

ANNUAL GROUNDWATER MONITORING REPORT FOR 2018

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



Prepared for:

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

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March 6, 2019

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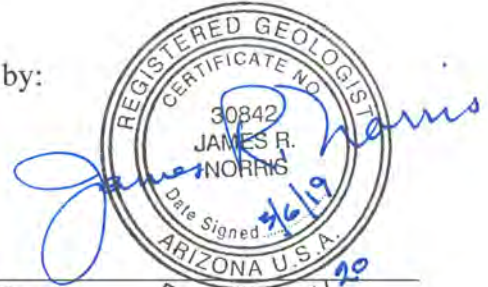
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March 6, 2019

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 2018.....	2
1.3.1	Long Term Plume Monitoring	2
1.3.2	Expanded Groundwater Monitoring Program	3
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.....	7
2.4	ADWR Well Records Review	7
3.	REFERENCES	8

TABLES

1	Groundwater Monitoring Schedule in 2018
2	Summary of Groundwater Monitoring in 2018
3	Compilation of Analytical Results for Sulfate and Field Parameters
4	Compilation of Groundwater Elevation Data

FIGURES

1	Project Location Map
2	Geologic Map with Monitoring Locations
3	Groundwater Monitoring Locations
4	Naco Area Well Sites
5	Sulfate Concentrations in Site-Wide Groundwater Samples for First Quarter 2018
6	Sulfate Concentrations in Site-Wide Groundwater Samples for Third Quarter 2018
7	Sulfate Concentrations at the West Edge of the Plume for First Quarter 2018
8	Sulfate Concentrations at the West Edge of the Plume for Third Quarter 2018
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 2018
12	Site-Wide Groundwater Elevations for Third Quarter 2018
13	Basin Fill Groundwater Elevations at the West Edge of the Plume for First Quarter 2018
14	Basin Fill Groundwater Elevations at the West Edge of the Plume for Third Quarter 2018
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 report provides the results of groundwater monitoring activities conducted in calendar year 2018 for the Mitigation Plan (Clear Creek Associates, 2015a) 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 action¹ 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 affected² 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, 2014) 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 levels that, if exceeded, would trigger a contingent mitigation action at a public supply, if needed,

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

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

- 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.

The water supply study was completed and reported to ADEQ in 2016 (Clear Creek Associates, 2016). The expanded groundwater monitoring, long term plume monitoring, and review of ADWR well registry records are ongoing programs.

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 2018 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 (e.g. Clear Creek Associates, 2018)

1.3 Sources of Groundwater Monitoring Data in 2018

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. 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 monitoring program in 2018. Table 2 summarizes the status of sampling in 2018. Figure 2 is a geologic map (Hayes and Landis, 1964) showing the monitoring area and identifying wells where the 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 contained in Appendix F of the Work Plan (Hydro Geo Chem, Inc., 2008). Dissolved sulfate is the only constituent monitored. Appendices A and B contain field data forms and laboratory reports, respectively, for samples collected in 2018.

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). These well are sampled semi-annually. The results of sulfate and

water level monitoring at the expanded groundwater monitoring program wells are included in this report.

1.4 ADWR Well Records Review

The ADWR well records review is conducted annually to identify new and existing wells that are registered 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 2018 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 were collected from wells site-wide in the first and third quarters of 2018 (Table 1). Figures 5 and 6 are sulfate concentration contour maps for the first and third quarters of 2018. Figures 7 and 8 are sulfate concentration maps of the west edge of the plume in the first and third quarters of 2018. The sulfate concentration contouring on Figures 5 through 8 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 contours drawn on these figures are based on consideration of both historical and 2018 sulfate concentration data.

Figure 9 shows sulfate concentrations through time at public drinking water supply wells. The sulfate concentrations at the AWC wells were all less than 77 mg/L in 2018, and less than the 150 mg/L temporary sulfate action level set in the Mitigation Plan for the AWC wellfield. Wells NWC-02 and NWC-06 had sulfate concentrations less than 10 mg/L in 2018. Sulfate concentrations at NWC-04 near Bisbee Junction, which is believed to be at the receding edge of the plume, ranged between 181 and 210 mg/L in 2018.

Figure 10 is a graph of sulfate concentration over time in monitoring wells installed for the expanded groundwater monitoring program. Sulfate concentrations measured in the fourth quarter 2014 are not shown on Figure 10 because the data are anomalous compared to the next eight quarters of sampling, possibly due to incomplete well development prior to sampling. Sulfate concentrations in the expanded groundwater monitoring wells decreased slightly or were steady between 2015 and the third quarter 2018. The lack of increasing trends for sulfate indicates that there has been no discernable migration of the plume at the expanded groundwater monitoring program wells.

2.2 Water Elevation Data

Groundwater elevation data collected in 2018 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.

Site-wide water level measurements are made 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 2018. Figures 13 and 14 are groundwater elevation contour maps for basin fill at the west edge of the plume in the first and third quarters of 2018. In Figures 11 through 14, the most recent depth to water measurement is used for contouring at wells with multiple measurements during a quarter. Water level measurements at NWC-03 CAP have been at or above historical maxima since September 2016 when water elevations abruptly increased (Table 4). During the water level collection in February 2018, Naco Water Company indicated that there was a leaking pipe near NWC-03 CAP that may be artificially elevating the water in the well. The February 23 and July 18, 2018 water levels for NWC-03 CAP were not used for contouring on Figures 11 through 14 because they are not consistent with surrounding wells.

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 2008 through 2013, were relatively steady from 2013 to 2016, and declined again from 2016 through 2018. 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 2013, then stabilize, and then continue to decline after 2016 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 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 Quality Assurance Project Plan. The data verification report for 2018 is in Appendix C. Based on the data verification review, the field measurements and analytical results collected in 2018 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 2018. The ADWR well records review was conducted using a version of the well records database current through January 4, 2019. The review identified registered wells within one mile of the sulfate plume and compared the list of wells in January 2018 to the list of wells produced for the last well records review which used a January 2017 version of the database.

The well records review identified new records for three wells within the 1.1-mile search area: 55-229470, 55-482692, and 55-810034.

- Well record 55-229470 is a notice of intent to drill a well at the west end of the plume near the AWC wellfield. The status of well installation and its water use will be verified in 2019. If installed and used as a drinking water supply, CQB will request permission to sample the well and will add it to the long term plume monitoring program.
- Well 55-482692 is a grounding well that was abandoned by the owner, Arizona Public Service. Grounding wells are not used for drinking water supply.
- Well 55-810034 is a late registration of a well. The late registration contains information for the new owners of the Cochise County Tax Parcel where the SWAN domestic supply well is located. The SWAN well has been sampled under the Mitigation Order since 2008. In 2019, CQB will confirm that the late well registration is for the existing SWAN well and attempt to obtain an updated access agreement with the new owners.

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.
- Clear Creek Associates. 2018. Mitigation Performance Review for 2017. Mitigation Order on Consent Docket No. P-121-07. April 7, 2018

- 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. 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
Groundwater Monitoring Schedule in 2018

Well Name	ADWR 55 Registry Number	Well Use	Monitoring Purpose	Semiannual Sampling First Quarter	Annual Sampling Third Quarter	Biennial Sampling Third Quarter of Odd Numbered Years
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 ¹	909653	PDWS	PE (Lateral)	✓	✓	
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)	✓	✓	
BMO-2014-1BU	917394	MW	PE (Lateral)	✓	✓	
BMO-2014-2BL	917452	MW	PE (Lateral)	✓	✓	
BMO-2014-2BU	917453	MW	PE (Lateral)	✓	✓	
BMO-2014-3BL	917527	MW	PE (Lateral)	✓	✓	
BMO-2014-3BU	917494	MW	PE (Lateral)	✓	✓	
BMO-2014-4B	917620	MW	PE (Lateral)	✓	✓	
BMO-2014-4BL	917619	MW	PE (Lateral)	✓	✓	
BMO-2015-1B	917622	MW	PE (Lateral)	✓	✓	
BMO-2015-1BL	917621	MW	PE (Lateral)	✓	✓	
BMO-2015-2B	917827	MW	PE (Lateral)	✓	✓	
BMO-2015-2BL	917828	MW	PE (Lateral)	✓	✓	
BOOTH	914931	PDWS	DWS (<2000)	✓	✓	
BURKE	212268	PDWS	DWS (>2000)		✓	
CHAMBERS	629807	PDWS	DWS (>2000)		✓	
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
Groundwater Monitoring Schedule in 2018

Well Name	ADWR 55 Registry Number	Well Use	Monitoring Purpose	Semiannual Sampling First Quarter	Annual Sampling Third Quarter	Biennial Sampling Third Quarter of Odd Numbered Years
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)	WLO	✓	
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	WLO	WLO	
LADD 837	519837	PNDW	RM	WLO	WLO	
LADD 977	642977	STOCK	RM	WLO	WLO	
MARCELL	NR	PNDW	RM			✓
MCCONNELL 265	539265	PNDW	RM	WLO	WLO	✓
MCCONNELL 459	221459	PDWS	DWS (Mit)		✓	
METZLER	35-71891	PNDW	RM	WLO	WLO	
MOORE	538847	PDWS	DWS (>2000)		✓	
NESS	509127	PDWS	DWS (>2000)		✓	
NOTEMAN	212483	PNDW	RM			✓
NSD-02	527587	MW	RM	WLO	WLO	
NSD-03	527586	MW	RM	WLO	WLO	
NWC-02	562944	PWS	DWS (>2000)	✓	✓	
NWC-03 CAP	627684	PNDW	RM	WLO	WLO	
NWC-04	551849	PWS	DWS (<2000)		Quarterly	
NWC-06	575700	PWS	DWS (>2000)	✓	✓	
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)	✓	✓	

TABLE 1
Groundwater Monitoring Schedule in 2018

Well Name	ADWR 55 Registry Number	Well Use	Monitoring Purpose	Semiannual Sampling First Quarter	Annual Sampling Third Quarter	Biennial Sampling Third Quarter of Odd Numbered Years
STEPHENS	808560	PNDW	RM	WLO	WLO	
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:

1 In September 2018 BMO-2008-5B was verified as not being used for drinking water supply based on discussion with the property owner.

35-71891 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 2018

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2018			Third Quarter Schedule	3Q 2018		
			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 measurement only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
ANDERSON 458	221458		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
ASLD 435	616435	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
AWC-02	616586	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
AWC-03	616585	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
AWC-04	616584	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
AWC-05	590620	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BANKS 986	647986		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2018. Unable to measure water level due to obstruction in well.
BANKS 987	647987	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
BARTON 919	644919	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
BIMA	577927		N	N	Well is not scheduled for first quarter monitoring.		N	N	Well is not scheduled for third quarter sampling.
BMO-2008-1G	909474	✓	Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-3B	909147	✓	Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-4B	910096	WLO	Y	N	Water level measured in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-5B	909653	✓	Y	Y	Water quality sample collected in February and March 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-5M	909552	✓	Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-6B	909146	✓	Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-6M	909019	✓	Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-7M	908794	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.

TABLE 2
Summary of Groundwater Monitoring in 2018

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2018			Third Quarter Schedule	3Q 2018		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
BMO-2008-8B	910097	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
BMO-2008-8M	909711	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-9M	909255	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-10GL	909435	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
BMO-2008-10GU	909272	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
BMO-2008-11G	909434	✓	Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2008-13B	909551	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
BMO-2008-13M	909760	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
BMO-2010-1M	219957	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	✓	Y	Y	Water quality sample collected in August 2018.
BMO-2010-2M	219958	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
BMO-2010-3B	219970	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2010-3M	219969	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2012-1M	221388	✓	Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2014-1BL	917394	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2014-1BU	917393	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2014-2BL	917452	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2014-2BU	917453	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2014-3BL	917527	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2014-3BU	917494	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.

TABLE 2
Summary of Groundwater Monitoring in 2018

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2018			Third Quarter Schedule	3Q 2018		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
BMO-2014-4B	917620	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2014-4BL	917619	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2015-1B	917622	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2015-1BL	917621	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2015-2B	917827	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BMO-2015-2BL	917828	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
BOOTH	914931	✓	N	N	Well owner has declined participation in well sampling program.	✓	N	N	Well owner has declined participation in well sampling program.
BURKE	212268		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2018. Water level not measured per owner request.
CHAMBERS	629807		N	N	Well is not scheduled for first quarter monitoring.	✓	N	N	Well not sampled due to no access to the wellhead.
COB MW-1B	225906		N	N	Well is not scheduled for first quarter monitoring.	WLO	N	N	Well identified for water level measurements only. No water level collected at per well owner request.
COB MW-2	903984	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
COB MW-3	906823	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
COB WL	593116	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
COOPER	623564	✓	N	Y	Water quality sample collected in January 2018. Water level not measured due to no port in wellhead.	✓	N	Y	Water quality sample collected in July 2018. Water level not measured due to no sounder-accessible port.
COOPER C	637069		Y	N	Water level measured in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
DODSON	644927	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
DOUGLASS 791	592791		N	N	Well is not scheduled for first quarter monitoring.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
DOUGLASS 792	592792		N	N	Well is not scheduled for first quarter monitoring.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
EAST	599796		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.

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Summary of Groundwater Monitoring in 2018

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2018			Third Quarter Schedule	3Q 2018		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
ECHAVE	219449		Y	N	Water level measured in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
EPPELE 641	805641		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
FRANCO 383	221383		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
FULTZ	212447		N	N	Well is not scheduled for first quarter monitoring.	✓	N	N	Well is inoperable. No water level collected due to no port in wellhead.
GARNER 557	558557	WLO	N	N	Unable to measure water level due to no port in wellhead.	WLO	N	N	Unable to measure water level due to no port in wellhead.
GARNER 635	587635		Y	N	Water level measured in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
GOAR RANCH	610695	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
HOBAN	805290	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
HOWARD 312	221312		N	N	Well is not scheduled for first quarter monitoring.	WLO	Y	Y	Water quality sample collected in July 2018.
HOWARD NR	NR	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	✓	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
KEEFER	209744		Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
LADD 251	520251	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
LADD 538	503538	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
LADD 635	224635	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
LADD 837	519837	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
LADD 977	642977	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
MARCELL	NR		N	N	Well is not scheduled for first quarter monitoring.		N	N	Well is not scheduled for third quarter sampling.
MCCONNELL 265	539265	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
MCCONNELL 459	221459		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.

