 Total Containers: 39  
 Temperature: 9.8  
 Wet Ice  
 Ambient  
 Blue Ice

SAMPLE RECEIPT:  
 Preservation Confirmation   
 Appropriate Head Space   
 Received Within Hold Time

COMPLIANCE ANALYSIS:  Yes  No  
 ADEQ Forms:  Yes  No  
 Mail ADEQ Forms:  Yes  No

SPECIAL INSTRUCTIONS/COMMENTS:  
All samples filtered w/ 0.45um filter unless noted.  
Copy results to Ben Daigneau & Bill Hart. Leandra Marshall  
Marshall @ Clear Creek Associates

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1660588 DATE 7/15/16 PAGE 3 OF 4

PROJECT NAME CoB Quarterly Monitoring 287030  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE Leandra Marshall

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS
Bima	7/15/16	10:03		GW	1
Thompson 341	7/15/16	10:03		GW	1
BMO-2014-3BL	7/14/16	16:09		GW	1
DUP20160714	7/14/16	18:00		GW	1
FB2016714	7/14/16	11:12		DW	1
EQB2016714	7/14/16	11:15		DW	1
BMO-2015-1B	7/13/16	10:31		GW	1
DUP20160713	7/13/16	18:00		GW	1
BMO-2014-4B	7/13/16	08:22		GW	1
BMO-2015-1BL	7/13/16	11:20		GW	1

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
<input type="checkbox"/> BOD	<input type="checkbox"/> TSS
<input type="checkbox"/> COD	<input type="checkbox"/> pH
<input type="checkbox"/> Turb	<input type="checkbox"/> C <sub>1</sub>
<input type="checkbox"/> Fecal	<input type="checkbox"/> C <sub>2</sub>
<input type="checkbox"/> MPN	<input type="checkbox"/> Coliform
<input type="checkbox"/> PRIMARY	<input type="checkbox"/> SECONDARY
<input type="checkbox"/> SDWA-INORGANICS	<input type="checkbox"/> WAD
<input type="checkbox"/> Cyanide	<input type="checkbox"/> Arsenic
<input type="checkbox"/> Total	<input type="checkbox"/> RCRA8
<input type="checkbox"/> Dissolved	<input type="checkbox"/> Total
<input type="checkbox"/> TCLP	<input type="checkbox"/> Metals
<input type="checkbox"/> VOA	<input type="checkbox"/> Semi-VOA
<input type="checkbox"/> TPH	<input type="checkbox"/> Oil & Grease
<input type="checkbox"/> 1664	<input type="checkbox"/> TKN
<input type="checkbox"/> NO <sub>3</sub>	<input type="checkbox"/> NO <sub>2</sub>
<input type="checkbox"/> Sulfate	<input type="checkbox"/> Resistivity
<input checked="" type="checkbox"/> Chloride	<input type="checkbox"/> HAAS
<input type="checkbox"/> THMS	<input type="checkbox"/> 624
<input type="checkbox"/> Volatile Organics	<input type="checkbox"/> 5242
<input type="checkbox"/> Acids	<input type="checkbox"/> 8260
<input type="checkbox"/> Base Neutrals	<input type="checkbox"/> 625/8270

1. RELINQUISHED BY:  
 Signature Leandra Marshall  
 Printed Name Leandra Marshall  
 Firm Clear Creek Associates  
 Date/Time 7/15/16 16:00

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

3. RELINQUISHED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 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: COB  
 Total Containers 39  
 Temperature 9.8  
 Wet Ice  
 Ambient  
 Blue Ice

SAMPLE RECEIPT:  
 Preservation Confirmation   
 Appropriate Head Space   
 Received Within Hold Time

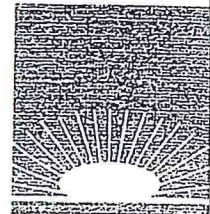
\* LEGEND  
 SAMPLE MATRIX  
 DW = DRINKING WATER  
 GW = GROUNDWATER  
 SD = SOLID  
 SG = SLUDGE  
 SL = SOIL  
 ST = STORMWATER  
 WW = WASTEWATER

4. RECEIVED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm TURNER LABORATORIES, INC.  
 Date/Time 7/15/16 16:00

Compliance Analysis:  Yes  No  
 ADEQ Forms:  Yes  No  
 Mail ADEQ Forms:  Yes  No  
 Custody Seals   
 Container Intact   
 COC / Labels Agree

SPECIAL INSTRUCTIONS/COMMENTS:  
All samples filtered w/ 0.45um filter unless noted.  
Copy results to Ben Daigreau & Britt Hart. Leandra Marshall  
lea.marshall@turnerlabs.com  
1marshall@cc





TURNER  
LABORATORIES INC.

Turner Laboratories W.O. #: 1660559

Delivered by: Leandra Marshall

- 1. Shipping container/cooler in good condition?  Yes  No  Not Present
- 2. Custody seals intact on sample bottles?  Yes  No  Not Present
- 3. Chain of custody present?  Yes  No
- 4. COC agrees with sample labels?  Yes  No *see comments*
- 5. Samples in proper container/bottle?  Yes  No
- 6. Sample container intact?  Yes  No
- 7. Sufficient sample volume for requested tests?  Yes  No
- 8. Samples received within holding times?  Yes  No
- 9. VOA vials received with no headspace?  Yes  No  No Vials
- 10. Bacti bottles received with appropriate headspace?  Yes  Above 100ml  
 Not Applicable  Below 100ml

Additional Comments:

Received two extra bottles not listed on the COC.  
 - BMO-2015-ZB-7/13/16 1244  
 - BMO-2015-ZBL-7/13/16 1333.  
 contacted client and client would like to add the two samples to the COC. Key.



August 05, 2016

Victoria Hermosilla  
Clear Creek Associates  
221 N. Court Ave., Suite 101  
Tucson, AZ 85701

TEL 520-240-4773  
FAX (520) 622-4040

RE: CQB Quarterly Monitoring

Work Order No.: 16G0726  
Order Name: Well Expansion  
sulfates 20+ samples

Dear Victoria Hermosilla,

Turner Laboratories, Inc. received 18 sample(s) on 07/22/2016 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

Max DiSante  
Technical Director

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Date Received:** 07/22/2016

**Order:** Well Expansion sulfates 20+ samples

## Work Order Sample Summary

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Matrix</b>	<b>Collection Date/Time</b>
16G0726-01	Franco383	Ground Water	07/18/2016 1431
16G0726-02	Dodson	Ground Water	07/18/2016 1625
16G0726-03	AWC-05	Ground Water	07/19/2016 1013
16G0726-04	AWC-03	Ground Water	07/19/2016 1048
16G0726-05	AWC-04	Ground Water	07/19/2016 1120
16G0726-06	AWC-02	Ground Water	07/19/2016 1324
16G0726-07	Anderson 458	Ground Water	07/19/2016 1705
16G0726-08	COB-MW-3	Ground Water	07/20/2016 0746
16G0726-09	COB-MW-2	Ground Water	07/20/2016 0840
16G0726-10	COB-MW-1B	Ground Water	07/20/2016 1120
16G0726-11	COB-WL	Ground Water	07/20/2016 1407
16G0726-12	Burke	Ground Water	07/21/2016 1640
16G0726-13	DUP20160721	Ground Water	07/21/2016 1800
16G0726-14	FB20160721	Ground Water	07/21/2016 1652
16G0726-15	EQB20160721	Ground Water	07/21/2016 1654
16G0726-16	Echave	Ground Water	07/22/2016 0925
16G0726-17	Weed	Ground Water	07/22/2016 1018
16G0726-18	Parra	Ground Water	07/22/2016 1145



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Date Received:** 07/22/2016

**Case Narrative**

---

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

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:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-01

**Client Sample ID:** Franco383  
**Collection Date/Time:** 07/18/2016 1431  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	340		50		mg/L	10	07/27/2016 1000	07/27/2016 2159	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-02

**Client Sample ID:** Dodson  
**Collection Date/Time:** 07/18/2016 1625  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	49		5.0		mg/L	1	07/25/2016 1510	07/25/2016 1601	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-03

**Client Sample ID:** AWC-05  
**Collection Date/Time:** 07/19/2016 1013  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	21		5.0		mg/L	1	07/25/2016 1510	07/25/2016 1619	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-04

**Client Sample ID:** AWC-03  
**Collection Date/Time:** 07/19/2016 1048  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	55		10		mg/L	2	07/27/2016 1000	07/27/2016 2218	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-05

**Client Sample ID:** AWC-04  
**Collection Date/Time:** 07/19/2016 1120  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	31		5.0		mg/L	1	07/25/2016 1510	07/25/2016 1656	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-06

**Client Sample ID:** AWC-02  
**Collection Date/Time:** 07/19/2016 1324  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	7.8		5.0		mg/L	1	07/25/2016 1510	07/25/2016 1715	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-07

**Client Sample ID:** Anderson 458  
**Collection Date/Time:** 07/19/2016 1705  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	24		5.0		mg/L	1	07/25/2016 1510	07/25/2016 1733	KM
---------	----	--	-----	--	------	---	-----------------	-----------------	----



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-08

**Client Sample ID:** COB-MW-3  
**Collection Date/Time:** 07/20/2016 0746  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	73		10		mg/L	2	07/27/2016 1000	07/27/2016 2236	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-09

**Client Sample ID:** COB-MW-2  
**Collection Date/Time:** 07/20/2016 0840  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	42		5.0		mg/L	1	07/25/2016 1510	07/25/2016 1810	KM
---------	----	--	-----	--	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-10

**Client Sample ID:** COB-MW-1B  
**Collection Date/Time:** 07/20/2016 1120  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1200		250		mg/L	50	07/27/2016 1000	07/27/2016 2255	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-11

**Client Sample ID:** COB-WL  
**Collection Date/Time:** 07/20/2016 1407  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	74		25		mg/L	5	07/27/2016 1000	07/27/2016 2313	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-12

**Client Sample ID:** Burke  
**Collection Date/Time:** 07/21/2016 1640  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	29		5.0		mg/L	1	07/25/2016 1510	07/25/2016 2001	KM
---------	----	--	-----	--	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-13

**Client Sample ID:** DUP20160721  
**Collection Date/Time:** 07/21/2016 1800  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	28		5.0		mg/L	1	07/25/2016 1510	07/25/2016 2019	KM
---------	----	--	-----	--	------	---	-----------------	-----------------	----

Client: Clear Creek Associates  
Project: CQB Quarterly Monitoring  
Work Order: 16G0726  
Lab Sample ID: 16G0726-14

Client Sample ID: FB20160721  
Collection Date/Time: 07/21/2016 1652  
Matrix: Ground Water  
Order Name: Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
----------	--------	-----	-----	------	-------	----	-----------	---------------	---------

Anions by Ion Chromatography-E300

Sulfate	1.2	0.10	5.0	E4	mg/L	1	07/25/2016 1510	07/25/2016 2038	KM
---------	-----	------	-----	----	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-15

**Client Sample ID:** EQB20160721  
**Collection Date/Time:** 07/21/2016 1654  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.3	0.10	5.0	E4	mg/L	1	07/25/2016 1510	07/25/2016 2056	KM



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-16

**Client Sample ID:** Echave  
**Collection Date/Time:** 07/22/2016 0925  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	25		5.0		mg/L	1	07/25/2016 1510	07/25/2016 2115	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-17

**Client Sample ID:** Weed  
**Collection Date/Time:** 07/22/2016 1018  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	13		5.0		mg/L	1	07/25/2016 1510	07/25/2016 2133	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Lab Sample ID:** 16G0726-18

**Client Sample ID:** Parra  
**Collection Date/Time:** 07/22/2016 1145  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	390		100		mg/L	20	07/27/2016 1000	07/27/2016 2332	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0726  
**Date Received:** 07/22/2016