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Summary of Groundwater Monitoring in 2018

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2018			Third Quarter Schedule	3Q 2018		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
METZLER	35-71891	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
MOORE	538847		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in August 2018.
NESS	509127		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
NOTEMAN	212483		N	N	Well is not scheduled for first quarter monitoring.		N	N	Well is not scheduled for third quarter sampling.
NSD-02	527587	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in September 2018.
NSD-03	527586	WLO	Y	N	Well identified for water level measurements only. Water level measured in March 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in September 2018.
NWC-02	562944	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
NWC-03 CAP	627684	WLO	Y	N	Well identified for water level measurements only. Water level measured in January and February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
NWC-04	551849	✓	N	Y	Water quality sample collected in January 2018. Water level not measured due to no port in wellhead.	✓	N	Y	Water quality sample collected in July 2018. Water level not measured due to no port in wellhead.
NWC-06	575700	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
OLMOS	224745	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
OSBORN	643436		N	N	Well is not scheduled for first quarter monitoring.	✓	N	N	Unable to sample due to inoperable pump. Unable to collect water level due to no port in wellhead
PALMER	578819		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2018.
PANAGAKOS	35-76413	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
PARRA	576415		N	N	Well is not scheduled for first quarter monitoring.		N	N	Well is not scheduled for third quarter sampling.
PIONKE 395	613395	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
PIONKE 517	221517		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
POOL	509518		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in August 2018.
POWER 639	222639	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.

TABLE 2
Summary of Groundwater Monitoring in 2018

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2018			Third Quarter Schedule	3Q 2018		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
RAMIREZ	216425	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
RAY	803772		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
ROGERS 596	573596	WLO	Y	Y	Water quality sample collected in January 2018.	WLO	Y	Y	Water quality sample collected in July 2018.
ROGERS 803	641803	✓	Y	N	Unable to sample due to inoperable pump. Water level measured in January 2018.	✓	Y	N	Unable to sample due to inoperable pump. Water level measured in July 2018.
ROGERS E	216018		Y	Y	Water quality sample collected in February 2018.	✓	Y	Y	Water quality sample collected in July 2018.
RUIZ	531770	✓	N	Y	Water quality sample collected in January 2018. Water level not measured due to obstruction in well.	✓	Y	Y	Water quality sample collected in July 2018.
SCHWARTZ	210865	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
STEPHENS	808560	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
SWAN	NR		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
THOMPSON 151	612151	WLO	N	N	Water level not measured due to obstruction in well.	WLO	N	N	Water level not measured due to obstruction in well.
THOMPSON 341	218341		Y	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
TM-02A	522574	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
TM-06 MILLER	522695	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
TM-07	522576	✓	N	Y	Water quality sample collected in February 2018. Water level not measured due to obstruction in well.	✓	N	Y	Water quality sample collected in August 2018. Water level not measured due to obstruction in well.
TM-10 USBP	522696	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
TM-15 MILLER	522699		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
TM-16	522578	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.
TM-19A	522580		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
TM-42	562554	WLO	Y	N	Well identified for water level measurements only. Water level measured in February 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in August 2018.

TABLE 2
Summary of Groundwater Monitoring in 2018

Well Name	ADWR 55 Registry Number	First Quarter Schedule	1Q 2018			Third Quarter Schedule	3Q 2018		
			Water Level Measured?	Water Sample Collected?	Status		Water Level Measured?	Water Sample Collected?	Status
TVI 236	802236	✓	Y	Y	Water quality sample collected in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.
TVI 713	567713	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
TVI 875	568875		N	N	Well is not scheduled for first quarter monitoring.	✓	N	Y	Water quality sample collected in July 2018. Water level not measured due to no port in wellhead.
WEED	544535	✓	N	Y	Water quality sample collected in January 2018. Water level not measured due to no port in wellhead.	✓	N	Y	Water quality sample collected in July 2018. Water level not measured due to no port in wellhead.
WEISKOPF 802	641802	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	WLO	Y	N	Well identified for water level measurements only. Water level measured in July 2018.
WEISKOPF 897	220897		N	N	Well is not scheduled for first quarter monitoring.	✓	Y	Y	Water quality sample collected in July 2018.
ZANDER	205126	WLO	Y	N	Well identified for water level measurements only. Water level measured in January 2018.	✓	Y	Y	Water quality sample collected in July 2018.

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	25.3
		7/19/16	8.14	23.8	395.2	24.2
		7/18/17	8.01	23.9	395.5	26.8
		7/18/18	7.88	24.2	397.1	23.4
		AWC-02	616586	1/7/08	ND	ND
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	19.9
1/13/16	7.63			20.6	411.2	8.27
7/19/16	7.40	22.1	418.7	7.80		
1/19/17	7.33	20.5	428.7	9.87		
9/6/17	7.4	20.7	423.3	7.65		
1/17/18	7.26	20.5	442.6	13.0		
7/25/18	7.33	20.5	489.9	16.7		
7/25/18 DUP	7.33	20.5	489.9	16.9		

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
AWC-03	616585	1/7/08	ND	ND	ND	41
		3/3/08	ND	ND	ND	38
		5/5/08	ND	ND	ND	37.3
		8/12/08	7.28	22.4	469	38.8
		10/23/08	7.48	21.0	462	41.8
		3/11/09	7.25	21.2	445	64.2
		4/22/09	7.30	21.4	452	42.4
		7/22/09	7.39	22.6	456	41.8
		10/21/09	7.48	21.3	540	50.5
		2/3/10	7.44	19.7	449	42.0
		4/23/10	7.57	19.7	468	44.4
		7/20/10	7.29	23.8	460	46.7
		11/4/10	7.80	20.8	452.3	46.3
		1/19/11	7.07	19.6	560	49
		4/7/11	7.28	19.9	469.8	46.8
		7/13/11	6.33	23.1	458.8	47.6
		7/13/11 DUP	6.33	23.1	458.8	46.2
		10/13/11	6.69	23.8	463.6	48.8
		2/2/12	7.39	20.7	504.8	47.7
		4/24/12	7.28	22.1	450	51.8
		7/5/12	7.32	21.7	474.3	50.7
		10/18/12	7.44	21.3	477.4	51.3
		2/5/13	7.73	19.2	481.2	55
		4/11/13	7.51	22.2	486.4	66.1
		7/16/13	7.61	21.5	489.6	63.6
		10/9/13	7.57	20.5	485.8	49.4
		10/9/13 DUP	7.57	20.5	485.8	51
		1/7/14	7.62	20.4	486.3	56.6
		5/14/14	7.64	20.5	493.0	61.1
		7/16/14	7.68	21.4	506.9	69.1
		10/15/14	7.38	22.2	506.0	63.4
		1/29/15	7.59	21.2	495	77.1
7/21/15	7.63	21.6	494	55.5		
1/13/16	7.62	19.9	474.1	43.5		
7/19/16	7.47	20.9	493.2	54.8		
1/19/17	7.41	20.0	480.4	57.1		
9/6/17	7.41	20.3	525.5	75.1		
1/17/18	7.25	19.9	487.6	57.0		
7/25/18	7.36	20.3	504.5	76.3		
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	23.2		
1/13/16	7.42	19.2	556.6	27.0		
7/19/16	7.24	20.6	590.7	31.4		
1/19/17	7.06	19.6	658.6	22.9		
1/19/17 DUP	7.06	19.6	658.6	23.1		
9/6/17	7.17	19.8	571.0	25.8		
1/17/18	7.13	19.6	532.6	38.6		
7/25/18	6.99	19.3	663.1	24.3		

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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	14.4		
7/19/16	7.40	22.2	443.1	20.7		
1/19/17	7.45	21.4	436.7	21.9		
9/6/17	7.38	20.9	447.4	19.7		
9/6/17 DUP	7.38	20.9	447.4	20.5		
1/17/18	7.34	20.5	437.0	20.2		
7/25/18	7.35	20.4	456.9	17.9		
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	76.3		
7/12/16	7.59	22.2	1029	68.7		
7/26/17	7.45	20.9	1012	88.6		
7/30/18	7.40	21.0	987.6	66.6		

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)
BF-01	539783	5/23/08	6.41	18.3	2698	1450
		8/5/08	6.11	22.4	3095	1330
		11/5/08	6.33	19.9	3027	1490
		2/20/09	6.42	19.2	1477	1330
		5/6/09	5.98	23.9	2632	1280
		8/17/09	6.21	29.7	2948	1250
		11/4/09	6.24	23.0	2846	1280
		3/1/10	6.34	21.1	2945	1260
		4/7/10	5.83	20.4	1853	1450
		7/6/10	5.93	22.6	1403	1310
		7/13/11	6.26	21.3	2960	1350
		2/1/12	6.18	19.8	2910	1480
		8/14/12	6.00	21.5	3000	1500
BIMA	577927	2/6/08	6.69	22.2	1335	210
		4/25/08 ¹	6.37	23.1	1521	190
		5/13/08 ¹	6.58	22.7	1489	195
		6/23/08 ¹	6.30	23.3	1572	225
		6/23/08 DUP	6.30	23.3	1572	196
		7/29/08 ¹	6.44	23.0	1647	204
		8/28/08 ¹	M	23.0	1776	256
		9/23/08 ¹	6.29	23.0	1741	296
		10/22/08	6.41	22.3	1801	285
		1/20/09	6.40	21.7	1233	190
		1/20/09 DUP	6.40	21.7	1233	200
		4/7/09	6.45	23.4	1436	212
		7/8/09	6.31	23.4	1483	189
		10/5/09	6.34	22.7	1525	233
		1/20/10	6.88	17.0	M	222
		4/19/10	6.70	21.9	1533	256
		7/12/10	6.70	24.0	1577	273
		10/18/10	6.47	24.3	1702	296
		1/19/11	6.65	21.2	1672	283
		4/4/11	6.61	24.0	1643	282
		8/25/11	6.27	25.9	1460	300
		10/10/11	6.5	24.1	1520	322
		2/3/12	6.48	18.5	1540	312
		4/23/12	6.57	23.9	1790	303
		7/10/12	6.06	23.7	1200	301
		11/29/12	6.51	20.6	1664	310
		3/13/13	7.29	19.8	1175	317
		4/10/13	6.64	13.9	1569	308
		7/8/13	6.62	28.0	1580	301
		10/11/13	6.57	21.8	1749	301
		1/10/14	6.63	10.7	1664	297
		4/10/14	6.62	15.8	1685	300
		7/8/14	6.56	21.6	1653	297
10/23/14	6.25	23.9	1704	227		
7/23/15	6.87	26.2	1627	271		
7/15/16	6.90	28.7	1602	271		
7/27/17	6.84	25.4	1553	304		
BLOMMER	633472	2/5/08	7.43	20.2	714	206
		4/21/08 ¹	7.06	21.9	753	201
		5/15/08 ¹	7.16	22.2	845	211
		6/23/08 ¹	6.93	21.5	903	193
		7/29/08 ¹	7.21	22.2	921	203
		8/27/08 ¹	7.12	22.1	864	189
		9/23/08 ¹	7.16	22.3	818	193
		10/22/08	7.17	21.3	873	200

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BMO-2008-1G	909474	8/27/08	7.09	24.2	808	107
		11/11/08	7.00	20.8	721	143
		2/25/09	7.01	22.0	860	109
		4/28/09	7.04	22.2	762	198
		8/4/09	7.23	22.8	950	104
		10/27/09	7.11	21.9	922	103
		2/17/10	7.36	20.5	899.3	98.4
		4/15/10	7.04	22.2	711	95.2
		7/7/10	6.91	21.5	640	88.1
		7/7/10 DUP	6.91	21.5	640	87.1
		2/10/11	6.80	21.0	916	105
		7/12/11	7.2	26.6	1015	121
		2/8/12	7.02	20.2	869	116
		8/14/12	6.97	21.9	959	120
		2/14/13	7.09	21.2	986	112
		8/14/13	6.96	21.6	1009	120
		2/13/14	6.76	21.1	1010	114
		7/22/14	6.87	22.0	1010	117
		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
		3/1/17	6.99	22.1	923	110
7/24/17	7.11	22.2	925	112		
2/14/18	7.08	20.9	924	112		
7/10/18	7.24	22.2	920	115		
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
3/1/17	6.99	21.0	618	135		
7/26/17	7.17	21.5	648	147		
2/8/18	7.46	21.0	653	150		
7/10/18	7.35	21.9	663	154		
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
		9/30/17	7.43	22.6	392.5	9.88
		7/26/18	7.43	22.6	386.1	10.9

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-2008-5B	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
		3/1/17	7.07	21.5	756	243
8/1/17	7.05	22	779	245		
2/8/18	7.28	21.4	798	267		
3/8/18	7.3	21.4	792	246		
3/8/18 DUP	7.3	21.4	792	246		
4/11/18	7.25	21.4	814	240		
5/29/18	7.31	22.1	811	262		
6/19/18	7.26	22.3	817	252		
7/25/18	7.02	23.0	794	250		
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
		3/1/17	6.97	22.4	621	157
		8/1/17	7.11	22.8	636	159
2/8/18	7.26	22.4	646	168		
7/25/18	7.22	23.2	651	161		

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
3/1/17	7.37	21.4	271	12.1		
7/10/17	7.52	22.1	291	11.7		
2/8/18	7.26	20.9	284	13.3		
7/10/18	7.78	22.2	296	18.2		
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
3/1/17	6.92	21.9	745	237		
7/10/17	7.04	22.6	742	218		
2/8/18	7.3	21.8	775	244		
7/10/18	7.26	22.1	761	234		

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		
7/10/17	7.36	23.5	464	33.1		
7/23/18	7.36	23.5	464	34.7		
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
		7/10/17	6.69	22.2	1540	1240
		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		
7/10/17	7.28	24.7	542	74.1		
7/23/18	7.48	24.8	536	76.9		
7/23/18 DUP	7.48	24.8	536	74.5		

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)
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		
7/11/17	7.57	24.5	572	92.0		
7/26/18	7.66	24.4	584	97.2		
BMO-2008-10GL	909435	8/20/08	6.22	29.5	2924	1320
		11/5/08	6.47	25.3	2573	1290
		2/25/09	6.34	26.8	2646	1180
		5/12/09	6.35	26.2	2402	1120
		8/11/09	6.52	27.3	2661	1030
		11/2/09	6.52	26.7	2565	1100
		3/4/10	6.76	24.1	2937	1080
		4/8/10	6.03	25.6	1575	1260
		7/2/10	6.16	26.3	1338	1020
		7/13/11	6.32	24.8	1726	644
		2/2/12	6.45	24.8	1600	624
		7/13/12	6.71	25.7	1571	545
		2/18/13	6.45	25.4	1530	498
		2/18/13 DUP	6.45	25.4	1530	494
		8/13/13	6.57	25.5	1586	520
		8/7/14	6.56	25.8	1417	442
		7/11/17	6.14	25.6	3790	1810
		BMO-2008-10GU	909272	8/4/08	6.41	23.6
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
8/9/17	6.06			20.4	3860	1990
8/9/17 DUP	6.06			20.4	3860	1960
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
		3/2/17	7.59	24.8	328	12.5
		7/11/17	7.85	25.4	333	12.4
		2/12/18	7.96	24.4	341	13.1
		7/12/18	7.89	25.4	339	13.3

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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
		8/2/17	6.67	21.2	2130	1050
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
		8/15/17	8.42	24.7	1305	386
		9/9/10	7.82	24.6	727.0	150
		BMO-2010-1M	219957	11/11/10	8.68	19.9
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
7/12/17	7.70	24.0	715	180		
8/7/18	7.85	23.8	751	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
7/12/17	6.6	22.2	2160	967		

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	20.7
		2/2/16	7.67	18.9	407.5	16.1
7/12/16	7.59	21.0	424.9	16.8		
1/18/17	7.45	20.5	413.9	18.8		
7/11/17	7.40	20.7	424.6	16.5		
1/8/18	7.42	20.4	415.7	21.8		
1/8/18 DUP	7.42	20.4	415.7	21.1		
7/10/18	7.44	20.5	428.1	16.0		
7/31/10	7.73	24.3	390	14.8		
BMO-2010-3M	219969	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	8.64
		7/22/15 DUP	7.79	23.5	383.9	9.25
		2/2/16	7.83	19.8	367.5	8.46
		7/12/16	7.75	22.7	383.3	10.1
1/18/17	7.54	22.2	382.3	9.97		
7/11/17	7.52	22.6	384.8	8.97		
1/8/18	7.52	22.2	379.7	9.69		
7/10/18	7.55	22.1	389.2	9.17		
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
		3/2/17	6.98	23.1	922	236
		3/2/17 DUP	6.98	23.1	922	228
		7/24/17	7.08	23.0	938	250
		8/21/17	7.14	22.8	944	221
		2/13/18	7.24	22.7	960	237
7/16/18	7.33	23.4	960	236		

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-2014-1BL	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	149
		10/7/15	7.55	21.6	685.9	156
		10/7/15 DUP	7.55	21.6	685.9	156
		2/4/16	7.66	20.2	675.4	146
		4/6/16	7.43	21.7	696.3	152
		7/14/16	7.47	21.9	690.7	151
		11/2/16	7.28	21.6	689.9	143
		1/24/17	7.29	21.4	684.6	156
		7/13/17	7.26	21.6	687.5	158
		1/10/18	7.24	21.5	685.3	159
		7/12/18	7.25	21.7	693.4	163
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	165
		10/7/15	7.51	20.9	728.8	182
		2/4/16	7.51	20.1	715.7	163
		4/6/16	7.47	21.0	733.5	172
		7/14/16	7.45	21.6	724.8	170
		7/14/16 DUP	7.45	21.6	724.8	169
		11/2/16	7.29	20.9	719.5	155
		1/24/17	7.28	20.5	722.8	178
		7/13/17	7.27	20.8	736.4	184
		1/10/18	7.25	20.5	694.3	158
		7/12/18	7.24	20.7	730.3	181
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	452
		10/7/15	7.41	20.8	1180	467
		2/4/16	7.38	19.7	1164	434
		2/4/16 DUP	7.38	19.7	1164	428
		4/6/16	7.43	21.2	1187	456
		7/14/16	7.27	21.9	1182	437
		11/2/16	7.18	20.8	1184	422
		1/24/17	7.11	21.3	1170	453
		9/6/17	7.08	20.7	1197	441
		1/10/18	7.10	20.5	1167	448
		7/12/18	7.12	20.4	1186	445
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	58.2
		10/7/15	7.74	20.6	541.1	62.0
		2/4/16	7.58	19.8	528.0	56.5
		4/6/16	7.58	21.7	539.3	58.6
		7/14/16	7.56	21.4	536.6	59.9
		11/2/16	7.39	20.2	535.9	55.8
		1/24/17	7.36	20.1	531.2	61.0
		7/13/17	7.38	20.1	536.9	60.1
		1/10/18	7.35	19.8	525.4	57.0
		7/12/18	7.37	20.1	537.5	55.6
		2/13/15	7.34	22.4	384	7.84
BMO-2014-3BL	917527	4/15/15	7.72	21.6	402.3	8.73
		7/29/15	7.72	23.1	413.7	7.92
		10/7/15	7.64	21.6	415.6	8.51
		2/4/16	7.62	20.9	409.8	8.36
		4/6/16	7.62	21.9	424.9	8.62
		7/14/16	7.62	22.7	419.4	8.77
		11/2/16	7.40	21.4	423.2	7.98
		1/25/17	7.38	21.4	406.4	8.37
		7/13/17	7.37	21.7	423.3	8.69
		1/12/18	7.31	21.3	402.0	8.25
		1/12/18	7.31	21.3	402.0	8.25
		7/12/18	7.42	21.5	423.0	7.71

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-2014-3BU	917494	2/24/15	7.64	18.2	471.4	8.22
		4/15/15	7.67	20.4	469.5	8.71
		7/29/15	7.62	21.9	471.9	7.46
		10/7/15	7.62	20.4	467.9	7.82
		2/4/16	7.64	19.7	466.4	7.68
		4/6/16	7.53	20.9	473.2	8.25
		7/14/16	7.56	21.3	465.9	8.57
		11/2/16	7.40	20.0	471.1	7.79
		1/25/17	7.36	20.0	458.1	8.06
		7/13/17	7.34	20.2	472.9	8.55
		1/12/18	7.28	20.0	457.5	8.06
		7/12/18	7.35	20.0	470.0	7.95
BMO-2014-4B	917620	3/4/15	7.68	20.3	524.0	64.7
		4/14/15	7.61	20.9	494.7	61.7
		7/23/15	7.60	21.7	493.7	57.2
		10/6/15	7.70	20.5	481.9	52.7
		2/3/16	7.74	19.8	491.1	58.2
		4/5/16	7.61	20.9	491.9	53.2
		7/13/16	7.55	21.3	478.3	48.0
		7/13/16 DUP	7.55	21.3	478.3	48.3
		11/1/16	7.58	20.6	472.7	42.5
		11/1/16 DUP	7.58	20.6	472.7	42.1
		1/23/17	7.42	20.4	493.0	63.6
		7/12/17	7.41	20.5	483.0	56.7
		1/9/18	7.39	20.3	490.9	64.7
		7/11/18	7.38	20.3	467.7	47.4
		BMO-2014-4BL	917619	3/1/15	7.63	21.1
4/14/15	7.63			21.4	665.1	184
7/23/15	7.66			21.9	669.7	185
7/23/15 DUP	7.66			21.9	669.7	169
10/6/15	7.71			20.9	660.4	176
2/3/16	7.69			20.1	660.2	165
4/5/16	7.53			21.2	671.7	171
7/13/16	7.51			21.5	653.5	165
11/1/16	7.47			20.9	665.8	160
1/23/17	7.37			20.6	672.1	182
7/12/17	7.42			20.7	674.4	178
1/9/18	7.36			20.5	681.5	183
7/11/18	7.32			20.6	687.8	187
BMO-2015-1B	917622			3/15/15	8.11	20.2
		4/14/15	7.59	20.9	680.1	187
		7/23/15	7.68	21.7	690.7	201
		10/6/15	7.66	20.6	681.9	190
		2/3/16	7.64	19.8	678.5	173
		4/5/16	7.57	20.5	691.4	181
		7/13/16	7.52	21.2	675.3	172
		11/1/16	7.44	20.4	683.6	163
		1/23/17	7.43	20.4	692.6	193
		7/12/17	7.44	20.5	697.6	190
		1/9/18	7.36	20.3	703.1	203
		7/11/18	7.39	20.3	705.9	194
		BMO-2015-1BL	917621	3/12/15	7.70	20.8
4/14/15	7.55			20.7	733.4	239
7/23/15	7.62			22.3	747.3	259
10/6/15	7.74			20.8	747.3	232
2/3/16	7.71			19.2	736.1	219
2/3/16 DUP	7.71			19.2	736.1	215
4/5/16	7.58			21.0	767.1	231
7/13/16	7.49			21.6	763.8	231
11/1/16	7.41			20.6	770.0	221
1/23/17	7.39			20.5	769.1	249
7/12/17	7.37			20.6	780.5	253
1/9/18	7.38			20.5	784.5	251
7/11/18	7.35			20.5	791.5	253
BMO-2015-2B	917827	3/19/15	7.43	20.0	795.2	288
		4/14/15	7.41	20.7	832.4	271
		7/23/15	7.47	22.2	847.5	292
		10/6/15	7.60	20.9	844.3	262
		2/3/16	7.48	20.4	823.2	247
		4/5/16	7.44	21.4	849.8	258
		7/13/16	7.33	21.8	837.2	250
		11/1/16	7.26	20.6	848.1	247
		1/23/17	7.26	20.5	849.6	268
		7/12/17	7.27	20.4	847.9	273
		1/9/18	7.25	20.2	841.9	276
		7/11/18	7.17	20.4	856.9	261

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-2015-2BL	917828	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	323
		10/6/15	7.54	21.2	890.3	304
		2/3/16	7.45	20.5	884.7	278
		4/5/16	7.42	21.3	903.9	296
		4/5/16 DUP	7.42	21.3	903.9	292
		7/13/16	7.33	21.8	903.7	296
		11/1/16	7.24	20.8	905.7	282
		1/23/17	7.25	20.6	909.8	315
		7/12/17	7.23	20.7	921.0	317
		1/9/18	7.19	20.5	915.5	320
7/11/18	7.14	20.5	923.8	307		
BOOTH	914931	1/5/13	7.67	18.5	574.3	91.4
		6/14/13	7.61	51.1	604.2	95
		6/14/13 DUP	7.61	51.1	604.2	92.5
		7/17/13	7.75	23.2	497.6	75
		10/18/13	7.66	19.3	597.6	92.6
BURKE	212268	2/7/08	7.17	23.0	411	29.5
		4/22/08	7.13	27.0	423	26
		8/5/08	7.06	26.8	496	21.9
		10/20/08	7.57	26.0	466	20.5
		2/11/09	7.23	25.0	363	23.9
		4/28/09	7.16	26.1	369	24.2
		8/19/09	7.36	26.7	486	22.5
		12/16/09	7.28	25.7	488	26
		3/2/10	7.56	12.3	432	23.8
		4/22/10	7.49	16.4	452	24.8
		7/21/10	7.56	25.6	423.7	33.1
		10/10/13	7.87	21.9	469.6	27.5
		1/8/14	8.17	10.9	464.9	28.6
		4/16/14	7.80	21.1	471.0	28.3
		7/21/14	8.19	27.8	448.8	29.6
		10/21/14	8.06	22.2	456.0	29.1
		8/3/15	7.72	27.4	479.3	27.2
		7/21/16	7.98	26.4	478.0	28.6
		7/21/16 DUP	7.98	26.4	478.0	28.5
		7/25/17	7.91	23.5	475.3	31.7
7/26/18	7.51	27.4	480.8	30.5		
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	11.4
		7/14/16	7.49	22.8	459.8	13.2
		7/25/17	7.34	21.3	450.4	13.2

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-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	902		
COB MW-1B	225906	7/20/16	6.63	21.8	2405	1210
		7/19/17	6.51	20.9	2474	1160
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	40.3
		7/27/15 DUP	7.57	20.8	514.6	41.6
		1/11/16	7.54	19.5	510.6	41.2
		7/20/16	7.52	20.0	523.7	41.6
1/19/17	7.40	19.5	525.8	41.5		
7/19/17	7.29	19.5	548.6	39.6		
1/11/18	7.26	19.3	552.3	36.1		
7/17/18	7.28	19.4	572.5	32.6		
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	105
		7/20/16	7.48	20.4	507.4	72.7
7/19/17	7.34	20.2	529.5	84.1		
7/17/18	7.37	20.0	528.5	92.7		

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)
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	69.6
1/11/16	7.25	20.4	1195	73.5		
7/20/16	7.12	22.5	1184	74.4		
1/25/17	7.07	21.5	1167	79.8		
7/14/17	7.07	21.9	1162	80.4		
1/11/18	7.07	21.7	1169	77.3		
7/9/18	7.21	21.8	1165	73.0		
7/9/18 DUP	7.21	21.8	1165	74.5		
COLLINS	565260	2/12/08	6.88	21.6	1470	520
		5/29/08	7.01	22.0	1459	520
		7/31/08	6.86	21.6	1502	536
		10/20/08	8.44	24.7	1510	518
		2/11/09	6.68	21.4	1147	567
		4/21/09	6.92	22.5	1150	499
		7/22/09	7.00	22.4	1413	460
		10/20/09	6.60	21.9	1432	513
		2/2/10	6.98	21.2	1439	471
		4/23/10	6.99	20.6	1472	561
		7/20/10	6.69	25.0	1420	569
		7/17/13	6.97	21.6	1409	519
		COOPER	623564	2/14/08	7.02	20.8
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	27.1
3/31/16	7.52			22.4	410	28.8
7/25/16	7.62			22.4	420.2	27.3
1/25/17	7.56			20.8	412.8	26.2
7/17/17	7.48	21.6	417.1	35.6		
1/16/18	7.45	20.8	402.8	26.1		
7/16/18	7.45	21.8	415.8	25.5		