**QC Summary**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch 1607240 - E300</b>										
<b>Blank (1607240-BLK1)</b>				Prepared & Analyzed: 07/25/2016						
Sulfate	1.2	5.0	mg/L							
<b>LCS (1607240-BS1)</b>				Prepared & Analyzed: 07/25/2016						
Sulfate	12	5.0	mg/L	12.50		98	90-110			
<b>LCS Dup (1607240-BSD1)</b>				Prepared & Analyzed: 07/25/2016						
Sulfate	12	5.0	mg/L	12.50		99	90-110	0.7	10	
<b>Matrix Spike (1607240-MS1)</b>				<b>Source: 16G0759-02</b>		Prepared & Analyzed: 07/25/2016				
Sulfate	36	5.0	mg/L	12.50	24	97	80-120			
<b>Matrix Spike (1607240-MS2)</b>				<b>Source: 16G0726-03</b>		Prepared: 07/25/2016 Analyzed: 07/26/2016				
Sulfate	31	5.0	mg/L	12.50	21	84	80-120			
<b>Matrix Spike Dup (1607240-MSD1)</b>				<b>Source: 16G0759-02</b>		Prepared & Analyzed: 07/25/2016				
Sulfate	36	5.0	mg/L	12.50	24	92	80-120	2	10	
<b>Matrix Spike Dup (1607240-MSD2)</b>				<b>Source: 16G0726-03</b>		Prepared: 07/25/2016 Analyzed: 07/26/2016				
Sulfate	31	5.0	mg/L	12.50	21	86	80-120	0.7	10	



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1660726 DATE 7/22/16 PAGE 1 OF 2

PROJECT NAME COB Quarterly Monitoring 287030  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE Leandrea Marshall

NUMBER OF CONTAINERS		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
Acids	<input type="checkbox"/>	Base Neutrals	<input type="checkbox"/>
Volatile Organics	<input type="checkbox"/>	625/8270	<input type="checkbox"/>
THMS	<input type="checkbox"/>	624	<input type="checkbox"/>
HAAS	<input type="checkbox"/>	524.2	<input type="checkbox"/>
8260	<input type="checkbox"/>	8260	<input type="checkbox"/>
Chloride	<input checked="" type="checkbox"/>	NO <sub>3</sub>	<input type="checkbox"/>
Sulfate	<input checked="" type="checkbox"/>	NO <sub>2</sub>	<input type="checkbox"/>
Resistivity	<input type="checkbox"/>	TKN	<input type="checkbox"/>
1664	<input type="checkbox"/>	TPH	<input type="checkbox"/>
Oil & Grease	<input type="checkbox"/>	VOA	<input type="checkbox"/>
TCP Analysis	<input type="checkbox"/>	SemVOA	<input type="checkbox"/>
Pest	<input type="checkbox"/>	Metals	<input type="checkbox"/>
Total	<input type="checkbox"/>	TCRP	<input type="checkbox"/>
RCRA8	<input type="checkbox"/>	Dissolved	<input type="checkbox"/>
Cyanide	<input type="checkbox"/>	Total	<input type="checkbox"/>
Amen.	<input type="checkbox"/>	SDWA-INORGANICS	<input type="checkbox"/>
WAD	<input type="checkbox"/>	PRIMARY	<input type="checkbox"/>
SECONDARY	<input type="checkbox"/>	MPN	<input type="checkbox"/>
Coliform	<input type="checkbox"/>	PH	<input type="checkbox"/>
PIA	<input type="checkbox"/>	Cd	<input type="checkbox"/>
Fecal	<input type="checkbox"/>	Cu	<input type="checkbox"/>
Turb	<input type="checkbox"/>	TSS	<input type="checkbox"/>
BOD	<input type="checkbox"/>	COD	<input type="checkbox"/>

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*
<u>Franco 383</u>	<u>7/18/16</u>	<u>14:31</u>		<u>GW</u>
<u>Dodson</u>	<u>7/18/16</u>	<u>16:25</u>		<u>GW</u>
<u>AWC-05</u>	<u>7/19/16</u>	<u>10:13</u>		<u>GW</u>
<u>AWC-03</u>	<u>7/19/16</u>	<u>10:48</u>		<u>GW</u>
<u>AWC-04</u>	<u>7/19/16</u>	<u>11:20</u>		<u>GW</u>
<u>AWC-02</u>	<u>7/19/16</u>	<u>13:24</u>		<u>GW</u>
<u>Anderson</u>	<u>7/19/16</u>	<u>17:05</u>		<u>GW</u>
<u>458</u>				
<u>COB-MW-3</u>	<u>7/20/16</u>	<u>07:46</u>		<u>GW</u>
<u>COB-MW-2</u>	<u>7/20/16</u>	<u>08:40</u>		<u>GW</u>
<u>COB-MW-1B</u>	<u>7/20/16</u>	<u>11:20</u>		<u>GW</u>

1. RELINQUISHED BY: Leandrea Marshall  
 Signature Leandrea Marshall  
 Printed Name Leandrea Marshall  
 Firm Clear Creek Associates  
 Date/Time 7/22/16 14:30

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

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

4. RECEIVED BY: Victoria Hermosilla  
 Signature Victoria Hermosilla  
 Printed Name TURNER LABORATORIES, INC.  
 Firm Turner Laboratories, Inc.  
 Date/Time 7/22/16 14:30

TURNOURD 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. # COB  
 Bill to: COB  
 Date Validation Report (Includes All Raw Data) Add 10% to invoice \_\_\_\_\_

SAMPLE RECEIPT:  
 Total Containers 18  
 Temperature 3.8  
 Wet Ice  
 Ambient  
 Blue Ice

COMPLIANCE ANALYSIS:  Yes  No  
 ADEQ FORMS:  Yes  No  
 MAIL ADEQ FORMS:  Yes  No

CUSTOMY SEALS:  Yes  No  
 CONTAINER INTACT:  Yes  No  
 COC / LABELS AGREE:  Yes  No

PRESERVATION CONFIRMATION:  Yes  No  
 APPROPRIATE HEAD SPACE:  Yes  No  
 RECEIVED WITHIN FOLD TIME:  Yes  No

SPECIAL INSTRUCTIONS/COMMENTS:  
All samples filtered w/ 0.45um filter unless noted.  
Copy results to Ben Daigraew & Britt Hart. or Leandra Marshall  
Marshall@clearcreekassociates.com

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1660726 DATE 7/22/16 PAGE 2 OF 2

PROJECT NAME COB Quarterly Monitoring 287030  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE Leandra X. Marshall

SAMPLE I.D.	LAB I.D.	TIME	DATE	NUMBER OF CONTAINERS		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX																			
				Base Neutrals 625/8270	Volatiles Organics 624	THMS 8260	HAAS	Chloride	Sulfate	Resistivity	TKN	TPH	Oil & Grease	TCP Analysis Semi-VOA	Fest.	Metals	Total	RCA8	Amen.	WAD	SDWA-INORGANICS PRIMARY	MPN	PH	COD	BOD
COB-WL		14:07	7/22/16					X																	
Burke		16:40	7/22/16					X																	
DUP20160721		18:00	7/22/16					X																	
FB20160721		16:52	7/22/16					X																	
EQB20160721		16:54	7/22/16					X																	
Echave		09:25	7/22/16					X																	
Weed		10:18	7/22/16					X																	
Parra		11:45	7/22/16					X																	

1. RELINQUISHED BY: Leandra X. Marshall  
 Signature: Leandra X. Marshall  
 Printed Name: Leandra X. Marshall  
 Firm: Clear Creek Associates  
 Date/Time: 7/22/16 14:30

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

3. RELINQUISHED BY: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: TURNER LABORATORIES, INC.  
 Date/Time: 7/22/16 14:30

4. RECEIVED BY: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

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

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

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

INVOICE INFORMATION:  
 Account  Y  N  
 P.O. # \_\_\_\_\_  
 Bill to: COB  
 Total Containers 16  
 Temperature 3.8  
 Wet Ice  
 Ambient  
 Blue Ice

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

SPECIAL INSTRUCTIONS/COMMENTS:  
All samples filtered w/ 0.45um filter unless noted.  
Copy results to Ben Diagneau & Bill Hood or Leandra Marshall  
Marshall a clear creek associates.



August 08, 2016

Victoria Hermosilla  
Clear Creek Associates  
221 N. Court Ave., Suite 101  
Tucson, AZ 85701

TEL 520-240-4773  
FAX (520) 622-4040

RE: CQB Quarterly Monitoring

Work Order No.: 16G0835  
Order Name: CQB Quarterly  
Monitoring 287030

Dear Victoria Hermosilla,

Turner Laboratories, Inc. received 16 sample(s) on 07/28/2016 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

Max DiSante  
Technical Director

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Date Received:** 07/28/2016

**Order:** CQB Quarterly Monitoring 287030

## Work Order Sample Summary

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Matrix</b>	<b>Collection Date/Time</b>
16G0835-01	Cooper	Ground Water	07/25/2016 1115
16G0835-02	Ruiz	Ground Water	07/25/2016 1432
16G0835-03	Keefer	Ground Water	07/25/2016 1245
16G0835-04	NWC-06	Ground Water	07/26/2016 0840
16G0835-05	NWC-02	Ground Water	07/26/2016 0914
16G0835-06	NWC-04	Ground Water	07/26/2016 1003
16G0835-07	Pionke 517	Ground Water	07/26/2016 1407
16G0835-08	McConnell 1459	Ground Water	07/26/2016 1652
16G0835-09	Weishopf 802	Ground Water	07/26/2016 1820
16G0835-10	Weishopf 897	Ground Water	07/26/2016 1836
16G0835-11	Power 639	Ground Water	07/27/2016 1046
16G0835-12	Howard 312	Ground Water	07/27/2016 1357
16G0835-13	Schwartz	Ground Water	07/27/2016 1655
16G0835-14	Dup20160727	Ground Water	07/27/2016 1800
16G0835-15	EQB20160727	Drinking Water	07/27/2016 1704
16G0835-16	FB20160727	Drinking Water	07/27/2016 1706



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Date Received:** 07/28/2016

**Case Narrative**

---

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

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:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-01

**Client Sample ID:** Cooper  
**Collection Date/Time:** 07/25/2016 1115  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	27		5.0		mg/L	1	07/29/2016 1200	07/29/2016 1222	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-02

**Client Sample ID:** Ruiz  
**Collection Date/Time:** 07/25/2016 1432  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	180		50		mg/L	10	08/01/2016 1200	08/01/2016 1453	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-03

**Client Sample ID:** Keefer  
**Collection Date/Time:** 07/25/2016 1245  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	6.8		5.0		mg/L	1	07/29/2016 1200	07/29/2016 1259	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-04

**Client Sample ID:** NWC-06  
**Collection Date/Time:** 07/26/2016 0840  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	8.7		5.0		mg/L	1	07/29/2016 1200	07/29/2016 1317	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-05

**Client Sample ID:** NWC-02  
**Collection Date/Time:** 07/26/2016 0914  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	6.8		5.0		mg/L	1	07/29/2016 1200	07/29/2016 1336	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-06

**Client Sample ID:** NWC-04  
**Collection Date/Time:** 07/26/2016 1003  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	190		50		mg/L	10	08/01/2016 1200	08/01/2016 1511	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-07

**Client Sample ID:** Pionke 517  
**Collection Date/Time:** 07/26/2016 1407  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	14		5.0		mg/L	1	07/29/2016 1200	07/29/2016 1412	KM



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-08

**Client Sample ID:** McConnell 1459  
**Collection Date/Time:** 07/26/2016 1652  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	30		5.0		mg/L	1	07/29/2016 1200	07/29/2016 1431	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-09

**Client Sample ID:** Weishopf 802  
**Collection Date/Time:** 07/26/2016 1820  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	700		100		mg/L	20	08/01/2016 1200	08/01/2016 1530	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-10

**Client Sample ID:** Weishopf 897  
**Collection Date/Time:** 07/26/2016 1836  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	18		5.0		mg/L	1	07/29/2016 1200	07/29/2016 1508	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-11

**Client Sample ID:** Power 639  
**Collection Date/Time:** 07/27/2016 1046  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	300		50		mg/L	10	08/01/2016 1200	08/01/2016 1548	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-12

**Client Sample ID:** Howard 312  
**Collection Date/Time:** 07/27/2016 1357  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	68		25		mg/L	5	08/01/2016 1200	08/01/2016 1606	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-13

**Client Sample ID:** Schwartz  
**Collection Date/Time:** 07/27/2016 1655  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	100		25		mg/L	5	08/01/2016 1200	08/01/2016 1625	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-14

**Client Sample ID:** Dup20160727  
**Collection Date/Time:** 07/27/2016 1800  
**Matrix:** Ground Water  
**Order Name:** CQB Quarterly Monitoring 287030

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
-----------------	---------------	------------	------------	-------------	--------------	-----------	------------------	----------------------	----------------

---

**Anions by Ion Chromatography-E300**

Sulfate	100		25		mg/L	5	08/01/2016 1200	08/01/2016 1643	KM
---------	-----	--	----	--	------	---	-----------------	-----------------	----