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)
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		
7/13/17	6.99	23.0	1461	639		
7/25/18	6.95	22.2	1545	661		
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	60.8
		1/12/16	7.41	18.6	1749	49.2
		7/18/16	7.28	20.7	2233	49.1
		1/26/17	7.06	19.8	2049	45.9
		7/17/17	7.07	19.9	1920	46.1
		1/17/18	7.01	19.6	1922	45.4
		7/30/18	7.05	19.4	2408	39.1

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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
EAST	599796	2/8/08	7.45	19.9	423	10.6
		5/14/08	7.31	20.9	595	14.8
		7/23/08	7.34	20.8	605	11.8
		10/14/08	7.33	20.3	531	8.9
		1/20/09	7.33	20.0	482	12.5
		4/8/09	7.32	20.6	555	15.9
		7/13/09	7.33	21.2	613	13.8
		10/8/09	7.29	20.8	593	13.4
		1/25/10	7.08	19.0	585	10.7
		4/21/10	7.42	20.5	616	14.4
		4/21/10 DUP	7.42	20.5	616	13.9
		7/14/10	7.45	22.2	577.1	12.1
		10/20/10	7.64	21.2	650	12.1
		1/18/11	7.44	21.0	615.9	13.1
		4/5/11	7.19	20.8	612.5	13.8
		7/12/11	7.23	21.7	595.1	12.7
		10/12/11	7.31	21.4	599.7	15.1
		10/12/11 DUP	7.31	21.4	599.7	15.1
		1/31/12	7.24	20.0	610	12.8
		4/11/12	7.53	20.6	609.3	14.6
		7/9/12	7.20	21.1	580	14.2
		10/4/12	7.49	20.4	623.8	15.0
		1/17/13	7.46	20.0	613.0	13.1
		4/9/13	7.54	19.6	597.7	12.2
		7/9/13	7.46	21.2	603.6	12.1
		10/15/13	7.51	20.2	622.6	17.2
		1/14/14	7.54	20.2	632.2	15.5
		1/14/14 DUP	7.54	20.2	632.2	15.5
		4/8/14	7.44	20.5	634.7	15.3
		7/8/14	7.43	20.7	618.8	13.1
		10/22/14	7.23	22.8	601.0	20.7
7/24/15	7.5	21.0	626.5	13.1		
7/12/16	7.30	21.3	615.9	14.7		
7/27/17	7.22	19.8	620.9	14.2		
7/30/18	7.26	19.8	605.9	12.4		
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	24.6
		7/22/16	7.86	27.5	391.5	24.7
		7/28/17	7.59	25.1	403.2	25.7
7/17/18	7.68	24.3	397.5	24.1		

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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	22.6		
7/12/16	7.84	24.6	576.6	18.9		
7/12/16 DUP	7.84	24.6	576.6	18.9		
7/27/17	7.70	21.4	563.1	18.8		
7/31/18	7.78	21.6	558.9	17.8		
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	322
		7/18/16	7.63	26.0	1040	339
		7/20/17	7.36	24.9	1056	337
		7/27/18	7.42	25.8	1063	371

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
FULTZ	212447	2/27/08	6.76	21.1	1827	152
		4/21/08 ¹	6.74	22.0	1739	137
		5/14/08 ¹	6.88	22.3	1532	131
		6/23/08 ¹	6.74	22.0	1788	111
		7/29/08 ¹	6.74	22.2	1989	152
		8/28/08 ¹	M	21.6	1889	137
		9/23/08 ¹	6.82	21.9	1821	137
		10/22/08	6.80	21.4	1940	145
		1/21/09	6.74	21.2	1481	82
		4/9/09	6.78	21.5	1695	138
		7/13/09	7.04	23.4	1452	81
		10/8/09	7.00	21.6	1262	72
		10/8/09 DUP	7.00	21.6	1262	71.8
		1/25/10	7.11	21.8	1282	66.7
		4/20/10	7.32	21.2	1202	68.3
		7/14/10	7.75	22.2	1132	57.0
		10/20/10	7.27	20.5	1091	54.7
		1/18/11	7.23	20.4	1136	56.9
		4/5/11	7.08	22.1	1082	49.5
		4/5/11 DUP	7.08	22.1	1082	51.7
8/25/11	6.45	23.3	940	50.6		
10/12/11	7.22	21.7	870	48.5		
GALLANT	502527	2/11/08	7.46	20.2	604	17.9
		7/23/08	7.26	21.2	925	20.9
GARNER 635	587635	2/4/08	7.61	22.7	479	37.8
		5/5/08	7.26	24.9	468	35.8
		7/15/08	7.63	25.6	480	37.4
		10/15/08	7.65	24.1	472	36
		1/28/09	7.69	23.4	368	37.4
		4/15/09	7.83	24.1	412	36.9
		7/16/09	7.56	25.1	445	35.7
		10/14/09	7.58	25.2	446	36.1
		2/2/10	7.79	22.8	465	35.1
		4/22/10	7.84	23.7	464.1	36.9
		7/20/10	7.57	25.3	458.2	38.8
		10/19/10	8.23	25.4	510	37.9
		1/19/11	7.82	24.1	463.4	35.7
		1/19/11 DUP	7.82	24.1	463.4	35.7
		4/6/11	7.76	23.4	467.4	35.8
		7/15/11	7.19	25.0	457.40	37.7
		10/11/11	7.57	24.2	400.0	38
		2/2/12	7.38	22.7	469.5	39.2
		4/13/12	7.62	24.0	460.0	33.5
		7/11/12	7.52	24.9	520	37.7
		7/11/12 DUP	7.52	24.9	520	37.2
		10/5/12	8.09	23.1	472.9	39.1
		1/11/13	7.83	23.7	470.8	38.7
		4/15/13	7.79	23.4	471.5	40
		7/10/13	7.9	25.0	469.5	36.7
		10/11/13	7.78	24.0	476.7	38.8
		1/17/14	7.81	23.2	473.6	41
		4/15/14	7.74	23.7	470.7	40.4
		7/26/17	7.46	23.4	474.1	40.6
		7/24/18	7.48	23.9	468.1	41.7
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
		7/13/17	6.77	21.7	1924	1270
7/13/17 DUP	6.77	21.7	1924	1050		
7/25/18	7.01	22.2	1907	998		
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	67.5		
7/27/16	8.12	26.3	612.6	67.9		
7/21/17	8.00	26.0	616.4	65.8		
7/23/18	8.05	26.1	614.7	70.7		
3/4/08	7.06	20.4	1280	571		
5/8/08	6.95	21.0	1494	673		
7/14/08	7.00	21.1	1566	610		
10/15/08	7.00	20.6	1598	683		
1/28/09	6.82	21.0	1203	640		
1/28/09 DUP	6.82	21.0	1203	640		
4/15/09	7.02	21.5	1397	620		
7/15/09	7.16	21.5	1539	640		
10/12/09	6.89	21.4	1414	600		
1/27/10	7.35	20.0	1714	440		
1/27/10 DUP	7.35	20.0	1714	520		
4/21/10	7.16	20.8	1490	710		
7/19/10	6.94	24.6	1350	548		
10/18/10	6.47	21.4	1420	568		
1/17/11	7.12	19.8	1370	520		
4/11/11	7.20	20.6	1489	616		
8/26/11	7.11	23.2	1160	498		
10/11/11	7.1	21.0	1220	545		
10/11/11 DUP	7.1	21.0	1220	538		
2/1/12	7.29	20.6	1367	630		
4/13/12	6.99	21.2	1508	632		
9/13/12	7.12	21.9	1576	699		
10/16/12	7.06	21.1	1417	576		
2/6/13	7.06	20.3	1499	679		
4/9/13	7.38	19.4	1319	521		
7/12/13	7.40	21.6	1430	590		
10/16/13	7.15	20.3	1319	522		
1/8/14	7.24	20.3	1267	462		
4/10/14	7.23	20.6	1262	471		
7/14/14	7.18	21.1	1300	496		
7/14/14 DUP	7.18	21.1	1300	495		
10/10/14	6.93	23.2	1339	413		
7/31/15	7.16	21.9	1316	484		
7/21/17	6.98	20.1	1278	447		

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	6.09
		7/25/16	7.42	22.2	477.9	6.81
		7/25/17	7.31	19.4	499.5	7.23
2/23/18	7.31	19.5	472.7	6.60		
7/9/18	7.35	19.9	494.4	6.25		
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	949
7/20/17	6.73	20.6	1964	905		

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
		7/31/15	8.13	25.9	453.6	28.5
		7/26/16	8.08	25.6	455.3	30.4
		7/20/17	7.93	24.9	449.8	32.3
		7/17/18	7.93	24.8	446.7	28.6
METZLER	35-71891	3/5/08	7.27	21.6	1055	317
		5/15/08	7.12	22.8	1051	329
		7/31/08	7.16	22.5	1078	317
		10/20/08	7.24	22.2	1080	305
		10/20/08 DUP	7.24	22.2	1080	326
		2/11/09	7.12	21.3	818	321
		4/20/09	7.22	23.2	845	313
		7/15/09	7.41	22.9	1031	293
		7/15/09 DUP	7.41	22.9	1031	309
		10/14/09	7.1	22.7	989	315
		2/1/10	7.22	21.7	1021	286
		5/18/10	7.56	21.0	1053	330
		7/16/10	7.20	24.1	1007	330
		10/19/10	7.15	22.6	1006	319
		1/19/11	7.55	21.1	930	298
		4/4/11	7.03	23.3	1018	323
		7/12/11	7.07	22.3	993.0	312
		10/12/11	7.27	22.1	910	301
		2/7/12	7.36	21.5	1019	326
		4/12/12	7.34	21.1	1009	320
MOORE	538847	2/20/08	7.69	22.2	362	7.1
		5/8/08	7.09	22.4	432	7.5
		7/16/08	7.34	23.0	482	9.8
		10/29/08	7.32	22.4	452	19.2
		1/29/09	7.11	21.7	328	6.6
		4/16/09	7.40	22.1	374	6.4
		7/15/09	7.44	23.3	439	5.8
		10/13/09	7.36	22.6	429	7.1
		1/26/10	7.54	19.6	423	6.3
		4/22/10	7.47	20.6	433	7.40
		7/15/10	7.44	24.1	431.3	7.54
		7/15/10 DUP	7.44	24.1	431.3	7.11
		10/19/10	6.79	22.1	430	7.14
		1/18/11	7.48	21.1	390	6.42
		4/6/11	7.39	21.4	426.3	6.70
		7/13/11	6.91	23.2	423.4	7.62
		10/11/11	7.31	22.5	419.0	7.31
		1/31/12	7.35	21.7	430	7.21
		4/23/12	7.34	22.8	470	6.99
		4/23/12 DUP	7.34	22.8	470	7.05
		7/17/12	7.36	22.9	430	7.01
		7/17/12 DUP	7.36	22.9	430	6.99
		10/8/12	7.64	21.4	433.2	7.51
		1/10/13	7.50	20.8	439.9	7.16
		4/19/13	7.68	21.6	434.7	7.25
		7/11/13	7.56	22.9	442.2	7.14
		10/7/13	7.59	21.5	431.8	6.99
		10/13/14	7.47	22.0	433	6.72
		8/3/15	7.61	22.9	446.7	7.12
		7/14/16	7.55	23.0	445.8	7.86
7/25/17	7.28	21.1	455.5	7.98		
8/1/18	7.24	26.9	436.8	8.10		

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	54.3
		7/11/16	7.60	28.5	545.2	49.6
7/27/17	7.39	26.4	545.8	55.2		
7/31/18	7.42	26.4	550.7	54.1		
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	287		
7/15/16	6.79	23.9	1412	257		
7/27/17	6.57	22.9	1383	265		
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	6.31
		1/12/16	7.81	20.2	421.5	6.17
		7/26/16	7.54	21.4	434.4	6.81
		1/26/17	7.41	21.0	421.2	6.81
		7/18/17	7.29	21.0	435.8	7.15
1/16/18	7.39	20.8	427.3	6.76		
7/18/18	7.34	20.7	435.3	6.50		
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	195
		10/6/15	7.54	23.2	866.8	225
		1/12/16	7.57	22.7	811.2	188
		4/5/16	7.47	23.9	847.7	192
		7/26/16	7.45	23.8	907.3	187
		11/2/16	7.32	23.0	900.6	181
		1/26/17	7.41	23.1	851.9	195
		4/6/17	7.33	23.2	846.8	176
		7/18/17	7.23	23.9	844.7	201
		11/14/17	7.31	23.3	860.1	193
		1/16/18	7.30	23.4	809.6	181
		5/2/18	7.41	23.7	854.1	192
		7/18/18	7.32	23.2	863.5	195
10/16/18	7.40	23.6	850.1	210		
10/16/18 DUP	7.40	23.6	850.1	210		
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	8.20
		1/12/16	7.74	20.7	397.5	8.50
7/26/16	7.58	21.8	409.1	8.69		
1/26/17	7.42	21.3	394.0	8.64		
7/18/17	7.35	21.4	405.6	8.35		
1/16/18	7.45	21.1	400.4	8.85		
7/18/18	7.38	21.2	407.2	8.35		
OLMOS	224745	1/13/16	7.61	20.4	421.0	8.04
		7/14/16	7.58	22.5	445.9	7.97
		7/25/17	7.29	20.6	434.7	8.25
		7/13/18	7.31	20.6	446.1	7.58
		7/13/18 DUP	7.31	20.6	446.1	7.46

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
OSBORN	643436	2/25/08	7.35	22.4	508	16.4
		5/13/08	7.22	22.2	576	17.2
		7/22/08	7.24	22.9	618	17.7
		7/22/08 DUP	7.24	22.9	618	17.5
		10/16/08	7.39	22.4	595	15.9
		1/20/09	7.33	22.4	469	16
		4/7/09	7.25	24.0	542	17
		8/18/09	7.16	24.6	643	17.4
		10/5/09	7.14	22.9	599	17.9
		1/21/10	7.47	19.5	591	15.6
		4/19/10	7.60	21.5	601.9	19.3
		7/12/10	7.69	24.2	594.0	18.4
		7/12/11	7.87	29.8	575.9	19.5
		2/3/12	8.15	15.3	390	19.2
		1/8/13	7.88	10.5	544.4	20.4
		7/8/13	7.56	39.2	510.3	19.2
		1/10/14	7.89	18.1	580.5	18.7
		7/7/14	7.84	29.2	496.3	18.0
		7/11/16	7.56	37.8	515.4	18.6
		7/31/17	7.74	25.6	548.4	19.3
7/31/17 DUP	7.74	25.6	548.4	18.7		
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	17.6
7/31/18	7.65	29.6	534.8	17.1		

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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
		11/27/12	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	469
		1/11/16	7.18	18.9	1402	443
1/11/16 DUP	7.18	18.9	1402	452		
2/24/17	7.19	19.1	1270	218		
2/24/17 DUP	7.19	19.1	1270	217		
7/17/17	7.13	20.2	1219	232		
1/18/18	7.08	19.0	1151	223		
1/18/18 DUP	7.08	19.0	1151	226		
7/30/18	6.96	20.5	1389	384		
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	391		
7/22/16	7.17	22.6	1151	392		
7/25/17	6.98	20.9	1194	426		

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
PIONKE 395	613395	2/6/08	7.53	19.9	910	394
		5/7/08	7.08	21.4	1100	391
		7/17/08	6.99	21.9	1209	420
		10/27/08	7.03	20.8	1175	460
		1/29/09	7.13	19.9	847	385
		4/14/09	7.58	20.7	1053	411
		7/13/09	7.35	21.5	1165	472
		10/7/09	7.43	21.1	1100	403
		3/8/10	7.72	18.6	1201	406
		4/26/10	7.22	21.9	1224	438
		7/15/10	7.32	22.3	1158	474
		10/18/10	7.33	21.3	1277	473
		10/18/10 DUP	7.33	21.3	1277	487
		1/19/11	7.32	19.9	1222	471
		4/8/11	7.13	19.2	1232	467
		7/12/11	7.30	23.8	1226	500
		10/11/11	6.98	20.8	1100	502
		2/1/12	7.25	17.5	1230	481
		2/1/12 DUP	7.25	17.5	1230	495
		4/12/12	7.17	22.1	1218	508
7/11/12	6.59	22.9	1280	439		
10/17/12	7.16	22.3	1136	419		
PIONKE 517	221517	9/18/12	7.91	23.4	395.8	14
		10/11/12	7.75	22.8	394.7	14.9
		1/9/13	7.79	22.6	389.9	14.3
		4/17/13	7.74	22.1	391.9	14.6
		7/16/13	7.84	22.9	391.5	13.9
		10/17/13	7.73	22.7	391.5	13.8
		2/5/14	7.75	21.5	394.2	14.9
		4/9/14	7.71	22.9	400.9	14.0
		7/11/14	7.76	23.7	388.9	14.6
		10/7/14	7.46	25.8	406	14.0
		7/22/15	7.79	23.3	392.1	13.9
		7/26/16	7.67	23.2	389.2	14.1
		7/18/17	7.44	22.5	388.7	13.2
		7/24/18	7.53	22.3	385.7	13.4
		POOL	509518	2/20/08	7.95	20.9
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
8/1/18	7.47			24.2	580.9	113
POWER	624535			2/12/08	7.11	18.9
		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	308
		5/14/15	7.32	21.3	991.4	269
		6/11/15	7.26	22.0	1019	308
		7/30/15	7.33	22.3	1014	287
		1/14/16	7.46	19.7	985.7	298
		7/27/16	7.27	22.2	992.0	301
		1/26/17	7.14	20.9	989.9	317
		7/12/17	7.16	20.8	1010	244
		1/10/18	7.25	20.7	856.9	191
7/25/18	7.35	20.8	814.9	205		

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
RAMIREZ	216425	2/4/08	7.47	21.7	408	7.6
		5/6/08	7.19	22.7	405	8.3
		7/17/08	7.32	24.5	439	8.8
		10/27/08	7.41	22.2	412	7.3
		1/29/09	7.24	22.2	301	8.3
		4/16/09	7.49	22.4	344	7.6
		7/10/09	7.52	23.9	411	6.4
		10/6/09	7.30	23.8	388	8.4
		1/25/10	7.48	22.4	390	7.8
		4/21/10	7.45	22.6	397	9.04
		7/21/10	7.38	25.1	420	8.98
		10/19/10	7.91	23.7	450	10.8
		1/18/11	7.52	23.1	380	8.18
		4/11/11	7.24	23.2	408.5	8.65
		7/18/11	7.27	25.4	402.6	8.44
		10/12/11	7.40	23.3	412.7	8.55
		1/30/12	7.38	22.3	412.2	8.80
		4/10/12	7.40	23.2	404.5	8.70
		7/6/12	7.32	24.2	415.7	8.97
		10/8/12	7.61	22.5	412.0	9.14
		10/8/12 DUP	7.61	22.5	412.0	9.07
		1/17/13	7.52	22.2	409.6	8.82
		4/19/13	7.6	22.1	413.9	8.63
		7/15/13	7.58	23.6	416.2	8.19
		10/7/13	7.68	22.6	412.7	8.37
		1/13/14	7.63	21.9	409.8	8.79
		4/14/14	7.55	22.2	417.5	8.67
		7/10/14	7.58	23.2	413.5	8.92
		10/17/14	7.36	23	422.0	8.67
		7/21/15	7.54	23.7	414.6	8.46
7/14/16	7.55	23.6	420.5	8.57		
7/26/17	7.37	22.0	414.5	9.00		
7/25/18	7.35	22.1	420.2	8.35		
RAY	803772	2/15/08	7.30	19.1	1540	159
		4/21/08 ¹	6.92	21.3	1418	125
		5/13/08 ¹	7.05	20.9	1418	123
		6/23/08 ¹	6.87	21.1	1593	130
		7/29/08 ¹	6.98	21.8	1411	120
		8/28/08 ¹	M	21.1	1519	129
		9/23/08 ¹	6.90	22.2	1519	125
		10/22/08	6.96	20.8	1604	145
		1/20/09	6.92	20.6	1355	88
		4/8/09	6.85	21.4	1759	178
		7/9/09	6.93	22.3	1434	126
		10/7/09	6.98	21.3	1288	127
		1/26/10	6.82	20.6	1352	125
		4/20/10	7.14	21.5	1318	134
		7/14/10	7.11	23.8	1313	137
		10/20/10	7.14	19.6	1368	127
		1/17/11	7.04	20.8	1451	132
		1/17/11 DUP	7.04	20.8	1451	125
		4/5/11	7.03	20.8	1387	132
		7/11/11	7.07	22.8	1345	126
		10/12/11	7.06	21.6	1250	130
		1/31/12	7.28	20.5	1360	131
		4/11/12	7.03	20.6	1359	131
		7/6/12	7.11	22.1	1430	129
		10/3/12	7.12	21.1	1464	130
		1/17/13	7.05	19.5	1527	126
		1/17/13 DUP	7.05	19.5	1527	140
		4/8/13	7.32	20	1476	131
		7/9/13	7.18	21.4	1451	128
		10/15/13	7.13	20.8	1487	135
		1/14/14	7.25	19.2	1433	133
		4/8/14	7.09	20.8	1502	146
		7/8/14	7.14	21.4	1409	147
10/22/14	6.88	21.6	1422	147		
8/3/15	7.22	21.4	1360	133		
7/12/16	7.03	21.6	1419	133		
7/26/17	6.93	19.8	1288	142		
7/31/18	6.89	19.8	1493	138		
7/31/18 DUP	6.89	19.8	1493	139		
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
		1/18/18	6.85	18.9	1431	655
		7/26/18	6.85	22.9	1644	735

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
ROGERS 803	641803	2/7/08	7.45	18.6	601	138
		4/21/08 ¹	7.32	21.4	552	128
		5/8/08 ¹	7.14	21.2	622	141
		6/23/08 ¹	7.06	22.9	660	129
		7/29/08 ¹	6.78	23.1	339	134
		8/28/08 ¹	7.18	21.6	635	128
		9/23/08 ¹	7.24	21.9	599	133
		10/22/08	7.36	21.3	650	144
		2/10/09	7.42	17.9	475	141
		4/29/09	7.52	21.9	506	211
		8/3/09	7.39	24.2	674	150
		7/16/10	7.46	23.9	643.4	169
		10/19/10	7.32	21.1	643.8	154
		10/19/10 DUP	7.32	21.1	643.8	154
		1/20/11	7.44	18.1	610	143
		4/8/11	7.30	20.2	658.2	160
		7/14/11	7.12	23.5	653.5	166
		10/12/11	7.41	21.8	665.3	175
		1/30/12	7.40	20.0	580	171
		4/23/12	7.32	23.9	720	166
		7/13/12	7.26	24.0	820	171
		7/13/12 DUP	7.26	24.0	820	166
		10/10/12	7.41	24.3	671.4	177
		1/15/13	7.37	16.9	681.1	174
		4/15/13	7.57	23.8	698	190
		7/15/13	7.39	23.6	697.8	184
		10/16/13	7.47	25.4	710.6	185
1/9/14	7.46	21.4	701.8	190		
4/11/14	7.52	26.1	711.3	190		
7/18/14	7.48	24.9	709.2	192		
9/30/17	7.03	21.5	1396	572		
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	5.90
		7/14/16	7.58	22.7	430.2	6.71
		7/26/17	7.31	21.3	429.3	6.86
2/23/18	7.32	21.0	423.0	6.20		
7/13/18	7.33	20.8	430.3	6.32		

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
RUIZ	531770	2/5/08	7.73	18.2	445	263
		5/15/08	7.23	25.9	965	265
		7/30/08	6.99	22.1	999	243
		10/20/08	7.04	22.0	995	238
		2/12/09	6.94	20.9	748	254
		4/21/09	7.18	22.3	759	227
		8/3/09	7.05	22.9	1029	221
		10/28/09	7.09	20.6	920	227
		2/1/10	7.08	20.9	934	236
		4/26/10	7.01	22.5	920.1	240
		7/20/10	7.08	22.5	880	240
		10/20/10	7.52	20.7	970	231
		1/18/11	7.19	20.2	860	213
		4/8/11	7.09	19.8	923.3	236
		8/26/11	6.85	22.6	800	220
		10/13/11	7.19	21.5	810	230
		2/7/12	7.28	20.7	915.6	230
		2/7/12 DUP	7.28	20.7	915.6	228
		4/13/12	7.04	21.1	896.5	203
		7/18/12	6.87	21.6	900	214
		10/9/12	7.18	21.4	890.6	229
		1/11/13	7.21	20.7	895.8	219
		1/11/13 DUP	7.21	20.7	895.8	211
		4/11/13	7.26	21.9	876.8	229
		7/25/13	7.13	21.4	887.3	228
		10/17/13	7.23	20.8	891.9	210
		1/8/14	7.32	20.5	886.8	220
		4/15/14	7.26	21.2	873.5	215
		8/11/14	7.32	21.2	869.2	221
		10/21/14	7.09	21.4	886	209
		10/21/14 DUP	7.09	21.4	886	212
		1/27/15	7.14	21.4	853	215
		7/30/15	7.2	21.9	865.8	191
1/12/16	7.29	19.9	831.3	190		
7/25/16	7.17	21.2	854.5	183		
1/26/17	7.09	20.4	844.2	194		
7/25/17	7.06	20.5	850.8	190		
1/16/18	7.03	20.1	829.4	185		
7/24/18	7.02	20.7	827.2	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 ¹	7.23	21.7	563	122		
		5/19/08 ¹	7.38	22.4	629	130		
		6/23/08 ¹	7.02	22.1	674	129		
		7/29/08 ¹	7.25	22.4	955	245		
		8/28/08 ¹	M	22.3	669	131		
		9/23/08 ¹	7.27	22.2	607	124		
		10/22/08 ¹	7.31	22.0	653	135		
		11/19/08 ¹	7.38	21.1	612	140		
		12/17/08 ¹	6.78	21.6	472	144		
		1/29/09 ¹	7.08	22.0	475	124		
		2/23/09 ¹	7.33	22.1	610	123		
		4/17/09	7.46	22.2	520	120		
		7/10/09	7.52	22.8	651	116		
		7/10/09 DUP	7.52	22.8	651	117		
		10/6/09	7.27	22.5	613	120		
		1/22/10	7.79	19.5	664	133		
		4/21/10	7.50	20.9	638	129		
		7/21/10	7.43	22.0	650	134		
		10/19/10	7.76	21.2	710	147		
		1/17/11	7.15	21.2	620	116		
		4/11/11	7.20	21.5	656.9	128		
		7/18/11	7.36	23.7	612.4	116		
		10/12/11	7.35	22.4	635.8	124		
		2/6/12	7.32	21.3	629.7	116		
		2/6/12 DUP	7.32	21.3	629.7	114		
		4/10/12	7.48	21.6	626.1	120		
		7/16/12	7.31	21.9	710	117		
		10/17/12	7.48	21.6	645	121		
		3/13/13	7.57	20.7	623.6	118		
		5/14/13	7.61	21.5	629.7	112		
		7/15/13	7.49	22.1	770.2	198		
		10/14/13	7.55	20.9	633.3	109		
		1/13/14	7.61	20.6	663.1	125		
		4/9/14	7.48	21.5	635.9	110		
		7/18/14	7.45	21.8	790.5	216		
		10/22/14	7.28	22	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	109		
1/14/16	7.55	20.6	678.3	134				
7/27/16	7.51	22.3	621.3	103				
7/27/16 DUP	7.51	22.3	621.3	102				
1/24/17	7.33	20.3	650.6	120				
7/11/17	7.29	20.6	627.0	103				
7/11/17 DUP	7.29	20.6	627.0	102				
1/9/18	7.26	20.5	619.5	97.2				
7/11/18	7.33	20.4	622.9	96.2				
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	18.8		
		7/20/15 DUP	7.45	23.0	491.2	18.9		
		7/11/16	7.30	22.6	504.7	18.6		
		7/27/17	7.13	20.9	500.8	18.5		
		7/31/18	7.10	20.9	557.7	20.1		
		SRC	211345					