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-15

**Client Sample ID:** EQB20160727  
**Collection Date/Time:** 07/27/2016 1704  
**Matrix:** Drinking Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.4	0.10	5.0	E4	mg/L	1	07/29/2016 1200	07/29/2016 1735	KM



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Lab Sample ID:** 16G0835-16

**Client Sample ID:** FB20160727  
**Collection Date/Time:** 07/27/2016 1706  
**Matrix:** Drinking Water  
**Order Name:** CQB Quarterly Monitoring 287030

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300</b>									
Sulfate	1.3	0.10	5.0	E4	mg/L	1	07/29/2016 1200	07/29/2016 1754	KM

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16G0835  
**Date Received:** 07/28/2016

**QC Summary**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch 1607294 - E300</b>										
<b>Blank (1607294-BLK1)</b>				Prepared & Analyzed: 07/29/2016						
Sulfate	1.2	5.0	mg/L							
<b>LCS (1607294-BS1)</b>				Prepared & Analyzed: 07/29/2016						
Sulfate	12	5.0	mg/L	12.50		98	90-110			
<b>LCS Dup (1607294-BSD1)</b>				Prepared & Analyzed: 07/29/2016						
Sulfate	12	5.0	mg/L	12.50		98	90-110	0.3	10	
<b>Matrix Spike (1607294-MS1)</b>				<b>Source: 16G0835-07</b>		Prepared & Analyzed: 07/29/2016				
Sulfate	25	5.0	mg/L	12.50	14	86	80-120			
<b>Matrix Spike (1607294-MS2)</b>				<b>Source: 16G0835-10</b>		Prepared & Analyzed: 07/29/2016				
Sulfate	29	5.0	mg/L	12.50	18	90	80-120			
<b>Matrix Spike Dup (1607294-MSD1)</b>				<b>Source: 16G0835-07</b>		Prepared & Analyzed: 07/29/2016				
Sulfate	25	5.0	mg/L	12.50	14	87	80-120	0.2	10	
<b>Matrix Spike Dup (1607294-MSD2)</b>				<b>Source: 16G0835-10</b>		Prepared & Analyzed: 07/29/2016				
Sulfate	29	5.0	mg/L	12.50	18	90	80-120	0.3	10	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1660835 DATE 7/28/16 PAGE 1 OF 2

PROJECT NAME COB Quarterly Monitoring 287080  
 CONTACT NAME Victoria Hermosilla  
 COMPANY NAME Clear Creek Associates  
 ADDRESS 221 N. Court Ave. #101 Tucson AZ  
 ZIP 85701 PHONE 622-3222 EMAIL vhermosilla@clearcreekassociates.com  
 SAMPLER'S SIGNATURE Leandra X Marshall

NUMBER OF CONTAINERS	
Base Neutrals 625/8270 <input type="checkbox"/>	
Acids <input type="checkbox"/>	
Volatile Organics 624 <input type="checkbox"/>	
524.2 <input type="checkbox"/>	
8260 <input type="checkbox"/>	
HAAS <input type="checkbox"/>	
Chloride <input checked="" type="checkbox"/>	
NO <sub>2</sub> <input type="checkbox"/>	
TKN <input type="checkbox"/>	
1664 <input type="checkbox"/>	
TPH <input type="checkbox"/>	
Oil & Grease <input type="checkbox"/>	
TCP Analysis <input type="checkbox"/>	
Semi-VOA <input type="checkbox"/>	
Pest <input type="checkbox"/>	
Metals <input type="checkbox"/>	
Total <input type="checkbox"/>	
RCA8 <input type="checkbox"/>	
Cyanide <input type="checkbox"/>	
Amen. <input type="checkbox"/>	
SDWA-INORGANICS <input type="checkbox"/>	
WAD <input type="checkbox"/>	
PRIMARY <input type="checkbox"/>	
SECONDARY <input type="checkbox"/>	
Coliform <input type="checkbox"/>	
P/A <input type="checkbox"/>	
MPN <input type="checkbox"/>	
pH <input type="checkbox"/>	
C <sub>d</sub> <input type="checkbox"/>	
C <sub>l</sub> <input type="checkbox"/>	
Turb <input type="checkbox"/>	
BOD <input type="checkbox"/>	
TSS <input type="checkbox"/>	
COD <input type="checkbox"/>	

SAMPLE I.D.	LAB I.D.	TIME	DATE	SAMPLE MATRIX*
<u>Cooper</u>		<u>11:15</u>	<u>7/25/16</u>	<u>GW</u>
<u>Ruiz</u>		<u>14:32</u>	<u>7/25/16</u>	<u>GW</u>
<u>Keefer</u>		<u>12:45</u>	<u>7/25/16</u>	<u>GW</u>
<u>NWC-06</u>		<u>08:40</u>	<u>7/26/16</u>	<u>GW</u>
<u>NWC-02</u>		<u>09:14</u>	<u>7/26/16</u>	<u>GW</u>
<u>NWC-04</u>		<u>10:03</u>	<u>7/26/16</u>	<u>GW</u>
<u>Pionke 517</u>		<u>14:07</u>	<u>7/26/16</u>	<u>GW</u>
<u>McConnell 459</u>		<u>16:52</u>	<u>7/26/16</u>	<u>GW</u>
<u>Weiskopf 802</u>		<u>18:20</u>	<u>7/26/16</u>	<u>GW</u>
<u>Weiskopf 897</u>		<u>18:36</u>	<u>7/26/16</u>	<u>GW</u>

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
REPORT REQUIREMENTS:	INVOICE INFORMATION:
I. Routine Report <input type="checkbox"/> II. Report (includes DUP, MS, MSD, as required, may be charged as samples) <input checked="" type="checkbox"/> III. Date Validation Report (Includes All Raw Data) Add 10% to invoice <input type="checkbox"/>	Account <input checked="" type="checkbox"/> Y <input type="checkbox"/> N P.O. # _____ Bill to: <u>COB</u> Total Containers <u>16</u> Temperature <u>9.9</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ambient <input type="checkbox"/> Blue Ice
TURNAROUND REQUIREMENTS:	SAMPLE RECEIPT:
Standard (approx. 10 days)* Next Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 5 Day* Email Preliminary Results <input type="checkbox"/> * Working Days	Preservation Confirmation <input checked="" type="checkbox"/> Appropriate Head Space <input type="checkbox"/> Received Within Hold Time <input type="checkbox"/>
RECEIVED BY:	RECEIVED BY:
Signature _____ Printed Name _____ Firm _____ Date/Time _____	Signature _____ Printed Name _____ Firm _____ Date/Time _____

1. RELINQUISHED BY:  
Leandra X Marshall  
 Signature  
Leandra X Marshall  
 Printed Name  
Clear Creek Associates  
 Firm  
7/28/16 10:24  
 Date/Time

2. RELINQUISHED BY:  
Leandra X Marshall  
 Signature  
Leandra X Marshall  
 Printed Name  
Clear Creek Associates  
 Firm  
7/28/16 10:24  
 Date/Time

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

4. RECEIVED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm TURNER LABORATORIES, INC.  
7/28/16 10:24  
 Date/Time

\* 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

SPECIAL INSTRUCTIONS/COMMENTS:  
All samples filtered w/ 0.45um filter unless noted.  
Copy results to Ben Daigneau & Bill Herz or Leandra Marshall  
marshall@clearcreekassociates.com

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 # 1660835 DATE 7/28/16 PAGE 2 OF 2

<b>CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX</b>			
PROJECT NAME <u>CQB Quarterly Monitoring # 287030</u>	CONTACT NAME <u>Victoria Hermosilla</u>	COMPANY NAME <u>Clear Creek Associates</u>	ADDRESS <u>221 N. Court Ave. #101 Tucson, AZ</u>
CITY <u>85701</u>	STATE <u>                    </u>	ZIP CODE <u>                    </u>	PHONE <u>520-622-3222</u>
SAMPLER'S SIGNATURE <u>Leandra Marshall</u>			
SAMPLE I.D. <u>Paver 639</u> <u>Howard 312</u> <u>Schwartz</u> <u>DUP20160727</u> <u>EQB20160727</u> <u>FB20160727</u>	DATE <u>7/27/16</u> <u>7/27/16</u> <u>7/27/16</u> <u>7/27/16</u> <u>7/27/16</u> <u>7/27/16</u>	TIME <u>10:46</u> <u>13:57</u> <u>16:55</u> <u>18:00</u> <u>17:04</u> <u>17:06</u>	SAMPLE MATRIX* <u>GW</u> <u>GW</u> <u>GW</u> <u>GW</u> <u>DW</u> <u>DW</u>
<b>NUMBER OF CONTAINERS</b>			
<u>504-300.0</u> <u>unfiltered</u>			
<b>REPORT REQUIREMENTS:</b> <input type="checkbox"/> I. Routine Report <input checked="" type="checkbox"/> II. Report (includes DUP, MS, MSD, as required, may be charged as samples) <input type="checkbox"/> III. Date Validation Report (Includes All Raw Data) Add 10% to invoice			
<b>INVOICE INFORMATION:</b> Account <input checked="" type="checkbox"/> Y <input type="checkbox"/> N P.O. # <u>CQB</u> Bill to: _____			
<b>SAMPLE RECEIPT:</b> Total Containers <u>16</u> Temperature <u>9.9</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice			
<b>SPECIAL INSTRUCTIONS/COMMENTS:</b> Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No    Custody Seals <input type="checkbox"/> Yes <input type="checkbox"/> No ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No    Container Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No    COC/Labels Agree <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Preservation Confirmation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Appropriate Head Space <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Received Within Hold Time <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <u>All samples filtered w/ 0.45 um filter unless noted. Copy results to Ben Daigneau or Leandra Marshall</u> <u>Marshall@clearcreekassociates.com</u>			
<b>*LEGEND</b> DW = DRINKING WATER GW = GROUNDWATER SD = SOLID SG = SLUDGE SL = SOIL ST = STORMWATER WW = WASTEWATER			
<b>1. RELINQUISHED BY:</b> <u>Leandra Marshall</u> Signature <u>Leandra Marshall</u> Printed Name <u>Clear Creek Associates</u> Firm <u>7/28/16 10:24</u> Date/Time		<b>2. RECEIVED BY:</b> Signature Printed Name Firm Date/Time	
<b>3. RELINQUISHED BY:</b> Signature Printed Name Firm Date/Time		<b>4. RECEIVED BY:</b> <u>                    </u> Signature <u>                    </u> Printed Name TURNER LABORATORIES, INC. Firm <u>7/28/16 1024</u> Date/Time	



October 06, 2016

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

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

RE: CQB Quarterly Monitoring

Work Order No.: 16I0809  
Order Name: Well Expansion  
sulfates 20+ samples

Dear Ben Daigneau,

Turner Laboratories, Inc. received 1 sample(s) on 09/29/2016 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

Max DiSante  
Technical Director

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16I0809  
**Date Received:** 09/29/2016

**Order:** Well Expansion sulfates 20+ samples

**Work Order Sample Summary**

---

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Matrix</b>	<b>Collection Date/Time</b>
16I0809-01	TVI-236	Ground Water	09/29/2016 0753

**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16I0809  
**Date Received:** 09/29/2016

**Case Narrative**

---

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:** CQB Quarterly Monitoring  
**Work Order:** 16I0809  
**Lab Sample ID:** 16I0809-01

**Client Sample ID:** TVI-236  
**Collection Date/Time:** 09/29/2016 0753  
**Matrix:** Ground Water  
**Order Name:** Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	15		5.0		mg/L	1	09/29/2016 1625	09/29/2016 1944	KM



**Client:** Clear Creek Associates  
**Project:** CQB Quarterly Monitoring  
**Work Order:** 16I0809  
**Date Received:** 09/29/2016

**QC Summary**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch 1609298 - E300.0 (2.1)</b>										
<b>Blank (1609298-BLK1)</b>				Prepared & Analyzed: 09/29/2016						
Sulfate	ND	5.0	mg/L							
<b>LCS (1609298-BS1)</b>				Prepared & Analyzed: 09/29/2016						
Sulfate	12	5.0	mg/L	12.50		100	90-110			
<b>LCS Dup (1609298-BSD1)</b>				Prepared & Analyzed: 09/29/2016						
Sulfate	12	5.0	mg/L	12.50		100	90-110	0.02	10	
<b>Matrix Spike (1609298-MS1)</b>				<b>Source: 16I0787-08RE1</b>		Prepared & Analyzed: 09/29/2016				
Sulfate	390	50	mg/L	125.0	280	90	80-120			
<b>Matrix Spike Dup (1609298-MSD1)</b>				<b>Source: 16I0787-08RE1</b>		Prepared & Analyzed: 09/29/2016				
Sulfate	390	50	mg/L	125.0	280	90	80-120	0.2	10	