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	7.52
		7/15/16	7.45	22.4	420.8	8.46
		7/28/17	7.24	21.2	422.4	8.33
		7/26/18	7.34	21.0	420.6	8.27
TM-02A	522574	3/4/08	8.67	22.6	302	12.3
		5/23/08	7.75	22.9	321	14.7
		8/15/08	7.84	26.4	369	14.4
		10/30/08	8.07	23.9	375	21.9
		2/24/09	8.10	24.8	340	20.3
		5/6/09	8.06	26.7	320	18.7
		8/12/09	8.34	26.9	398	20
		11/4/09	8.16	26.3	381	21.8
		3/10/10	8.13	25.2	351	21.4
		3/10/10 DUP	8.13	25.2	351	21.3
		4/6/10	6.96	24.6	363	25.6
		7/6/10	7.38	24.6	343	22.1
		2/10/11	6.93	20.2	359	22.9
		7/13/11	7.92	24.8	349	22.5
		2/2/12	7.89	22.2	360	23.0
		8/14/12	7.65	24.6	366	23.4
		2/15/13	7.72	22.2	369	22.1
		8/27/13	7.72	24.7	414	23.5
		2/18/14	7.54	24.3	388	24.5
		8/12/14	7.62	24.7	395	25.6
8/1/17	7.84	24.7	333	21.5		
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
		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		
7/26/17	7.27	20.4	521	34.5		

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-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		
3/1/17	7.59	20.8	581	129		
8/2/17	7.56	21.5	563	129		
2/12/18	7.78	20.4	544	133		
8/6/18	7.52	21.8	586	116		
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	4.38
		2/2/16	7.95	19.8	493.5	5.32
		7/13/16	7.73	22.0	514.9	6.67
		1/27/17	7.75	21.3	418.4	4.81
7/17/17	7.77	23.5	409.5	8.01		
1/8/18	7.60	20.8	387.3	6.80		
7/9/18	7.92	23.5	391.4	8.65		
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
		8/1/17	7.38	22.9	384	14.8
7/18/18	7.46	23.1	386	14.8		

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)
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
		7/12/17	6.87	20.9	1321	536
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
		7/26/17	7.27	24.1	505	64.6
		7/25/18	7.49	24.3	511	71.4
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
		7/26/17	6.98	21.6	1234	485
		TM-43	564729	3/3/08	8.57	21.0
		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	16.5
		1/12/16	7.57	19.5	505.8	44.1
		9/26/16	7.42	19.0	511.4	15.1
1/27/17	7.32	19.3	519.5	47.0		
7/31/17	7.04	19.0	532.5	15.8		
1/17/18	7.30	18.6	531.3	29.5		
7/27/18	7.22	19.3	535.8	17.5		
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	277
7/14/16	7.28	21.6	919.1	271		
7/13/17	7.19	20.1	920.0	303		
7/12/18	7.16	20.0	928.8	309		
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		
1/14/16	7.79	20.2	376.9	13.7		
7/22/16	7.89	22.9	376.2	13.2		
1/23/17	7.58	20.4	387.5	13.3		
7/24/17	7.52	20.5	386.8	13.9		
1/16/18	7.51	20.3	384.2	14.0		
7/16/18	7.49	20.4	385.1	13.3		
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	699		
8/4/15 DUP	7.07	24.5	1571	701		
7/26/16	7.00	22.8	1483	702		
7/24/17	6.85	22.8	1524	698		

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	17.3
		7/26/16	7.81	23.8	387.0	17.8
		7/24/17	7.58	23.1	386.7	17.0
		7/16/18	7.60	22.9	383.3	16.7
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	6.54
		7/15/16	7.53	22.4	434.1	7.12
7/24/17	7.26	20.5	430.2	7.21		
7/24/18	7.28	20.7	427.0	7.12		

Notes:

35-71891 = ADWR 35 Database
ADWR = Arizona Department of Water Resources
deg C = degrees Celsius
DUP = Blind duplicate
M = Multi-Meter Malfunction
mg/L = milligrams per liter
ND = No Data
NR = No Record
SC = Specific Conductance
SU = Standard Units
µS/cm = microsiemens per centimeter

¹ Verified drinking water supply well, sample collected for sulfate trend analysis and interim action evaluation

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
ANDERSON 396	613396	601134.729	3468816.065	4588.51	3/20/08	145.46	4443.05
					5/5/08	145.84	4442.67
					7/14/08	146.16	4442.35
					10/15/08	146.21	4442.30
					1/27/09	145.97	4442.54
					4/14/09	146.21	4442.30
					7/14/09	146.88	4441.63
					10/12/09	147.31	4441.20
					1/27/10	147.31	4441.20
					4/21/10	147.57	4440.94
					7/19/10	148.34	4440.17
					10/19/10	147.75	4440.76
					1/17/11	148.63	4439.88
					4/11/11	149.46	4439.05
					7/14/11	149.92	4438.59
					10/11/11	150.19	4438.32
					2/1/12	150.19	4438.32
					4/25/12	150.69	4437.82
					7/12/12	151.34	4437.17
					10/10/12	151.50	4437.01
					1/17/13	151.24	4437.27
					4/15/13	152.08	4436.43
					7/18/13	152.19	4436.32
					10/16/13	152.41	4436.10
					1/9/14	152.14	4436.37
					4/7/14	152.56	4435.95
					7/11/14	152.02	4436.49
					10/6/14	152.70	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					
1/16/17	153.34	4435.17					
7/18/17	153.99	4434.52					
1/16/18	153.89	4434.62					
7/18/18	154.61	4433.90					
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
7/18/17	155.93	4429.44					
7/18/18	158.55	4426.82					
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
					3/20/17	250.55	4220.79
					8/10/17	250.94	4220.40
3/8/18	251.30	4220.04					
8/22/18	251.57	4219.77					

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
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 ¹	115	4432.64
					4/22/09 ¹	118	4429.64
					10/9/09 ¹	117	4430.64
					4/23/10 ¹	119	4428.64
					4/11/13	127.64	4420.00
					7/25/13	128.89	4418.75
					10/7/13 ¹	125.00	4422.64
					1/7/14	125.36	4422.28
					5/14/14	124.89	4422.75
					7/16/14	124.49	4423.15
					10/15/14	122.52	4425.12
					1/29/15	120.00	4427.64
					5/18/15	162.60	4385.04
					7/21/15	129.08	4418.56
					10/20/15 ¹	128.00	4419.64
					1/13/16	128.80	4418.84
7/19/16	125.40	4422.24					
1/19/17	119.69	4427.95					
9/6/17	131.56	4416.08					
1/17/18	131.93	4415.71					
7/25/18	129.03	4418.61					
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 ¹	106	4433.52
					4/22/09 ¹	114	4425.52
					10/9/09 ¹	116	4423.52
					4/23/10 ¹	116	4423.52
					4/11/13 ¹	125	4414.52
					7/16/13 ¹	126	4413.52
					10/7/13 ¹	122	4417.52
					1/7/14 ¹	121	4418.60
					5/14/14 ¹	121.50	4418.02
					7/16/14 ¹	123.50	4416.02
					10/15/14	119.60	4419.92
					1/29/15	120.20	4419.32
					5/19/15	186.20	4353.32
					7/21/15	118.00	4421.52
					10/20/15 ¹	115.00	4424.52
					1/13/16 ¹	118.00	4421.52
7/19/16	125.50	4414.02					
1/19/17 ¹	123.00	4416.52					
9/6/17 ¹	121.30	4418.22					
1/17/18 ¹	113.60	4425.92					
7/25/18 ¹	125.7	4413.82					
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 ¹	111.31	4429.17
					4/22/09 ¹	110	4430.48
					10/9/09 ¹	110	4430.48
					4/23/10 ¹	109	4431.48
					4/11/13	120.93	4419.55
					7/16/13	123.76	4416.72
					10/7/13 ¹	116.00	4424.48
					1/7/14	115.98	4424.50
					5/14/14	115.32	4425.16
					7/16/14	118.44	4422.04
					10/15/14	114.29	4426.19
					1/29/15	112.20	4428.28
					5/19/15	113.90	4426.58
					7/21/15	131.70	4408.78
					10/20/15 ¹	129	4411.48
					1/13/16	130.33	4410.15
7/19/16	119.70	4420.78					
1/19/17	113.15	4427.33					
9/6/17	127.92	4412.56					
1/17/18	125.86	4414.62					
7/25/18	120.27	4420.21					

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 ¹	289	4253.51
					4/23/10 ¹	278	4264.51
					4/11/13	229.56	4312.95
					7/16/13	203.17	4339.34
					10/7/13 ¹	142.00	4400.51
					1/7/14	123.09	4419.42
					5/14/14	346.75	4195.76
					7/16/14	346.34	4196.17
					10/15/14	316.16	4226.35
					1/29/15	133.98	4408.53
					5/18/15	148.05	4394.46
					7/21/15	120.84	4421.67
					10/2015 ¹	116	4426.51
					1/13/16	116.22	4426.29
					7/19/16	329.30	4213.21
1/19/17	318.24	4224.27					
9/6/17	322.50	4220.01					
1/17/18	194.14	4348.37					
7/25/18	132.92	4409.59					
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					
1/17/17	221.90	4426.28					
7/26/17	233.25	4414.93					
1/15/18	237.31	4410.87					
7/30/18	237.12	4411.06					

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)
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
					1/11/16	113.33	4579.03
					7/19/16	113.35	4579.01
1/17/17	113.47	4578.89					
7/14/17	113.52	4578.84					
1/15/18	113.88	4578.48					
7/17/18	113.95	4578.41					
BF-01	539783	604169.077	3472151.593	4835.23	3/4/08	348.99	4486.24
					5/23/08	348.80	4486.43
					8/5/08	348.66	4486.57
					11/5/08	348.94	4486.29
					2/20/09	348.78	4486.45
					5/6/09	348.73	4486.50
					8/17/09	348.73	4486.50
					11/4/09	348.65	4486.58
					3/1/10	348.84	4486.39
					4/7/10	348.70	4486.53
					7/6/10	348.69	4486.54
					7/13/11	348.67	4486.56
					2/1/12	347.84	4487.39
					8/13/12	343.95	4491.28
BIMA	577927	606001.245	3471852.804	4802.05	5/13/08	367.31	4434.74
					8/18/08	370.24	4431.81
					10/23/08	353.96	4448.09
					1/20/09	353.07	4448.98
					4/7/09	357.76	4444.29
					7/8/09	365.44	4436.61
					10/5/09	370.11	4431.94
					4/19/10	382.25	4419.80
					7/21/10	386.89	4415.16
					10/18/10	387.39	4414.66
					1/19/11	391.47	4410.58
					4/4/11	395.22	4406.83
BMO-2008-1G	909474	606467.681	3471723.644	4805.10	8/27/08	62.05	4743.05
					11/11/08	60.95	4744.15
					2/25/09	61.43	4743.67
					4/28/09	62.01	4743.09
					8/4/09	62.96	4742.14
					10/27/09	63.61	4741.49
					2/17/10	64.51	4740.59
					4/15/10	65.05	4740.05
					7/7/10	65.83	4739.27
					2/10/11	67.74	4737.36
					7/12/11	69.37	4735.73
					2/8/12	70.33	4734.77
					8/14/12	71.73	4733.37
					2/14/13	72.95	4732.15
					8/14/13	73.82	4731.28
					2/13/14	73.79	4731.31
					7/22/14	74.14	4730.96
					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					
3/1/17	75.62	4729.48					
7/24/17	76.16	4728.94					
2/14/18	76.97	4728.13					
7/10/18	77.70	4727.40					

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					
3/1/17	146.32	4437.65					
7/26/17	146.84	4437.13					
2/8/18	147.16	4436.81					
7/10/18	147.92	4436.05					
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
9/30/17	138.68	4434.49					
1/18/18	138.71	4434.46					
7/26/18	139.42	4433.75					

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-5B	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					
3/1/17	151.56	4433.54					
8/1/17	151.95	4433.15					
2/8/18	151.97	4433.13					
3/8/18	152.04	4433.06					
4/11/18	152.27	4432.83					
5/29/18	152.32	4432.78					
6/19/18	152.74	4432.36					
7/25/18	152.96	4432.14					

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-2008-5M	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					
3/1/17	152.84	4432.18					
8/1/17	153.27	4431.75					
2/8/18	153.03	4431.99					
7/25/18	154.19	4430.83					
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					
3/1/17	196.33	4431.11					
7/10/17	196.88	4430.56					
2/8/18	197	4430.44					
7/10/18	197.57	4429.87					

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
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					
3/1/17	197.24	4429.66					
7/10/17	197.92	4428.98					
2/8/18	197.96	4428.94					
7/10/18	198.63	4428.27					

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					
3/7/17	245.44	4442.89					
7/10/17	245.73	4442.60					
2/1/18	245.82	4442.51					
7/23/18	246.18	4442.15					
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
3/7/17	301.61	4451.64					
7/10/17	301.89	4451.36					
2/1/18	301.83	4451.42					
7/23/18	302.83	4450.42					

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-2008-8M	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					
3/7/17	303.85	4448.60					
7/10/17	304.09	4448.36					
2/1/18	303.94	4448.51					
7/23/18	304.20	4448.25					
BMO-2008-9M	909255	604668.669	3471121.675	4762.61	8/8/08	287.17	4475.44
					11/5/08	287.65	4474.96
					2/26/09	285.65	4476.96
					5/12/09	285.28	4477.33
					8/17/09	286.09	4476.52
					11/3/09	286.55	4476.06
					3/4/10	287.45	4475.16
					4/6/10	287.81	4474.80
					7/1/10	288.26	4474.35
					2/10/11	289.77	4472.84
					5/13/11	290.47	4472.14
					7/15/11	290.95	4471.66
					2/1/12	293.44	4469.17
					7/12/12	294.65	4467.96
					2/13/13	296.67	4465.94
					8/12/13	297.63	4464.98
					2/18/14	293.68	4468.93
					7/24/14	293.53	4469.08
					2/5/15	286.01	4476.60
					9/14/15	286.34	4476.27
3/16/16	287.22	4475.39					
9/15/16	289.35	4473.26					
3/7/17	289.83	4472.78					
7/11/17	291.03	4471.58					
2/1/18	289.66	4472.95					
7/26/18	291.78	4470.83					