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1650809 DATE 9/29/16 PAGE 1 OF 1

**CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX**

<input type="checkbox"/> Acids	<input type="checkbox"/> Volatile Organics	<input type="checkbox"/> TTHMS	<input type="checkbox"/> Chloride	<input checked="" type="checkbox"/> NO <sub>2</sub>	<input type="checkbox"/> NO <sub>3</sub>	<input type="checkbox"/> TKN	<input type="checkbox"/> 1664	<input type="checkbox"/> Oil & Grease	<input type="checkbox"/> TCLP Analysis	<input type="checkbox"/> Metals	<input type="checkbox"/> Total	<input type="checkbox"/> RCR40	<input type="checkbox"/> Cytide	<input type="checkbox"/> WAD	<input type="checkbox"/> SECONDARY	<input type="checkbox"/> Coliform	<input type="checkbox"/> Fecal	<input type="checkbox"/> Turb	<input type="checkbox"/> COD	<input type="checkbox"/> TSS	<input type="checkbox"/> BOD
<input type="checkbox"/> Base Neutrals	<input type="checkbox"/> 625/8270	<input type="checkbox"/> 624	<input type="checkbox"/> 524.2	<input type="checkbox"/> 8260	<input type="checkbox"/> HAAS	<input type="checkbox"/> Restivity	<input type="checkbox"/> Sulfate	<input type="checkbox"/> NO <sub>2</sub>	<input type="checkbox"/> TPH	<input type="checkbox"/> VOA	<input type="checkbox"/> TCLP	<input type="checkbox"/> Dissolved	<input type="checkbox"/> Amn.	<input type="checkbox"/> SDWA-INORGANICS	<input type="checkbox"/> PRIMARY	<input type="checkbox"/> MPN	<input type="checkbox"/> PIA	<input type="checkbox"/> C <sub>1</sub>	<input type="checkbox"/> C <sub>2</sub>	<input type="checkbox"/> C <sub>3</sub>	<input type="checkbox"/> C <sub>4</sub>

300052

**NUMBER OF CONTAINERS** 1

PROJECT NAME <u>COB</u>	LAB I.D.	DATE	TIME	SAMPLE MATRIX
		<u>9/29/16</u>	<u>07:55</u>	<u>GW</u>

CONTACT NAME Ben Daigneau  
COMPANY NAME Clear Creek Associates  
ADDRESS 221 N Court Ave Ste 101  
ZIP 85701 PHONE 520-622-3222 EMAIL bdaigneau@clearcreekassociates.com  
SAMPLER'S SIGNATURE \_\_\_\_\_

1. RELINQUISHED BY: Ben Daigneau  
Signature: [Signature]  
Printed Name: Ben Daigneau  
Firm: CCA  
Date/Time: 9/29/16 14:54

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

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

4. RECEIVED BY: [Signature]  
Signature: [Signature]  
Printed Name: TURNER LABORATORIES, INC.  
Firm: TURNER LABORATORIES, INC.  
Date/Time: 9/29/16 1454

**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 \_\_\_\_\_

**TURNAROUND REQUIREMENTS:**

Standard (approx. 10 days)\* \_\_\_\_\_  
Next Day \_\_\_\_\_ 2 Day \_\_\_\_\_ 5 Day\* \_\_\_\_\_  
Email Preliminary Results \_\_\_\_\_

\* Working Days

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

**INVOICE INFORMATION:**

Account \_\_\_\_\_ Y \_\_\_\_\_ N \_\_\_\_\_  
P.O. # \_\_\_\_\_  
Bill to: \_\_\_\_\_

**REPORT REQUIREMENTS:**

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

**SPECIAL INSTRUCTIONS/COMMENTS:**  
copy to Christopher Sherman  
Christopher - Sherman@turnerlabs.com

**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 \_\_\_\_\_

**TURNAROUND REQUIREMENTS:**

Standard (approx. 10 days)\* \_\_\_\_\_  
Next Day \_\_\_\_\_ 2 Day \_\_\_\_\_ 5 Day\* \_\_\_\_\_  
Email Preliminary Results \_\_\_\_\_

\* Working Days

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

**INVOICE INFORMATION:**

Account \_\_\_\_\_ Y \_\_\_\_\_ N \_\_\_\_\_  
P.O. # \_\_\_\_\_  
Bill to: \_\_\_\_\_

**REPORT REQUIREMENTS:**

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

**SPECIAL INSTRUCTIONS/COMMENTS:**  
copy to Christopher Sherman  
Christopher - Sherman@turnerlabs.com



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
Work Order: **W6I0353**  
Reported: 29-Sep-16 08:44

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2008-11G	W6I0353-01	Ground Water	17-Aug-16 07:10	CLS	15-Sep-2016	
BMO-2012-1M	W6I0353-02	Ground Water	17-Aug-16 10:30	CLS	15-Sep-2016	
BMO-2008-1G	W6I0353-03	Ground Water	17-Aug-16 12:20	CLS	15-Sep-2016	
BMO-2008-3B	W6I0353-04	Ground Water	18-Aug-16 08:35	CLS	15-Sep-2016	
TM-19A	W6I0353-05	Ground Water	18-Aug-16 09:40	CLS	15-Sep-2016	
HOBAN	W6I0353-06	Ground Water	18-Aug-16 10:30	CLS	15-Sep-2016	
COOPER C	W6I0353-07	Ground Water	18-Aug-16 11:45	CLS	15-Sep-2016	
BMO-2008-7M	W6I0353-08	Ground Water	18-Aug-16 17:35	CLS	15-Sep-2016	
BMO-2010-1M	W6I0353-09	Ground Water	25-Aug-16 13:30	CLS	15-Sep-2016	
BMO-2008-5M	W6I0353-10	Ground Water	14-Sep-16 06:55	CLS	15-Sep-2016	
BMO-2008-5B	W6I0353-11	Ground Water	14-Sep-16 07:30	CLS	15-Sep-2016	
BMO-2008-6M	W6I0353-12	Ground Water	14-Sep-16 08:30	CLS	15-Sep-2016	
BMO-2008-6B	W6I0353-13	Ground Water	14-Sep-16 09:25	CLS	15-Sep-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2008-11G**

SVL Sample ID: **W610353-01 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 17-Aug-16 07:10

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	12.6	mg/L	0.30	0.03		W639114	DT	09/20/16 14:07	H3
-----------	----------------	------	------	------	------	--	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2012-1M**

SVL Sample ID: **W610353-02 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 17-Aug-16 10:30

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	222	mg/L	3.00	0.31	10	W639114	DT	09/20/16 14:57	H3
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2008-1G**

SVL Sample ID: **W610353-03 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 17-Aug-16 12:20

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	121	mg/L	3.00	0.31	10	W639114	DT	09/20/16 15:14	H3
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2008-3B**

SVL Sample ID: **W610353-04 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 18-Aug-16 08:35

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	139	mg/L	3.00	0.31	10	W639114	DT	09/20/16 15:31	H3
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **TM-19A**

SVL Sample ID: **W610353-05 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 18-Aug-16 09:40

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	64.7	mg/L	3.00	0.31	10	W639114	DT	09/20/16 15:48	H3
-----------	----------------	------	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director





Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **HOBAN**

SVL Sample ID: **W610353-06 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 18-Aug-16 10:30

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	1050	mg/L	30.0	3.10	100	W639114	DT	09/20/16 16:38	H3
-----------	----------------	------	------	------	------	-----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
Work Order: **W610353**  
Reported: 29-Sep-16 08:44

Client Sample ID: **COOPER C**

SVL Sample ID: **W610353-07 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 18-Aug-16 11:45  
Received: 15-Sep-16  
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	647	mg/L	15.0	1.55	50	W639114	DT	09/20/16 16:55	H3
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2008-7M**

SVL Sample ID: **W610353-08 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 18-Aug-16 17:35

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	30.0	mg/L	0.30	0.03		W639114	DT	09/20/16 17:12	H3
-----------	----------------	------	------	------	------	--	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2010-1M**

SVL Sample ID: **W610353-09 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 25-Aug-16 13:30

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	169	mg/L	3.00	0.31	10	W639114	DT	09/20/16 17:45	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2008-5M**

SVL Sample ID: **W610353-10 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Sep-16 06:55

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	153	mg/L	3.00	0.31	10	W639114	DT	09/20/16 18:02	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
Work Order: **W610353**  
Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2008-5B**

SVL Sample ID: **W610353-11 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 14-Sep-16 07:30  
Received: 15-Sep-16  
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	240	mg/L	3.00	0.31	10	W639114	DT	09/20/16 18:19	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2008-6M**

SVL Sample ID: **W610353-12 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Sep-16 08:30

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	229	mg/L	3.00	0.31	10	W639114	DT	09/20/16 18:35	D2
-----------	----------------	-----	------	------	------	----	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610353**

Reported: 29-Sep-16 08:44

Client Sample ID: **BMO-2008-6B**

SVL Sample ID: **W610353-13 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Sep-16 09:25

Received: 15-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	12.6	mg/L	1.50	0.16	5	W639114	DT	09/20/16 18:52	D1
-----------	----------------	------	------	------	------	---	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director





Freeport McMoRan - Bisbee  
 36 West Hwy 92  
 Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
 Work Order: **W610353**  
 Reported: 29-Sep-16 08:44

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
--------	---------	-------	--------	-----	-----	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.03	0.30	W639114	20-Sep-16	
-----------	----------------	------	-------	------	------	---------	-----------	--

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
--------	---------	-------	------------	----------	--------	-------------------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	90 - 110	W639114	20-Sep-16	
-----------	----------------	------	------	------	-----	----------	---------	-----------	--

**Quality Control - MATRIX SPIKE Data**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
--------	---------	-------	--------------	-------------------	-----------------	--------	-------------------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	23.4	12.6	10.0	108	90 - 110	W639114	20-Sep-16	
EPA 300.0	Sulfate as SO4	mg/L	40.6	30.0	10.0	105	90 - 110	W639114	20-Sep-16	

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
--------	---------	-------	------------	--------------	-------------	----	-----	-----------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	23.5	23.4	10.0	109	0.4	20	W639114	20-Sep-16	
-----------	----------------	------	------	------	------	-----	-----	----	---------	-----------	--

**Notes and Definitions**

- D1 Sample required dilution due to matrix.
- D2 Sample required dilution due to high concentration of target analyte.
- H3 Sample was received and/or analysis requested past holding time.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
Work Order: **W610571**  
Reported: 27-Sep-16 14:46

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
TM-15	W610571-01	Ground Water	14-Sep-16 14:00	CLS	22-Sep-2016	
BMO-2008-8M	W610571-02	Ground Water	15-Sep-16 11:25	CLS	22-Sep-2016	
DUP-091516	W610571-03	Ground Water	15-Sep-16 11:25	CLS	22-Sep-2016	
BMO-2008-9M	W610571-04	Ground Water	15-Sep-16 13:05	CLS	22-Sep-2016	
TM-7	W610571-05	Ground Water	15-Sep-16 14:08	CLS	22-Sep-2016	
EQB-091516	W610571-06	Ground Water	15-Sep-16 15:00	CLS	22-Sep-2016	
FB-091516	W610571-07	Ground Water	15-Sep-16 15:15	CLS	22-Sep-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610571**

Reported: 27-Sep-16 14:46

Client Sample ID: **TM-15**

SVL Sample ID: **W610571-01 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 14-Sep-16 14:00

Received: 22-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	14.5	mg/L	0.30	0.03		W639261	DT	09/26/16 13:06	
-----------	----------------	------	------	------	------	--	---------	----	----------------	--

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
Work Order: **W610571**  
Reported: 27-Sep-16 14:46

Client Sample ID: **BMO-2008-8M**

SVL Sample ID: **W610571-02 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 15-Sep-16 11:25  
Received: 22-Sep-16  
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	63.5	mg/L	1.50	0.16	5	W639261	DT	09/26/16 13:40	D2
-----------	----------------	------	------	------	------	---	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610571**

Reported: 27-Sep-16 14:46

Client Sample ID: **DUP-091516**

SVL Sample ID: **W610571-03 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 15-Sep-16 11:25