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-10GL	909435	605264.072	3471702.043	4792.21	8/20/08	521.75	4270.46
					11/5/08	520.50	4271.71
					2/25/09	516.72	4275.49
					5/12/09	514.68	4277.53
					8/11/09	513.23	4278.98
					11/2/09	509.43	4282.78
					3/4/10	510.88	4281.33
					4/8/10	506.31	4285.90
					7/2/10	511.80	4280.41
					7/13/11	512.16	4280.05
					2/2/12	511.34	4280.87
					7/13/12	510.90	4281.31
					2/18/13	509.91	4282.30
					8/13/13	509.32	4282.89
					8/7/14	507.21	4285.00
					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					
3/7/17	332.86	4459.35					
7/11/17	337.89	4454.32					
2/1/18	337.84	4454.37					
7/26/18	333.28	4458.93					
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
					3/7/17	210.83	4582.62
8/9/17	201.50	4591.95					
2/1/18	201.09	4592.36					
7/26/18	200.53	4592.92					
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					
3/2/17	554.27	4290.40					
7/11/17	554.02	4290.65					
2/12/18	552.11	4292.56					
7/12/18	552.20	4292.47					

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-2008-13B	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					
3/7/17	213.15	4436.06					
8/2/17	213.57	4435.64					
2/1/18	213.6	4435.61					
8/6/18	214.22	4434.99					
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					
3/7/17	213.6	4433.55					
8/15/17	213.71	4433.44					
2/1/18	214.09	4433.06					
8/6/18	214.37	4432.78					

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)
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					
3/7/17	212.69	4505.86					
7/12/17	214.02	4504.53					
2/1/18	213.31	4505.24					
8/7/18	214.94	4503.61					
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					
3/7/17	265.47	4480.69					
7/12/17	267.14	4479.02					
2/1/18	266.24	4479.92					
8/7/18	268.92	4477.24					

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					
1/18/17	119.89	4430.70					
7/11/17	120.51	4430.08					
1/8/18	119.84	4430.75					
7/10/18	121.45	4429.14					
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					
1/18/17	122.27	4428.26					
7/11/17	122.85	4427.68					
1/8/18	121.24	4429.29					
7/10/18	124.08	4426.45					

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)	
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	
					3/2/17	216.10	4503.66	
7/24/17	217.59	4502.17						
8/21/17	217.55	4502.21						
2/13/18	217.58	4502.18						
7/16/18	219.60	4500.16						
BMO-2014-1BL	917394	600563.194	3468234.798	4558.45	4557.18	11/7/14	123.03	4434.15
					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	
					1/24/17	124.57	4433.88	
					7/13/17	126.19	4432.26	
					1/10/18	125.47	4432.98	
					7/12/18	127.11	4431.34	
BMO-2014-1BU	917393	600570.805	3468231.440	4558.54	4557.18	11/13/14	123.51	4433.67
					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	
					1/24/17	124.86	4433.68	
					7/13/17	126.42	4432.12	
					1/10/18	125.73	4432.81	
					7/12/18	127.19	4431.35	
BMO-2014-2BL	917452	600784.872	3468183.921	4561.80	4560.31	11/20/14	126.15	4434.16
					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	
					1/24/17	127.73	4434.07	
					9/6/17	128.56	4433.24	
					1/10/18	129.09	4432.71	
					7/12/18	129.61	4432.19	

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-2014-2BU	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
					1/24/17	127.75	4434.10
					7/13/17	129.07	4432.78
					1/10/18	129.01	4432.84
7/12/18	129.67	4432.18					
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
					1/25/17	139.54	4434.23
					7/13/17	140.74	4433.03
					1/11/18	140.48	4433.29
					1/12/18	140.56	4433.21
7/12/18	141.74	4432.03					
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
					1/25/17	140.66	4434.23
					7/13/17	140.80	4434.09
					1/11/18	141.50	4433.39
					1/12/18	141.52	4433.37
7/12/18	141.65	4433.24					
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
					1/23/17	134.41	4433.26
					7/12/17	135.68	4431.99
					1/9/18	135.05	4432.62
					7/11/18	136.51	4431.16
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
					1/23/17	133.85	4433.20
					7/12/17	135.10	4431.95
					1/9/18	134.47	4432.58
					7/11/18	136.07	4430.98

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-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
					1/23/17	130.28	4431.78
					7/12/17	131.14	4430.92
					1/9/18	130.50	4431.56
7/11/18	131.87	4430.19					
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
					1/23/17	131.58	4431.82
					7/12/17	132.46	4430.94
					1/9/18	131.79	4431.61
7/11/18	133.21	4430.19					
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
					1/23/17	150.12	4431.96
					7/12/17	150.99	4431.09
					1/9/18	150.43	4431.65
7/11/18	151.72	4430.36					

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-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
					1/23/17	148.80	4431.84
					7/12/17	149.64	4431.00
1/9/18	149.09	4431.55					
7/11/18	150.39	4430.25					
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
BURKE	212268	602230.087	3473029.816	4856.30	4/22/08	606.55	4249.75
					8/5/08	605.86	4250.44
					10/28/08	604.88	4251.42
					2/19/09	603.91	4252.39
					4/28/09	603.70	4252.60
					8/19/09	602.66	4253.64
					10/10/13	601.06	4255.24
					1/8/14	592.90	4263.40
					4/16/14	592.51	4263.79
					7/21/14	592.35	4263.95
10/21/14	594.68	4261.62					
8/3/15	587.06	4269.24					
COB MW-1	903992	603153.259	3469889.889	4683.26	2/22/08	232.47	4450.79
					5/20/08	233.12	4450.14
					7/30/08	233.37	4449.89
					10/23/08	233.62	4449.64
					2/12/09	234.05	4449.21
					4/21/09	234.99	4448.27
					7/22/09	234.34	4448.92
					10/22/09	234.69	4448.57
					2/4/10	235.15	4448.11
					4/20/10	235.47	4447.79
					7/13/10	235.68	4447.58
					7/14/11	236.98	4446.28
					7/12/12	238.24	4445.02
					2/5/13	239.11	4444.15
					7/11/13	239.67	4443.59
7/9/14	240.03	4443.23					
2/4/15	239.46	4443.80					
7/27/15	239.83	4443.43					
COB MW-1B	225906	603153.259 ²	3469889.889 ²	4683.26 ²	7/20/16	240.06	4443.20
					1/19/17	239.90	4443.36
					7/19/17	240.27	4442.99

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-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					
1/19/17	130.99	4435.22					
7/19/17	131.90	4434.31					
1/11/18	131.72	4434.49					
7/17/18	132.56	4433.65					
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					
1/27/17	126.14	4412.49					
7/19/17	120.70	4417.93					
1/11/18	116.02	4422.61					
7/17/18	125.77	4412.86					

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 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					
1/25/17	87.06	4745.00					
7/14/17	89.96	4742.10					
1/11/18	89.87	4742.19					
7/9/18	91.48	4740.58					
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					
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					
7/13/17	162.68	4436.46					
2/5/18	163.66	4435.48					
7/25/18	164.42	4434.72					

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)
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					
7/17/17	103.07	4583.27					
1/17/18	101.44	4584.90					
7/30/18	117.18	4569.16					
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
7/11/16	32.09	4671.18					
7/13/17	31.58	4671.69					
8/1/18	36.48	4666.79					

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
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					
7/11/16	83.48	4598.25					
7/13/17	84.43	4597.30					
8/1/18	85.76	4595.97					
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					
7/27/17	67.11	4558.90					
7/30/18	77.95	4548.06					
ECHAVE	219449	599701	3470168	4648	2/1/12	216.71	4431.29
					1/18/13	218.41	4429.59
					7/28/17	220.49	4427.51
					2/23/18	219.94	4428.06
					7/17/18	220.37	4427.63

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)
EPPELE 641	805641	607165.354	3469229.942	4642.86	3/11/08	29.52	4613.34
					5/12/08	30.64	4612.22
					7/21/08	25.59	4617.27
					10/14/08	24.53	4618.33
					1/21/09	27.35	4615.51
					4/8/09	29.08	4613.78
					7/9/09	31.51	4611.35
					10/7/09	29.92	4612.94
					7/20/10	50.38	4592.48
					10/20/10	48.88	4593.98
					1/17/11	51.13	4591.73
					4/5/11	53.81	4589.05
					7/11/11	56.82	4586.04
					10/12/11	37.62	4605.24
					1/31/12	46.80	4596.06
					4/11/12	52.07	4590.79
					7/6/12	62.39	4580.47
					10/3/12	71.66	4571.20
					1/17/13	59.73	4583.13
					4/8/13	83.98	4558.88
7/9/13	92.84	4550.02					
10/15/13	28.50	4614.36					
1/14/14	49.32	4593.54					
4/8/14	52.03	4590.83					
7/8/14	66.62	4576.24					
10/21/14	24.56	4618.30					
7/24/15	41.32	4601.54					
7/12/16	38.41	4604.45					
7/27/17	48.58	4594.28					
7/31/18	62.29	4580.57					
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					
7/20/17	198.37	4438.51					
7/27/18	198.73	4438.15					

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)
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
GARNER 557	558557	602659.240	3468962.415	4638.45	7/14/10	119.86	4523.06
					2/21/08	191.05	4447.40
					5/5/08	191.28	4447.17
					7/15/08	191.44	4447.01
					10/16/08	191.83	4446.62
					1/28/09	191.92	4446.53
					4/15/09	192.09	4446.36
					7/16/09	192.52	4445.93
					10/14/09	192.82	4445.63
					2/2/10	193.33	4445.12
					4/22/10	193.49	4444.96
					7/20/10	193.93	4444.52
					10/19/10	194.29	4444.16
					1/19/11	194.61	4443.84
					4/6/11	194.86	4443.59
					7/15/11	195.25	4443.20
					10/11/11	195.72	4442.73
					2/2/12	196.09	4442.36
					4/13/12	196.30	4442.15
					7/11/12	196.72	4441.73
10/5/12	197.08	4441.37					
1/11/13	197.51	4440.94					
4/15/13	197.76	4440.69					
7/10/13	197.87	4440.58					
10/11/13	198.27	4440.18					
1/17/14	198.46	4439.99					
4/15/14	198.58	4439.87					
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
7/26/17	202.02	4438.72					
1/16/18	202.07	4438.67					
7/24/18	205.65	4435.09					

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)
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
GL-03	539782	604386.940	3473747.943	4924.31	3/9/10	238.84	4478.27
					4/27/10	239.17	4477.94
					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
GOAR RANCH	610695	602454.751	3468892.471	4631.13	3/2/10	655.52	4268.79
					4/9/10	655.35	4268.96
					7/7/10	655.05	4269.26
					2/1/12	651.72	4272.59
					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					
1/17/17	192.43	4438.70					
7/12/17	192.84	4438.29					
1/15/18	193.12	4438.01					
7/17/18	193.56	4437.57					

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					
3/7/17	171.41	4436.19					
7/13/17	172.00	4435.60					
2/5/18	172.12	4435.48					
7/25/18	172.74	4434.86					
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
7/21/17	207.54	4387.40					
7/23/18	204.95	4389.99					

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					
1/16/17	158.23	4435.68					
7/21/17	158.84	4435.07					
1/15/18	158.86	4435.05					
7/23/18	159.64	4434.27					

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					
7/25/17	142.64	4429.39					
2/23/18	142.25	4429.78					
7/9/18	143.46	4428.57					
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
					3/20/17	220.91	4222.92
					8/10/17	222.12	4221.71
3/8/18	222.94	4220.89					
8/22/18	223.64	4220.19					

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)
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					
3/20/17	232.53	4294.52					
8/10/17	227.4	4299.65					
3/8/18	222.4	4304.65					
8/22/18	219.90	4307.15					
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
					3/20/17	184.94	4414.05
					8/24/17	172.09	4426.90
					3/8/18	172.22	4426.77
8/22/18	173.07	4425.92					
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					
3/20/17	261.3	4208.81					
8/10/17	262.0	4208.11					
3/8/18	283.2	4186.90					
8/22/18	281.46	4188.65					

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)
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					
3/20/17	86.55	4426.85					
8/10/17	87.9	4425.50					
3/8/18	87.92	4425.48					
8/22/18	88.92	4424.48					
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					
1/16/17	164.46	4436.24					
7/20/17	165.09	4435.61					
1/15/18	165.10	4435.60					
7/17/18	165.09	4435.61					

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
					5/19/15	168.03	4433.52
					7/31/15	170.86	4430.69
7/26/16	167.13	4434.42					
7/20/17	168.58	4432.97					
7/17/18	169.08	4432.47					
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					
1/17/17	294.09	4434.44					
7/14/17	294.38	4434.15					
1/15/18	294.51	4434.02					
7/17/18	294.94	4433.59					
MOORE	538847	599499.9949	3468066.557	4568.49	8/1/18	155.64	4412.85
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
7/27/17	550.36	4210.87					
7/31/18	538.72	4222.51					

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)
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					
3/16/17	105.44	4425.94					
9/30/17	108.89	4422.49					
3/26/18	106.02	4425.36					
9/24/18	106.13	4425.25					
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					
3/16/17	89.81	4428.47					
9/30/17	90.71	4427.57					
3/26/18	91.28	4427.00					
9/24/18	92.22	4426.06					