Received: 22-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	63.9	mg/L	1.50	0.16	5	W639261	DT	09/26/16 14:02	D2
-----------	----------------	------	------	------	------	---	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610571**

Reported: 27-Sep-16 14:46

Client Sample ID: **BMO-2008-9M**

SVL Sample ID: **W610571-04 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 15-Sep-16 13:05

Received: 22-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	86.7	mg/L	1.50	0.16	5	W639261	DT	09/26/16 14:14	D2
-----------	----------------	------	------	------	------	---	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
Work Order: **W610571**  
Reported: 27-Sep-16 14:46

Client Sample ID: **TM-7**

SVL Sample ID: **W610571-05 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 15-Sep-16 14:08  
Received: 22-Sep-16  
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	123	mg/L	1.50	0.16	5	W639261	DT	09/26/16 14:47	D2
-----------	----------------	-----	------	------	------	---	---------	----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: **W610571**

Reported: 27-Sep-16 14:46

Client Sample ID: **EQB-091516**

SVL Sample ID: **W610571-06 (Ground Water)**

**Sample Report Page 1 of 1**

Sampled: 15-Sep-16 15:00

Received: 22-Sep-16

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.03		W639261	DT	09/26/16 14:58	
-----------	----------------	--------	------	------	------	--	---------	----	----------------	--

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director





Freeport McMoRan - Bisbee  
36 West Hwy 92  
Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
Work Order: **W610571**  
Reported: 27-Sep-16 14:46

Client Sample ID: **FB-091516**

SVL Sample ID: **W610571-07 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 15-Sep-16 15:15  
Received: 22-Sep-16  
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.03		W639261	DT	09/26/16 15:10	
-----------	----------------	--------	------	------	------	--	---------	----	----------------	--

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



Freeport McMoRan - Bisbee  
 36 West Hwy 92  
 Bisbee, AZ 85603

**Project Name: Copper Queen Branch Sulfate Mitigation Order**  
 Work Order: **W610571**  
 Reported: 27-Sep-16 14:46

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
--------	---------	-------	--------	-----	-----	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.03	0.30	W639261	26-Sep-16	
-----------	----------------	------	-------	------	------	---------	-----------	--

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
--------	---------	-------	------------	----------	--------	-------------------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	10.0	10.0	100	90 - 110	W639261	26-Sep-16	
-----------	----------------	------	------	------	-----	----------	---------	-----------	--

**Quality Control - MATRIX SPIKE Data**

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
--------	---------	-------	--------------	-------------------	-----------------	--------	-------------------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	25.0	14.5	10.0	104	90 - 110	W639261	26-Sep-16	
-----------	----------------	------	------	------	------	-----	----------	---------	-----------	--

**Quality Control - MATRIX SPIKE DUPLICATE Data**

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
--------	---------	-------	------------	--------------	-------------	----	-----	-----------	----------	----------	-------

**Filtered Anions by Ion Chromatography**

EPA 300.0	Sulfate as SO4	mg/L	25.1	25.0	10.0	106	0.5	20	W639261	26-Sep-16	
-----------	----------------	------	------	------	------	-----	-----	----	---------	-----------	--

**Notes and Definitions**

- D2 Sample required dilution due to high concentration of target analyte.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



November 11, 2016

Chris Sherman  
Freeport McMoran - Copper Queen Branch  
36 W Highway 92  
Bisbee, AZ 85603-1047

TEL (520) 432-6206  
FAX

Work Order No.: 16K0220  
Order Name: CQB

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 16 sample(s) on 11/03/2016 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

Dawn Weyer  
Project Manager

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Date Received:** 11/03/2016

**Order:** CQB

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
16K0220-01	BMO-2015-2B	Ground Water	11/01/2016 0945
16K0220-02	BMO-2015-2BL	Ground Water	11/01/2016 1037
16K0220-03	BMO-2014-4B	Ground Water	11/01/2016 1200
16K0220-04	DUP20161101	Ground Water	11/01/2016 1000
16K0220-05	BMO-2014-4BL	Ground Water	11/01/2016 1311
16K0220-06	EQB20161101	Ground Water	11/01/2016 1242
16K0220-07	FB20161101	Ground Water	11/01/2016 1408
16K0220-08	BMO-2015-1BL	Ground Water	11/01/2016 1443
16K0220-09	BMO-2015-1B	Ground Water	11/01/2016 1538
16K0220-10	NWC04	Ground Water	11/02/2016 0743
16K0220-11	BMO-2014-2BL	Ground Water	11/02/2016 1016
16K0220-12	BMO-2014-2BU	Ground Water	11/02/2016 1125
16K0220-13	BMO-2014-1BU	Ground Water	11/02/2016 1301
16K0220-14	BMO-2014-1BL	Ground Water	11/02/2016 1431
16K0220-15	BMO-2014-3BL	Ground Water	11/02/2016 1709
16K0220-16	BMO-2014-3BU	Ground Water	11/02/2016 1804

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Date Received:** 11/03/2016

**Case Narrative**

---

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

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:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-01

**Client Sample ID:** BMO-2015-2B  
**Collection Date/Time:** 11/01/2016 0945  
**Matrix:** Ground Water  
**Order Name:** CQB

---

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	250	1.0	50		mg/L	10	11/04/2016 1610	11/04/2016 1910	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-02

**Client Sample ID:** BMO-2015-2BL  
**Collection Date/Time:** 11/01/2016 1037  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	280	1.0	50		mg/L	10	11/04/2016 1610	11/04/2016 1929	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-03

**Client Sample ID:** BMO-2014-4B  
**Collection Date/Time:** 11/01/2016 1200  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	43	0.20	10		mg/L	2	11/04/2016 1610	11/04/2016 1947	KM



**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-04

**Client Sample ID:** DUP20161101  
**Collection Date/Time:** 11/01/2016 1000  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	42	0.20	10		mg/L	2	11/07/2016 1630	11/07/2016 1856	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-05

**Client Sample ID:** BMO-2014-4BL  
**Collection Date/Time:** 11/01/2016 1311  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	160	1.0	50		mg/L	10	11/04/2016 1610	11/04/2016 2024	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-06

**Client Sample ID:** EQB20161101  
**Collection Date/Time:** 11/01/2016 1242  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	1.1	0.10	5.0	E4	mg/L	1	11/04/2016 1610	11/04/2016 2043	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-07

**Client Sample ID:** FB20161101  
**Collection Date/Time:** 11/01/2016 1408  
**Matrix:** Ground Water  
**Order Name:** CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	1.1	0.10	5.0	E4	mg/L	1	11/04/2016 1610	11/04/2016 2101	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-08

**Client Sample ID:** BMO-2015-1BL  
**Collection Date/Time:** 11/01/2016 1443  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	220	1.0	50		mg/L	10	11/04/2016 1610	11/04/2016 2119	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-09

**Client Sample ID:** BMO-2015-1B  
**Collection Date/Time:** 11/01/2016 1538  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	160	1.0	50		mg/L	10	11/04/2016 1610	11/04/2016 2138	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-10

**Client Sample ID:** NWC04  
**Collection Date/Time:** 11/02/2016 0743  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	180	1.0	50		mg/L	10	11/04/2016 1610	11/04/2016 2156	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-11

**Client Sample ID:** BMO-2014-2BL  
**Collection Date/Time:** 11/02/2016 1016  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	420	2.0	100		mg/L	20	11/04/2016 1610	11/04/2016 2310	KM



**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-12

**Client Sample ID:** BMO-2014-2BU  
**Collection Date/Time:** 11/02/2016 1125  
**Matrix:** Ground Water  
**Order Name:** CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	56	0.20	10		mg/L	2	11/04/2016 1610	11/04/2016 2329	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-13

**Client Sample ID:** BMO-2014-1BU  
**Collection Date/Time:** 11/02/2016 1301  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	150	1.0	50		mg/L	10	11/04/2016 1610	11/04/2016 2347	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-14

**Client Sample ID:** BMO-2014-1BL  
**Collection Date/Time:** 11/02/2016 1431  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	140	1.0	50		mg/L	10	11/04/2016 1610	11/05/2016 0005	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-15

**Client Sample ID:** BMO-2014-3BL  
**Collection Date/Time:** 11/02/2016 1709  
**Matrix:** Ground Water  
**Order Name:** CQB

<b>Analyses</b>	<b>Result</b>	<b>MDL</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Prep Date</b>	<b>Analysis Date</b>	<b>Analyst</b>
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	8.0	0.10	5.0		mg/L	1	11/04/2016 1610	11/05/2016 0024	KM

**Client:** Freeport McMoran - Copper Queen Branch  
**Project:** CQB  
**Work Order:** 16K0220  
**Lab Sample ID:** 16K0220-16

**Client Sample ID:** BMO-2014-3BU  
**Collection Date/Time:** 11/02/2016 1804  
**Matrix:** Ground Water  
**Order Name:** CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
<b>Anions by Ion Chromatography-E300.0 (2.1)</b>									
Sulfate	7.8	0.10	5.0		mg/L	1	11/04/2016 1610	11/05/2016 0042	KM

Client: Freeport McMoran - Copper Queen Branch  
 Project: CQB  
 Work Order: 16K0220  
 Date Received: 11/03/2016

**QC Summary**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch 1611049 - E300.0 (2.1)</b>										
<b>Blank (1611049-BLK1)</b>				Prepared & Analyzed: 11/04/2016						
Sulfate	ND	5.0	mg/L							
<b>LCS (1611049-BS1)</b>				Prepared & Analyzed: 11/04/2016						
Sulfate	12	5.0	mg/L	12.50		96	90-110			
<b>LCS Dup (1611049-BSD1)</b>				Prepared & Analyzed: 11/04/2016						
Sulfate	12	5.0	mg/L	12.50		96	90-110	0.5	10	
<b>Matrix Spike (1611049-MS1)</b>				Source: 16K0285-02		Prepared & Analyzed: 11/04/2016				
Sulfate	29	5.0	mg/L	12.50	18	89	80-120			
<b>Matrix Spike (1611049-MS2)</b>				Source: 16K0220-06		Prepared: 11/04/2016 Analyzed: 11/05/2016				
Sulfate	12	5.0	mg/L	12.50	1.1	87	80-120			
<b>Matrix Spike (1611049-MS3)</b>				Source: 16K0220-16		Prepared: 11/04/2016 Analyzed: 11/05/2016				
Sulfate	19	5.0	mg/L	12.50	7.8	88	80-120			
<b>Matrix Spike Dup (1611049-MSD1)</b>				Source: 16K0285-02		Prepared & Analyzed: 11/04/2016				
Sulfate	29	5.0	mg/L	12.50	18	89	80-120	0.01	10	
<b>Matrix Spike Dup (1611049-MSD2)</b>				Source: 16K0220-06		Prepared: 11/04/2016 Analyzed: 11/05/2016				
Sulfate	12	5.0	mg/L	12.50	1.1	88	80-120	0.03	10	
<b>Matrix Spike Dup (1611049-MSD3)</b>				Source: 16K0220-16		Prepared: 11/04/2016 Analyzed: 11/05/2016				
Sulfate	19	5.0	mg/L	12.50	7.8	89	80-120	0.6	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 # 16K0220 DATE 11/3/16 PAGE 1 OF 2

PROJECT NAME CQB Quarterly # 287030  
CONTACT NAME: Chris Sherman  
COMPANY NAME: Freeport McMoran CQB  
ADDRESS: 36 Highway 92  
CITY Bisbee STATE AZ ZIP CODE 85603  
PHONE 520 508 7063 FAX 520 432 1395  
SAMPLER'S SIGNATURE \_\_\_\_\_

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*
BMO-2015-2B	11/01/16	0945		GW
BMO-2015-2BL	11/01/16	1037		GW
BMO-2014-4B	11/01/16	1200		GW
DUP20161101	11/01/16	1000		GW
BMO-2014-7BL	11/01/16	1311		GW
EQB20161101	11/01/16	1242		GW
FB20161101	11/01/16	1408		GW
BMO-2015-1BL	11/01/16	1443		GW
BMO-2015-1B	11/01/16	1538		GW

1. RELINQUISHED BY:  
Signature Jacob Alden  
Printed Name Jacob Alden  
Firm Creek Creek  
Date/Time 11/03/16 0955

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

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

4. RECEIVED BY:  
Signature [Signature]  
Printed Name Alma Howard  
Firm TURNER LABORATORIES, INC.  
Date/Time 11/3/16 9:55

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

TURNAROUND REQUIREMENTS:  
Standard (approx. 10 days) \*  
Next day  2 Day  5 Day \*  
Email Preliminary Results To: \_\_\_\_\_  
\* 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

REPORT RECEIPT:  
Total Containers 9  
Temperature 6.8  
 Wet Ice  Blue Ice

INVOICE INFORMATION:  
Account  Y  N  
P.O. # CQB  
Bill to: \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS:  
Compliance Analysis:  Yes  No  Custody Seals   
ADEQ Forms:  Yes  No  Container Intact   
Mail ADEQ Forms:  Yes  No  COC/Labels Agree   
Preservation Confirmation   
Appropriate Head Space   
Received Within Hold Time   
All samples filtered with a 0.45 um filter, unless noted.  
Copy results to Ben Daigneau & Fernando Alden



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 # 16K0220 DATE 11/3/16 PAGE 2 OF 2

**PROJECT NAME** CQB # 287030

**CONTACT NAME:** Chris Sherman

**COMPANY NAME:** Freeseport McMoran CQB

**ADDRESS:** 36 Highway 92

**CITY** Bisbee **STATE** AZ **ZIP CODE** 85603

**PHONE** 520 508 7063 **FAX** 520 432 1395

**SAMPLER'S SIGNATURE** [Signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX														
NWC-04	11/02/16	0743		GW	1															
BMD-204-2BL	11/02/16	1016		GW	1															
BMD-204-2BU	11/02/16	1125		GW	1															
BMD-204-1BU	11/02/16	1301		GW	1															
BMD-204-1BL	11/02/16	1431		GW	1															
BMD-204-3BL	11/02/16	1709		GW	1															
BMD-204-3BU	11/02/16	1804		GW	1															

*Unfiltered SO4-300-0*

**1. RELINQUISHED BY:**  
 Signature Jacob Aldon  
 Printed Name Jacob Aldon  
 Firm Clear Creek  
 Date/Time 11/03/16 0955

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

**3. RELINQUISHED BY:**  
 Signature [Signature]  
 Printed Name \_\_\_\_\_  
 Firm TURNER LABORATORIES, INC.  
 Date/Time 11/3/16 9:55

**4. RECEIVED BY:**  
 Signature [Signature]  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

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

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

**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: CQB

**SPECIAL INSTRUCTIONS/COMMENTS:**  
 Compliance Analysis:  Yes  No  Custody Seals   
 ADEQ Forms:  Yes  No  Container Intact   
 Mail ADEQ Forms:  Yes  No  COC/Labels Agree   
 Preservation Confirmation   
 Appropriate Head Space   
 Received Within Hold Time  
 All samples filtered with a 0.45µm filter, unless noted.  
 Copy results to Ben Daigneau & Fernando Alday

**TURNER 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: CQB

**SPECIAL INSTRUCTIONS/COMMENTS:**  
 Compliance Analysis:  Yes  No  Custody Seals   
 ADEQ Forms:  Yes  No  Container Intact   
 Mail ADEQ Forms:  Yes  No  COC/Labels Agree   
 Preservation Confirmation   
 Appropriate Head Space   
 Received Within Hold Time  
 All samples filtered with a 0.45µm filter, unless noted.  
 Copy results to Ben Daigneau & Fernando Alday

**SAMPLE RECEIPT:**  
 Total Containers 7  
 Temperature 6.8  
 Wet Ice  Blue Ice



**APPENDIX C**  
**DATA VERIFICATION REPORT**

**APPENDIX C**  
**DATA VERIFICATION REPORT**  
**ANNUAL GROUNDWATER MONITORING REPORT**  
**FOR 2016**

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 1, 2017

## TABLE OF CONTENTS

1.	INTRODUCTION .....	1
2.	FIELD OPERATIONS.....	4
2.1	Water Level Monitoring .....	4
2.2	Groundwater Sampling .....	4
2.2.1	Pre-Sampling Field Activities.....	5
2.2.2	Well Purging, Field Measurements, and Sample Collection .....	5
2.2.3	Post-Sampling Field Activities .....	6
3.	SAMPLE HANDLING.....	7
4.	LABORATORY QUALITY CONTROL.....	8
4.1	Licensure.....	8
4.2	Analytical Method .....	8
4.3	Method Detection Limit (MDL), Reporting Limit (RL) and Practical Quantitation Limit (PQL) .....	8
4.4	Timeliness .....	9
4.5	Quality Control Measurements.....	9
4.5.1	Calibration Blanks and Calibration Verification Standards.....	9
4.5.2	Analytical Spike.....	10
4.5.3	Laboratory Duplicate Samples.....	10
4.5.4	Sample Re-Analysis.....	10
4.5.5	Blank Samples .....	10
5.	DATA QUALITY INDICATORS .....	12
5.1	Precision.....	12
5.2	Bias .....	13
5.3	Accuracy .....	13
5.4	Representativeness.....	14
5.5	Comparability .....	14
5.6	Completeness .....	14
5.7	Sensitivity .....	14
5.8	Reliability.....	14
6.	REFERENCES .....	15

## 1. INTRODUCTION

This report summarizes the data verification review of field measurements, groundwater sampling, and laboratory analyses conducted during 2016 by Clear Creek Associates and Freeport Minerals Corporation, Copper Queen Branch (CQB) pursuant to Mitigation Order on Consent Docket No. P-121-07 (ADEQ, 2007). Clear Creek Associates and CQB collected groundwater samples according to the groundwater monitoring program described by the Mitigation Plan (Clear Creek Associates, 2015). Analytical results for groundwater samples collected for this project during 2016 were reported to Clear Creek Associates by SVL Analytical, Inc. (SVL) of Kellogg, Idaho and Turner Laboratories (Turner) of Tucson, Arizona. Clear Creek Associates compiled and evaluated the analytical results for preparation of this report.

Quality assurance (QA) and quality control (QC) procedures for groundwater monitoring are specified in the *Quality Assurance Project Plan for Aquifer Characterization Plan (QAPP)* (Appendix F of HGC, 2008), including water level measurement, groundwater sampling, chain-of-custody (COC) documentation, laboratory analysis, and reporting. This report reviews field sampling procedures for samples collected by Clear Creek Associates and CQB. Additionally, sample handling and laboratory QA/QC data are evaluated according to the data quality indicators (DQIs) in the QAPP.

The laboratory reports for the 2016 groundwater samples are in Appendix B of the annual report, including COC forms, laboratory correspondence, QC summaries, data qualifiers, and internal QA/QC tests performed by the laboratory. Based on the results of laboratory control samples, matrix spike/recovery and blank spikes, neither SVL nor Turner advised any modifications regarding the usability and data validation status of the laboratory results. The analytical results for 179 samples collected by Clear Creek Associates and CQB in 2016 are contained in 12 reports with the SVL and Turner laboratory identification numbers listed in the following tables.

LAB ID	Q1 WELLS REPORTED
Number of wells sampled: 42 Number of well samples collected (including duplicates and multiple samples from one well): 45 Number of duplicate samples collected: 3 Number of field and equipment blanks collected: 6 Total number of samples collected: 51	
16A0522	AWC-03, AWC-04, AWC-02, OLMOS, POWER 639, WEED, SCHWARTZ, DUP20160111, FB20160111, EQB20160111, COB MW-2, COB WL, PANAGAKOS, DODSON, TVI 236, NWC-06, NWC-02, NWC-04, RUIZ, AWC-05
16B0307	BMO-2010-3B, BMO-2010-3M, TM-10, BMO-2014-4B, BMO-2014-4BL, BMO-2015-1B, BMO-2015-1BL, BMO-2015-2B, BMO-2015-2BL, BMO-2014-1BL, BMO-2014-1BU, BMO-2014-2BL, BMO-2014-2BU, BMO-2014-3BU, BMO-2014-3BL, DUP20160203, DUP20160204, FB20160203, EQB20160203, FB20160204, EQB20160204
W6C0278	BMO-2012-1M, BMO-2008-1G, BMO-2008-3B, BMO-2008-6M, BMO-2008-6B, BMO-2008-5M, BMO-2008-5B, TM-7, BMO-2008-11G
W6D0036	COOPER

LAB ID	Q2 WELLS REPORTED
Number of wells sampled: 13 Number of well samples collected (including duplicates and multiple samples from one well): 14 Number of duplicate samples collected: 1 Number of field and equipment blanks collected: 2 Total number of samples collected: 16	
13D0327	BMO-2014-4B, BMO-2014-4BL, BMO-2015-1B, BMO-2015-1BL, BMO-2015-2B, BMO-2015-2BL, NWC-04, BMO-2014-1BL, BMO-2014-1BU, BMO-2014-2BL, BMO-2014-2BU, BMO-2014-3BU, BMO-2014-3BL, DUP20160405, EQB20160405, FB20160405

LAB ID	Q3 WELLS REPORTED
	Number of wells sampled: 78 Number of well samples collected (including duplicates and multiple samples from one well): 84 Number of duplicate samples collected: 6 Number of field and equipment blanks collected: 12 Total number of samples collected: 96
16G0558	EPELLE 641, FB20160712, EQB20160712, DUP20160712, RAY, EAST, TVI 875, MOORE, RAMIREZ, CHAMBERS, ROGERS E, OLMOS, ZANDER, NOTEMAN, BANKS 986, BMO-2010-3M, BMO-2010-3B, BMO-2014-2BU, BMO-2014-2BL, BMO-2014-3BU, BIMA, THOMPSON 341, BMO-2014-3BL, DUP20160714, FB20160714, EQB20160714, BMO-2015-1B, DUP20160713, BMO-2014-4B, BMO-2015-1BL, BMO-2014-1BU, BMO-2014-1BL, TM-10, BMO-2014-4BL, FB20160713, EQB20160713, OSBORN, SWAN, NESS, BMO-2015-2B, BMO-2015-2BL
16G00726	FRANCO 383, DODSON, AWC-05, AWC-03, AWC-04, AWC-02, ANDERSON 458, COB MW-3, COB MW-2, COB MW-1B, COB-WL, BURKE, DUP20160721, FB20160721, EQB20160721, ECHAVE, WEED, PARRA
16G0835	COOPER, RUIZ, KEEFER, NWC-06, NWC-02, NWC-04, PIONKE 517, MCCONNELL 459, WEISKOPF 802, WEISKOPF 897, POWER 639, HOWARD 312, SCHWARTZ, DUP20160727, EQB20160727, FB20160727
W6I0353	BMO-2008-11G, BMO-2012-1M, BMO-2008-1G, BMO-2008-3B, TM-19A, HOBAN, COOPER C, BMO-2008-7M, BMO-2010-1M, BMO-2008-5M, BMO-2008-5B, BMO-2008-6M, BMO-2008-6B
W6I0571	TM-15, BMO-2008-8M, DUP-091516, BMO-2008-9M, TM-7, EQB-091516, FB-091516
16I0809	TVI-236

LAB ID	Q4 WELLS REPORTED
	Number of wells sampled: 13 Number of well samples collected (including duplicates and multiple samples from one well): 14 Number of duplicate samples collected: 1 Number of field and equipment blanks collected: 2 Total number of samples collected: 16
16K0220	BMO-2015-2B, BMO-2015-2BL, BMO-2014-4B, DUP20161101, BMO-2014-4BL, EQB20161101, FB20161101, BMO-2015-1BL, BMO-2015-1B, NWC-04, BMO-2014-2BL, BMO-2014-2BU, BMO-2014-1BU, BMO-2014-1BL, BMO-2014-3BL, BMO-2014-3BU

## 2. FIELD OPERATIONS

Field operations for this project consisted of the following for all wells sampled by Clear Creek Associates and CQB:

- Static water level measurement, if possible,
- Well purging, if needed,
- Collection of water quality field parameters (pH in standard units [SU], specific conductance [SC] in microSiemens per centimeter [ $\mu\text{S}/\text{cm}$ ], and temperature in degrees Celsius [ $^{\circ}\text{C}$ ]),
- Collection of groundwater samples for water quality analysis,
- Collection of groundwater QA and QC samples per requirements in the QAPP, and
- Equipment decontamination.

Field notebook entries and sampling forms were evaluated for quality assurance and met the documentation requirements stated in the QAPP.

### 2.1 Water Level Monitoring

Static water level measurements were attempted at each well that was sampled (where there are no known obstructions or lack of wellhead access to prevent static water level measurement) and at all wells where water level only monitoring was conducted. Water levels at pumping wells were measured while the well pump was off. Because it is not always possible to ascertain how long the pump had been off prior to the water level measurement, some water levels may be affected by residual drawdown. Before measuring the water level at each well, the battery on the water level indicator was checked and the sensitivity level was adjusted, if necessary. Depth to water below a surveyed measuring point was measured to the nearest 0.01 feet, and verified by measuring the depth to water multiple times in order to obtain a consistent reading and accurate measurement.

### 2.2 Groundwater Sampling

Groundwater samples were collected from operable wells designated for monitoring under the Mitigation Plan. All wells sampled contained dedicated submersible pumps. Location information for the wells sampled for water quality and water level measurements is listed in Table 4 of the main text.

### 2.2.1 Pre-Sampling Field Activities

The pH<sup>1</sup> and SC<sup>2</sup> multipurpose meters were calibrated on each day of sampling. In addition, the water level indicator was checked for a signal, which indicates a working meter and sufficient battery strength. On each day where sampling extended for more than half a day, a mid-day calibration check was performed on the pH and SC meters. In addition to calibrating the instruments daily, measures were taken to 1) properly decontaminate field equipment, 2) ensure the appropriate storage and transport temperature of the samples, and 3) document activities related to the collection of groundwater samples as part of this project. These objectives were met by 1) replenishing or obtaining supplies of distilled water and ice daily, 2) use of the proper preservative and sample collection containers, 3) properly packing the samples on ice during field activities, 4) using distilled water to properly decontaminate field equipment prior to the start of sampling each day and after sampling at each well, and 5) obtaining the appropriate field notebook in order to document field activities related to the groundwater monitoring program.

### 2.2.2 Well Purging, Field Measurements, and Sample Collection

Three wetted casing volumes were purged from each well prior to sampling, when possible. However, when three casing volumes could not be purged, this information was noted on the groundwater sampling form (Appendix D of the annual report). Purge water was discharged to the ground surface.

Field measurements of pH, temperature, and specific conductance were collected at varying intervals during well purging at each well where a water quality sample was collected. If possible, field parameters were monitored until the measurements stabilized within 0.3 standard units for pH, 2 °C for temperature and 100 µS/cm for specific conductance as described in Section 4.2.1.2 of the QAPP.

In 2016, 157 groundwater samples (duplicate and multiple samples included) were collected for analysis from 79 wells. Groundwater samples were collected by filtering the sample into a 250-milliliter bottle using a clean filtration apparatus and one disposable 0.45-micron filter. Samples were labelled with the site name, date, time collected, sampler's initials, and the required analysis on the bottle. All bottles were provided by the laboratories and maintained in a clean and secure work area until used in the field.

---

<sup>1</sup> Field pH meters were calibrated using a three point calibration

<sup>2</sup> Field SC meters were calibrated using standard stock solutions



### 2.2.3 Post-Sampling Field Activities

Post-sampling field activities consisted of equipment decontamination, sample storage, and sample shipping. Field equipment that came into contact with the sample was decontaminated using Alconox<sup>®</sup> detergent and distilled water. After washing, the equipment was rinsed with distilled water. After sample collection, samples from each well were placed into a plastic bag to prevent the label from becoming illegible and stored on ice until they could be packed securely for shipping to the laboratory. The chain of custody is filled out prior to shipping or delivery to the laboratory, signed by the sampler, and then placed in a plastic bag along with the samples.

### 3. SAMPLE HANDLING

All 2016 samples collected by Clear Creek Associates and CQB were shipped to SVL or hand-delivered to Turner for analysis. COC documentation accompanied all samples submitted and included the sample name, collection date, and time. Laboratory reports include the date and time the samples were received by SVL or Turner. As noted on the laboratory reports from SVL and Turner, all of the sample bottles were received intact, properly preserved, and in good condition. The samples were shipped to SVL or delivered to Turner within one to twenty-eight days of sample collection. All shipped samples were sent overnight delivery. The samples were collected, shipped or delivered, and received by SVL or Turner within the established holding time for dissolved sulfate analysis in accordance with United States Environmental Protection Agency (EPA) Method 300.0 except for eight samples collected in the third quarter 2016. Eight samples collected on August 17 and 18, 2016 were received by the lab outside of the 28 day holding time established for the EPA Method 300.0. The samples were analyzed 33 and 34 days after collection. Results for the eight samples are contained in SVL lab report W6I0353. The results for the samples were compared historic data and found to be within normal ranges for each sample. Therefore the samples are included in the report with no further qualifications. As a corrective action, Clear Creek will review the 28 day holding time standard with field staff.

## 4. LABORATORY QUALITY CONTROL

As specified in the QAPP, laboratory QC was maintained for all analyses through proper licensure, the use of approved analytical methods, QC measurements, appropriate turn-around-time for analysis (timeliness), method detection limits (MDLs), Reporting Limits (RLs), and practical quantitation limits (PQLs). Each of these controls is discussed in the following subsections.

The review of laboratory QC included a review to identify any qualified data and an assessment to determine their significance. Additionally, the laboratory QC summaries were reviewed to verify that results met QA criteria.

### 4.1 Licensure

SVL is licensed with the Arizona Department of Health Services (license number AZ0538) and is accredited in accordance with the National Environmental Laboratory Accreditation Conference. Turner is also licensed with the Arizona Department of Health Services (license number AZ0066).

### 4.2 Analytical Method

EPA method 300.0 was used for sulfate analysis during this monitoring period.

### 4.3 Method Detection Limit (MDL), Reporting Limit (RL) and Practical Quantitation Limit (PQL)

The MDLs, RLs, and PQLs change based on dilution of the samples. The MDLs, RLs, and PQLs of an undiluted sample as reported by SVL and Turner are shown in the following table:

Lab	Method	MDL (mg/L)	RL/PQL (mg/L)	Target MDL <sup>1</sup> (mg/L)
SVL	EPA 300.0	0.03-3.10	0.30-30	10
Turner	EPA 300.0	0.1-10 <sup>2</sup>	5.0-250	10

*mg/L = milligrams per liter*

<sup>1</sup> Target MDL from Table F.2 of QAPP

<sup>2</sup> Turner reports the PQL instead of an MDL on some laboratory reports.

The SVL and Turner-reported MDLs are equal to or less than the target MDL identified in the QAPP. Turner has a range of MDL values because the laboratories are required to evaluate the MDL semiannually to maintain state licensure. The PQL is the amount of a constituent that can be consistently quantified with acceptable precision and accuracy (QAPP Section 3.3.7). The PQL for an undiluted sample reported by Turner is 5.0 mg/L. The RL is used by SVL and is the smallest concentration the laboratory will report for a constituent. The RL of an undiluted sample reported by SVL is 0.3 mg/L. The Turner PQL and SVL RL are lower than the Target MDL of 10 mg/L from the QAPP. Reporting limit samples with higher range concentrations of sulfate required dilution, which increases the PQL and RL. In all cases of an RL or PQL greater than 10 mg/L sulfate, the laboratory analysis yielded a detected quantity. Thus, detection sensitivity of the analyses is adequate to be consistent with the Target MDL.

#### **4.4 Timeliness**

Most samples submitted for sulfate analysis were analyzed within the twenty-eight day holding time specified by EPA Method 300.0. The eight samples that were not analyzed within holding times were received by SVL more than 28 days after the sample was collected. Laboratory timeliness is therefore, not an issue. As discussed in Section 3, the holding time standard will be reviewed with field staff to emphasize timely shipment of samples.

#### **4.5 Quality Control Measurements**

The following QC samples were prepared and analyzed:

- Calibration blanks and calibration verification standards
- Analytical spike samples
- Laboratory duplicate samples
- Field blank samples

##### 4.5.1 Calibration Blanks and Calibration Verification Standards

Results from the analyses of the initial calibration blanks and initial calibration verification standards conducted by EPA Method 300.0 were reviewed. The results of each initial calibration blank analyzed showed results below the RL or PQL. All analytical results for the initial calibration verification standards and laboratory-fortified blanks showed percent recoveries that were within the acceptance criteria specified by the SVL and Turner QA Plans.

#### 4.5.2 Analytical Spike

Analytical spike and spike duplicate samples were analyzed by the laboratories for 10 percent of the samples analyzed. The spike samples were prepared by adding a sulfate spike to one randomly chosen sample out of every ten samples analyzed.

Spike recoveries for most SVL analyses were between 90 and 110 percent. In the SVL results, instances in which analytical spike recoveries were high, low, or unusable are qualified with an “M1”, “M2”, or “M3” flag, respectively. The “M1” and “M2” flag were not used in 2016. The “M3” flag was used on SVL reports W6D0036. In all cases where a qualifier was used, the method control sample recovery was checked by SVL to ensure that it was acceptable within the criteria specified by their QA Plan. The method control samples were prepared by adding a sulfate spike to de-ionized water.

Spike recoveries for samples analyzed by Turner were between 80 and 120 percent. There were no analytical flags reported by Turner.

#### 4.5.3 Laboratory Duplicate Samples

Analyses of laboratory duplicate samples were reviewed as part of this data verification report. In all cases where the relative percent difference (RPD) could be calculated for laboratory duplicate samples, the RPD was within 20 percent, which is the tolerance range set by the laboratory. The results met QA criteria and demonstrate an appropriate level of precision in laboratory analysis of these samples. Field duplicate samples are discussed in Section 5.1.

#### 4.5.4 Sample Re-Analysis

During 2016, no samples were re-analyzed.

#### 4.5.5 Blank Samples

Field and equipment blank samples were collected in accordance with procedures described in Section 4.2.1.5 of the QAPP. Field and equipment blank samples were collected and submitted along with other samples to evaluate the potential for contaminant introduction under field conditions. As required by Section 4.2.1.5 of the QAPP, a minimum of one field blank and one equipment blank sample was collected for every twenty samples.

During 2016, 22 blank samples were collected, including eleven field blanks (FB20160111, FB20160203, FB20160204, FB20160405, FB20160712, FB20160714, FB20160713,

FB20160721, FB20160727, FB20161101, and FB-091516) and eleven field equipment blanks (EQB20160111, EQB20160203, EQB20160204, EQB20160405, EQB20160712, EQB20160714, EQB20160713, EQB20160721, EQB20160727, EQB20161101, and EQB-091516). None of the blank samples collected in 2016 had sulfate concentrations above the SVL reporting limit of 0.30 mg/L, or the Turner reporting limit of 5.0 mg/L. The results demonstrate that the sulfate concentrations reported in 2016 were not affected by sample collection and sample handling procedures.

## 5. DATA QUALITY INDICATORS

The QAPP provides several DQIs for assessing the overall quality of the data. These DQIs include the following:

- Precision
- Bias
- Accuracy
- Representativeness
- Comparability
- Completeness
- Sensitivity

Each of these DQIs is discussed below in relation to the groundwater sampling and analysis conducted in 2016.

### 5.1 Precision

Precision indicates how well a measurement can be reproduced. Precision is quantified by calculating the RPD between sulfate analyses of duplicate samples and by measuring the water level multiple times before recording the result.

For the QA/QC of analytical data, precision was quantified by calculating the RPDs between duplicates among the following groups of duplicate samples:

- Laboratory duplicate samples
- Field duplicate samples

As discussed in Section 4.5.3 there were no exceedances of RPD QA criteria for any laboratory duplicates. During this monitoring period eleven field-filtered duplicate samples (DUP20160111, DUP20160203, DUP20160204, DUP20160405, DUP20160712, DUP20160714, DUP20160713, DUP20160721, DUP20160727, DUP20161101, and DUP-091516) were collected for analysis. The collection of eleven duplicate samples meets the QA/QC method and quantity goal stated in Section 4.2.1.5 of the QAPP.

Sulfate results for the duplicate samples collected are provided in the table below. The range of RPD values was between 0.00 and 3.51 percent, all within the 20 percent acceptance criteria for

field duplicates, as stated in Section 3.3.1 of the QAPP. Overall, the DQI for precision is met for the analytical data.

Turner/SVL Project No.	Well ID	Duplicate ID	Sample (mg/l)	Duplicate (mg/l)	RPD
<a href="#">16A0522</a>	PANAGAKOS	DUP20160111	440	450	2.25%
<a href="#">16B0307</a>	BMO-2015-1BL	DUP20160203	220	220	0.00%
<a href="#">16B0307</a>	BMO-2014-2BL	DUP20160204	430	430	0.00%
<a href="#">16D0327</a>	BMO-2015-2BL	DUP20160405	300	290	3.39%
<a href="#">16G0558</a>	BMO-2014-1BU	DUP20160714	170	170	0.00%
<a href="#">16G0558</a>	BMO-2014-4B	DUP20160713	48	48	0.00%
<a href="#">16G00726</a>	BURKE	DUP20160721	29	28	3.51%
<a href="#">16G0558</a>	EPPELE 641	DUP20160712	19	19	0.00%
<a href="#">16G0835</a>	SCHWARTZ	DUP20160727	100	100	0.00%
<a href="#">W6I0571</a>	BMO-2008-8M	DUP-091516	63.5	63.9	0.00628
<a href="#">16K0220</a>	BMO-2014-4B	DUP20161101	43	42	0.02353

mg/L = milligrams per liter

RPD = Relative Percent Difference

Precision for water level monitoring was met by measuring the water level repeatedly until readings were within 0.03 feet of one another. Readings within that range were obtained from all wells where groundwater measurements were collected; meeting the DQI for precision.

## 5.2 Bias

Bias is a systematic distortion of measurements causing consistent errors in one direction. Bias is managed in this data set by the consistent application of standardized sample collection and analysis procedures. As discussed in Section 4.5.5, none of the blank samples had measurable concentrations of sulfate indicating that the sampling collection and analysis procedures did not contribute sulfate to the results.

## 5.3 Accuracy

Accuracy is a measure of the agreement of a measurement to a known value and is measured using the recoveries from laboratory control samples. As discussed in Sections 4.5.1, 4.5.2, and 4.5.3 there were no significant exceedances of the recovery QA criteria for any of the calibration standards, analytical spikes, or laboratory duplicates, respectively. As discussed in Section 4.5.5,



none of the blank samples had measurable concentrations of sulfate indicating that the sampling collection and analysis procedures did not significantly contribute sulfate to the results.

The accuracy of water level measurements was evaluated by comparing measurements to prior measurements to ensure consistency. Based on this information, the overall accuracy of the data is judged sufficient for the purpose of aquifer characterization.

#### **5.4 Representativeness**

All water level measurements and samples were taken from locations identified in the Mitigation Plan following standard sampling procedures and QA/QC guidelines specified in the QAPP. Moreover, results are expected to be representative of groundwater quality at the sampled locations because sulfate was not detected in the field or equipment blanks.

#### **5.5 Comparability**

All samples were collected using standardized procedures (HGC, 2008) and were analyzed by SVL and Turner using standardized methods. Insofar as standardized sample collection and analytical methods are adhered to, the sample results should be comparable.

#### **5.6 Completeness**

All samples collected and subsequently analyzed and reported by SVL and Turner satisfy the QA/QC criteria for this project. The completeness of analytical results is 100 percent, which exceeds the minimum 90 percent completeness in Section 3.3.6 of the QAPP.

#### **5.7 Sensitivity**

The analytical methods used to analyze the samples meet the MDL requirements specified in Table F.2 of the QAPP. The water level sounder was accurate to 0.01 feet as specified in Section 4 of the QAPP. Therefore, the analytical sensitivity is considered acceptable for use in aquifer characterization.

#### **5.8 Reliability**

After analyzing the results of all samples, comparing results to historical data, and carefully reviewing the field and laboratory methods used, the data is reported here is judged to provide a reliable representation of groundwater conditions at the sampled locations for 2016.

## 6. 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.
- Clear Creek Associates. 2015. Mitigation Plan for Sulfate with respect to Drinking Water Supplies, Mitigation Order on Consent No. P-121-07. March 6, 2015.
- Hydro Geo Chem, Inc. 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.

**APPENDIX D**

**WELL RECORDS REGISTRY REVIEW**

**APPENDIX D**  
**WELL RECORDS REGISTRY REVIEW**  
**ANNUAL GROUNDWATER MONITORING REPORT**  
**FOR 2016**

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 1, 2017

**APPENDIX D**  
**WELL RECORDS REGISTRY REVIEW**  
**ANNUAL GROUNDWATER MONITORING REPORT FOR 2016**

Prepared for:

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

Reviewed and  
Approved by:



James R. Norris Expires 12/31/17  
Arizona Registered Geologist No. 30842

March 1, 2017

## TABLE OF CONTENTS

1.	INTRODUCTION .....	1
1.1	Scope and Objectives .....	1
1.2	Monitoring of Drinking Water Supplies .....	2
2.	METHODOLOGY .....	3
2.1	Identification of Wells Within One Mile of the Plume.....	3
2.2	Well Categorization .....	3
2.3	Well Verification .....	3
3.	RESULTS .....	4
3.1	New Wells Identified .....	4
3.2	Re-Categorized Wells .....	4
4.	REFERENCES .....	5

### TABLE

- D.1. Well Records Review Summary

### FIGURES

- D.1. Project Location Map
- D.2. 1.1 Mile Well Search Area
- D.3. New Well Registry Records April 2012 to January 2016

# 1. INTRODUCTION

## 1.1 Scope and Objectives

This report describes a review of the Arizona Department of Water Resources (ADWR) Program 55 Well Registry Database (WRD) to identify new registered wells installed since January 2016 within one mile of the groundwater sulfate plume near the Freeport Minerals Corporation, Copper Queen Branch (CQB) Concentrator Tailing Storage Area (CTSA) (Figure B.1). The well registry records review is a requirement of the Mitigation Plan (Clear Creek Associates, 2015) submitted to Arizona Department of Environmental Quality (ADEQ) in 2015 pursuant to Mitigation Order on Consent Docket No. P-121-07 (MO) between CQB and ADEQ.

An initial inventory of wells within a mile of the plume was submitted to ADEQ in 2008 (Hydro Geo Chem, Inc., 2008). A well inventory update conducted using WRD information available as of April 2012 was submitted to ADEQ in 2014 (Clear Creek Associates, 2014). A well records review conducted using WRD information available as of January 2016 was submitted to ADEQ in March 2016 (Clear Creek Associates, 2016). This well records review uses the January 13, 2017 WRD to identify wells registered since January 2016. ADWR reports that the WRD is updated as new NOIs are received, making the WRD used for this review current through January 13, 2017.

The well registry records review is conducted pursuant to Section 2.4 of the Mitigation Plan which states the following.

*“The ADWR well registry records will be reviewed annually to identify new existing wells installed within one mile of the plume. Water use at new wells will be determined from the ADWR registry record and by inquiry with the well owner.”*

The new WRD records identified by this review were evaluated to verify well use and ownership. This review discusses only new WRD records added between the January 2016 and January 2017 WRDs. Clear Creek Associates (2014) describes the registered wells previously identified using the April 2012 WRD and Clear Creek Associates (2016) describes the registered wells previously identified using the January 2016 WRD.

## 1.2 Monitoring of Drinking Water Supplies

The MO set the action level for sulfate concentration in drinking water supplies at 250 milligrams per liter (mg/L). The edge of the sulfate plume is defined as the 250 mg/L sulfate concentration contour estimated based on the results of groundwater monitoring. CQB conducts groundwater sampling for sulfate at drinking water supply and monitoring wells according to the long term plume monitoring and expanded groundwater monitoring programs described in the Mitigation Plan. Public drinking water supplies and private drinking water supplies within 2000 feet of the plume are sampled semiannually. Annual sampling is performed at private drinking water supplies between 2,000 feet and one mile of the plume, and at drinking water supply wells installed below the plume as mitigation actions. New drinking water supply wells within a mile of the plume are added to the long term plume monitoring program as they are identified, contingent on well owner approval.



## 2. METHODOLOGY

### 2.1 Identification of Wells Within One Mile of the Plume

Figures B.1 and B.2 show the sulfate plume based on groundwater monitoring data for the third and fourth quarters of 2016. The January 2017 WRD and Geographic Information Systems (GIS) software were used to identify registered wells installed within 1 mile of the sulfate plume. The database was imported into the GIS software and a shapefile was created to encompass the area 1 mile from the edge of the sulfate plume plus a safety factor of 0.1 miles. The safety factor accounts for uncertainty in the exact position of wells because the WRD contains only cadastral coordinates accurate to approximately 470 feet. Figure B.2 shows the outline of the search area 1.1 miles from the sulfate plume. The list of wells within the January 2017 search area in was compared to the list of wells reported by the 2014 Well Inventory Update and the 2015 Well Records Review to identify new records. Table B.1 lists the two new records added to the WRD between January 2016 and January 2017. The locations for the new well records are shown on Figure B.3.

### 2.2 Well Categorization

The new well records were categorized by operational status and well type to assist in identifying drinking water wells. The two new records are for the following:

- **Monitor Wells (1 well):** Dedicated groundwater quality and water level monitoring wells, including piezometers.
- **Geotechnical Wells (1 well):** Wells that are used for geotechnical purposes, such as cathodic protection and grouting wells.

### 3. RESULTS

#### 3.1 New Wells Identified

The well records review identified new records for two wells within a mile of the plume (Table 1 and Figure 3). The first record identified is a Well Owner's Notification of Abandonment for an Arizona Public Service grounding well, which was a geotechnical well. The second record is an ADWR Notice of Intent to Drill, Deepen, Replace, or Modify a well filed by City of Bisbee for a location at the San Jose Wastewater Treatment Facility. According to the City of Bisbee, the well was installed in March 2016 for the purpose of groundwater monitoring in the vicinity of the former well COB MW-1, which was reportedly abandoned. The new well is called COB MW-1B for the purpose of reporting under the Mitigation Plan. The ADWR well records review did not find evidence of a new drinking water supply well within one mile of the plume.

#### 4. REFERENCES

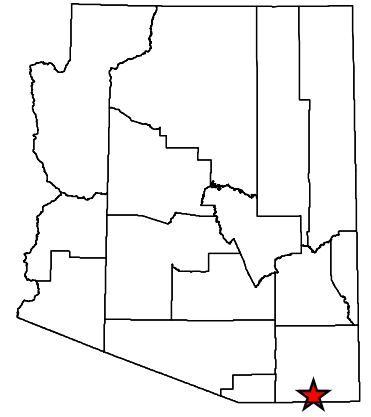
- Clear Creek Associates. 2014. Well Inventory Update, Task 1 of Aquifer Characterization Plan for Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. June 30, 2014.
- Clear Creek Associates. 2015. Mitigation Plan for Sulfate with Respect for Drinking Water Supplies, Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. March 6, 2015.
- Clear Creek Associates. 2016. Annual Groundwater Monitoring Report for 2015, Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. March 1, 2016.
- HGC. 2008. Well Inventory Report, Task 1 of Aquifer Characterization Plan for Mitigation Order on Consent No. P-121-07, Cochise County, Arizona. July 28, 2008.

## TABLE

**TABLE D.1.  
Well Categorization for Recently Installed Wells**

<b>Well Registry Number</b>	<b>Owner Name</b>	<b>Well Name</b>	<b>Category</b>	<b>MO Groundwater Monitoring Frequency</b>	<b>Operational</b>	<b>Usage</b>
<b>Geotechnical Well</b>						
482692	Arizona Public Service	Unknown	Geotechnical	Not Applicable	No	Grounding
<b>Monitor Well</b>						
225906	City of Bisbee	COB MW-1B	Monitor Well	Semiannual Water Level, Biennial Water Quality	Yes	Groundwater Monitoring

## FIGURES



**Legend**

- Third Quarter 2016 250 mg/L Sulfate Plume
- CTSA
- Highway
- International Border

**Notes:**

Projection: UTM Zone  
12N NAD83

Date	1/18/17	File ID	055038-487
------	---------	---------	------------






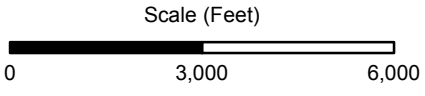
**FIGURE D.1.  
PROJECT LOCATION MAP**

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**Legend**

-  1.1 Mile Search Area
-  Estimated 250 mg/L Sulfate Concentration for Third Quarter 2016
-  Township and Range



Notes:

Projection: UTM Zone 12N NAD83



Date	1/11/17	File ID	055038-486
			

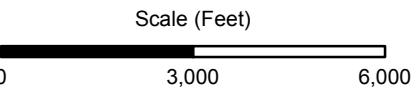
FIGURE D.2.  
1.1 MILE SEARCH AREA







**Legend**

- 1.1 Mile Well Search
- Estimated 250 mg/L Sulfate Concentration for Third Quarter 2016
- Township and Range
- Monitor Well
- Geotechnical Well



Notes:

Projection: UTM Zone 12N NAD83

Date	1/18/17	File ID	055038-488
			

**FIGURE D.3.**  
NEW WELL REGISTRY RECORDS  
JANUARY 2016 TO JANUARY 2017