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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-02	562944	600177.435	3467474.673	4600.44	10/27/08	160.51	4439.93
					4/29/09 ³	160.5	4439.94
					9/10/09 ³	155	4445.44
					4/2010 ³	131	4469.44
					3/1/13 ³	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
					1/26/17	167.49	4432.95
7/18/17	168.60	4431.84					
1/16/18	168.50	4431.94					
7/18/18	169.35	4431.09					
NWC-03	203321	601153.857	3468350.838	4574.99	11/3/08	131.48	4443.51
					4/29/09 ³	130	4444.99
					9/10/09 ³	126	4448.99
					10/9/09 ³	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					
1/26/17	128.41	4444.41					
7/18/17	130.48	4442.34					
1/16/18	121.55	4451.27					
2/23/18	124.44	4448.38					
7/18/18	119.39	4453.43					
NWC-04	551849	605829.808	3469071.959	4690.77	12/2/08	352.11	4338.66
					4/29/09 ³	328	4362.77
					9/10/09 ³	324	4366.77
					4/2010 ³	216	4474.77
					3/1/13 ³	216	4474.77
NWC-06	575700	599822.821	3467749.954	4592.50	4/29/09 ³	156	4436.50
					9/10/09 ³	155	4437.50
					10/9/09 ³	148	4444.50
					4/2010 ³	140	4452.50
					3/1/13 ³	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
					1/26/17	162.26	4430.24
					7/18/17	162.80	4429.70
1/16/18	162.78	4429.72					
7/18/18	163.77	4428.73					
OLMOS	224745	599641.506	3468055.337	4576.92	1/13/16	145.84	4431.08
					1/15/18	148.47	4428.45
					7/13/18	150.28	4426.64

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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)
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
PANAGAKOS	35-76413	605304.234	3469323.140	4691.40	7/12/11	74.60	4637.35
					2/3/12	74.57	4637.38
					7/9/12	74.63	4637.32
					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					
2/24/17	162.64	4528.76					
7/17/17	160.37	4531.03					
1/18/18	160.12	4531.28					
7/30/18	161.94	4529.46					
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					

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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					
1/16/17	156.92	4435.21					
9/30/17	157.63	4434.50					
1/15/18	157.42	4434.71					
7/24/18	158.37	4433.76					
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
7/18/17	154.44	4432.77					
7/24/18	155.18	4432.03					
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
8/1/18	212.45	4426.64					

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)
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
1/26/17	295.05	4439.33					
7/12/17	295.25	4439.13					
1/10/18	295.47	4438.91					
7/25/18	295.75	4438.63					
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					
7/26/17	166.81	4429.80					
1/15/18	167.59	4429.02					
7/25/18	167.71	4428.90					

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					
7/26/17	57.61	4590.30					
7/31/18	54.96	4592.95					
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					
9/30/17	141.86	4435.49					
1/18/18	141.88	4435.47					
7/26/18	142.57	4434.78					
ROGERS 750 ⁴	641750	600977.690	3468417.386	4579.02	2/7/08	129.85	4449.17
					7/29/08	131.86	4447.16
					10/22/08	132.08	4446.94
					2/10/09	130.62	4448.40
					4/29/09	131.33	4447.69
8/3/09	135.07	4443.95					
ROGERS 803	641803	601003.273	3468480.391	4576.16	9/30/17	138.83	4437.33
					1/18/18	138.90	4437.26
					7/26/18	139.62	4436.54

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					
7/26/17	157.46	4433.20					
2/23/18	157.28	4433.38					
7/13/18	158.53	4432.13					
ROGERS 803	641803	601003.273	3468480.391	4576.16	9/30/17	138.83	4437.33
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					
7/24/18	301.45	4433.73					

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					
1/24/17	129.86	4434.63					
7/11/17	131.21	4433.28					
1/9/18	130.46	4434.03					
7/11/18	131.96	4432.53					
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
1/17/17	53.09	4598.13					
7/14/17	54.15	4597.07					
1/15/18	55.74	4595.48					
7/30/18	56.02	4595.20					

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					
7/27/17	38.08	4678.51					
7/31/18	42.14	4674.45					
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					
THOMPSON 341	218341	599532.241	3467396.849	4596.73	7/28/17	168.34	4428.39
					1/16/18	168.22	4428.51
					7/26/18	169.23	4427.50

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)
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					
3/7/17	335.30	4473.13					
8/1/17	336.32	4472.11					
2/1/18	337.14	4471.29					
7/26/18	337.17	4471.26					
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
					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					
3/7/17	162.83	4545.05					
7/26/17	163.47	4544.41					
2/5/18	163.46	4544.42					
7/16/18	163.96	4543.92					
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
3/7/17	162.83	4545.05					
7/26/17	163.47	4544.41					
2/5/18	163.46	4544.42					
7/16/18	163.96	4543.92					

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					
1/27/17	259.58	4481.60					
7/17/17	267.41	4473.77					
1/8/18	255.19	4485.99					
7/9/18	266.18	4475.00					
TM-15 MILLER	522699	599618.715	3471425.631	4729.25	3/20/17	300.54	4428.71
					8/1/17	300.76	4428.49
					7/18/18	301.32	4427.93
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
					3/7/17	61.08	4656.63
7/12/17	62.59	4655.12					
2/1/18	60.18	4657.53					
8/7/18	62.44	4655.27					
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					
7/26/17	207.54	4438.33					
7/25/18	208.53	4437.34					

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)
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					
3/7/17	220.35	4446.32					
7/26/17	220.54	4446.13					
2/5/18	220.81	4445.86					
8/6/18	221.12	4445.55					
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					
1/27/17	128.57	4433.41					
7/31/17	128.59	4433.39					
1/17/18	129.66	4432.32					
7/27/18	130.16	4431.82					

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					
1/27/17	132.88	4434.34					
7/13/17	134.08	4433.14					
1/10/18	134.24	4432.98					
7/12/18	134.83	4432.39					

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					
1/16/17	151.31	4435.58					
7/24/17	151.59	4435.30					
1/12/18	152.06	4434.83					
7/16/18	152.74	4434.15					
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
7/24/17	151.52	4434.18					
7/16/18	152.37	4433.33					
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					
1/27/17	152.14	4428.80					
7/24/17	152.63	4428.31					
1/16/18	152.03	4428.91					
7/24/18	153.67	4427.27					

Notes:

35-71891 = ADWR 35 Database

ADWR = Arizona Department of Water Resources

ft amsl = feet above mean sea level

NR = No Record

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

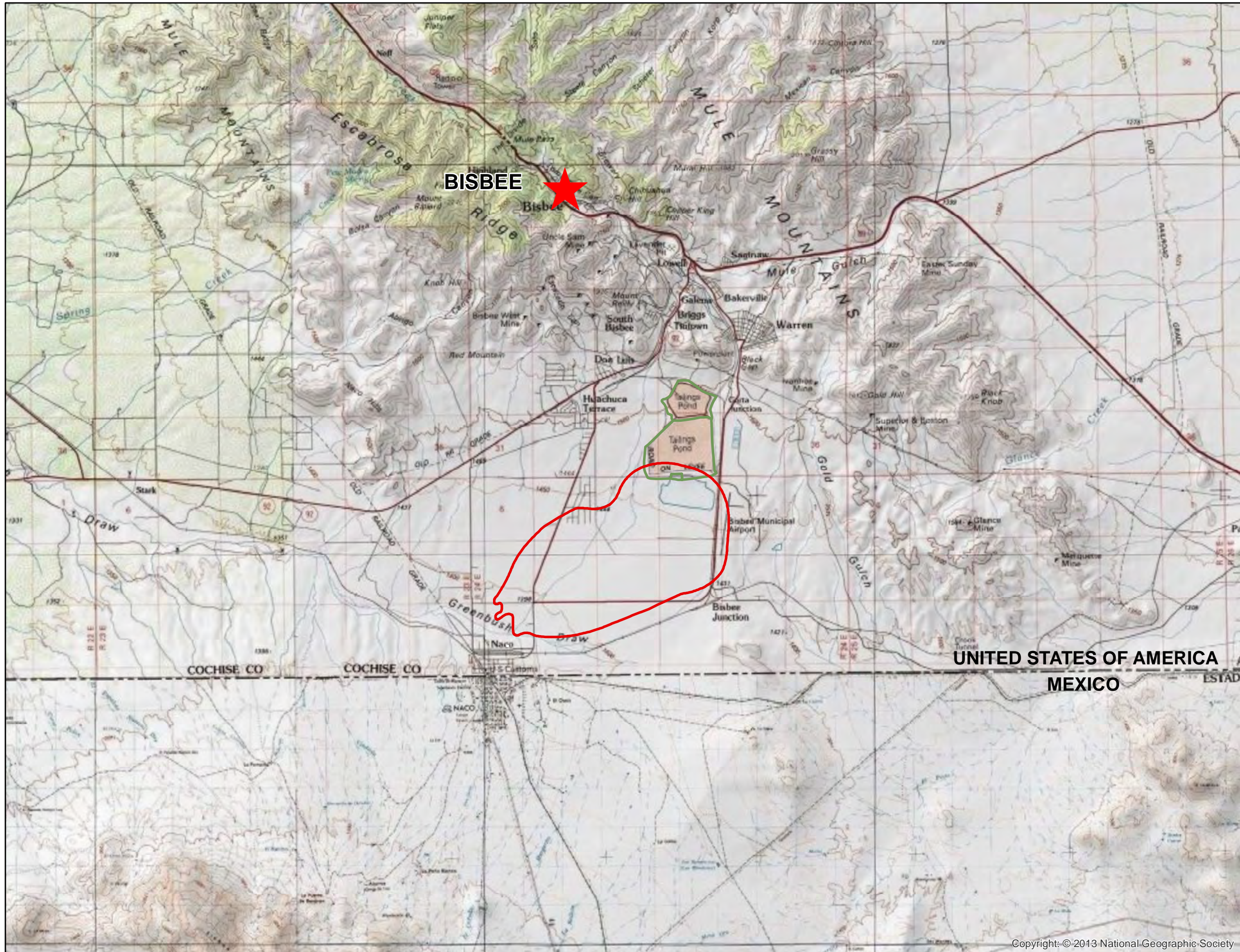
¹ Depth to water measurement provided by Arizona Water Company

² Preliminary data will be updated when well survey is conducted



³ Depth to water measurement provided by Naco Water Company

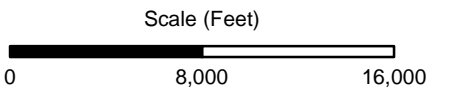
⁴ Well previously identified as ROGERS 803

FIGURES



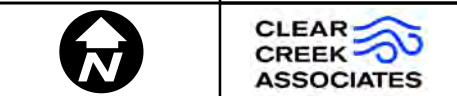
Legend

-  CTSA Facility
-  Estimated 250 mg/L Sulfate Concentration Contour for Third Quarter 2018

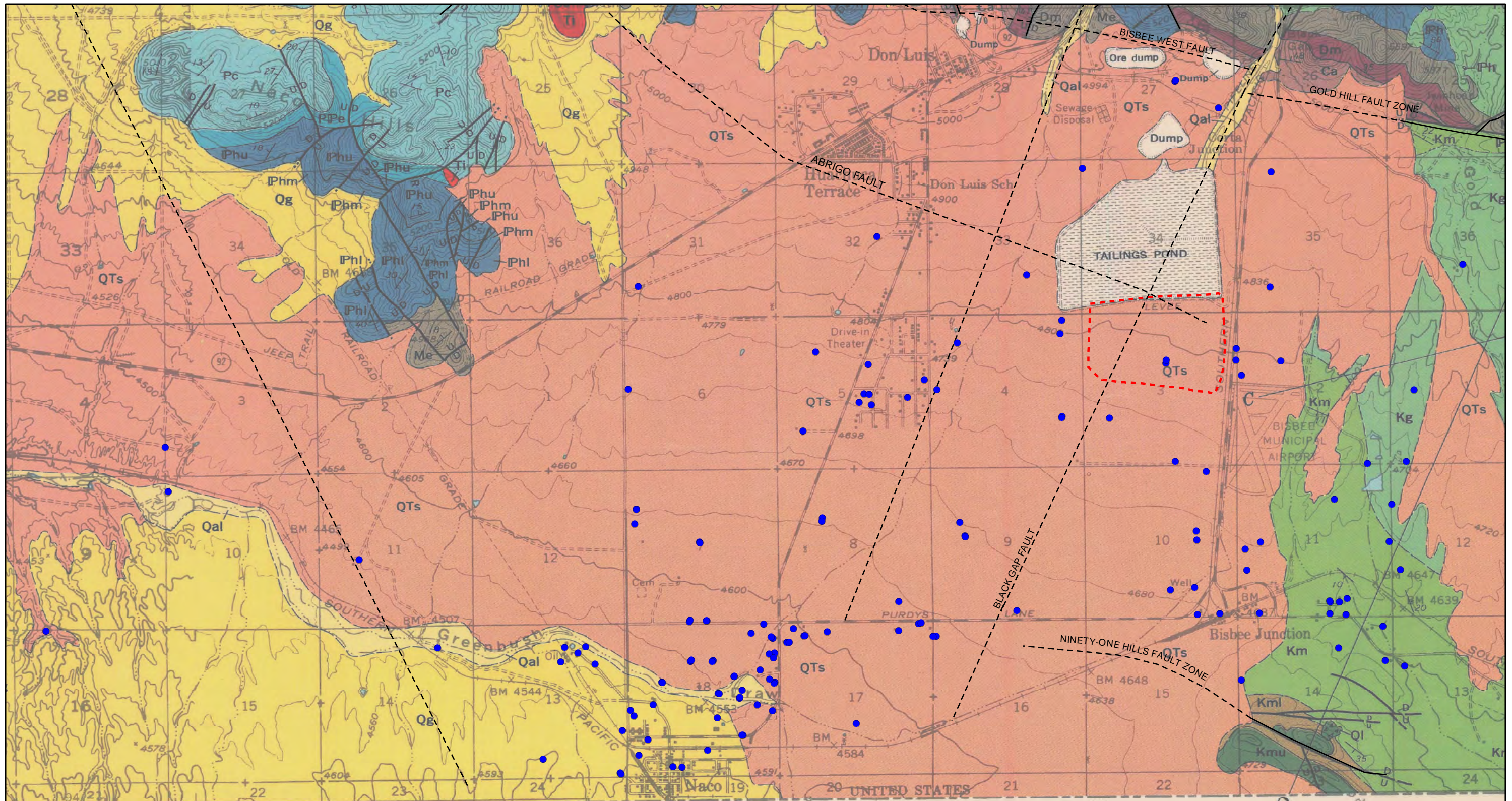


Notes:
 Projection: UTM Zone 12N NAD83

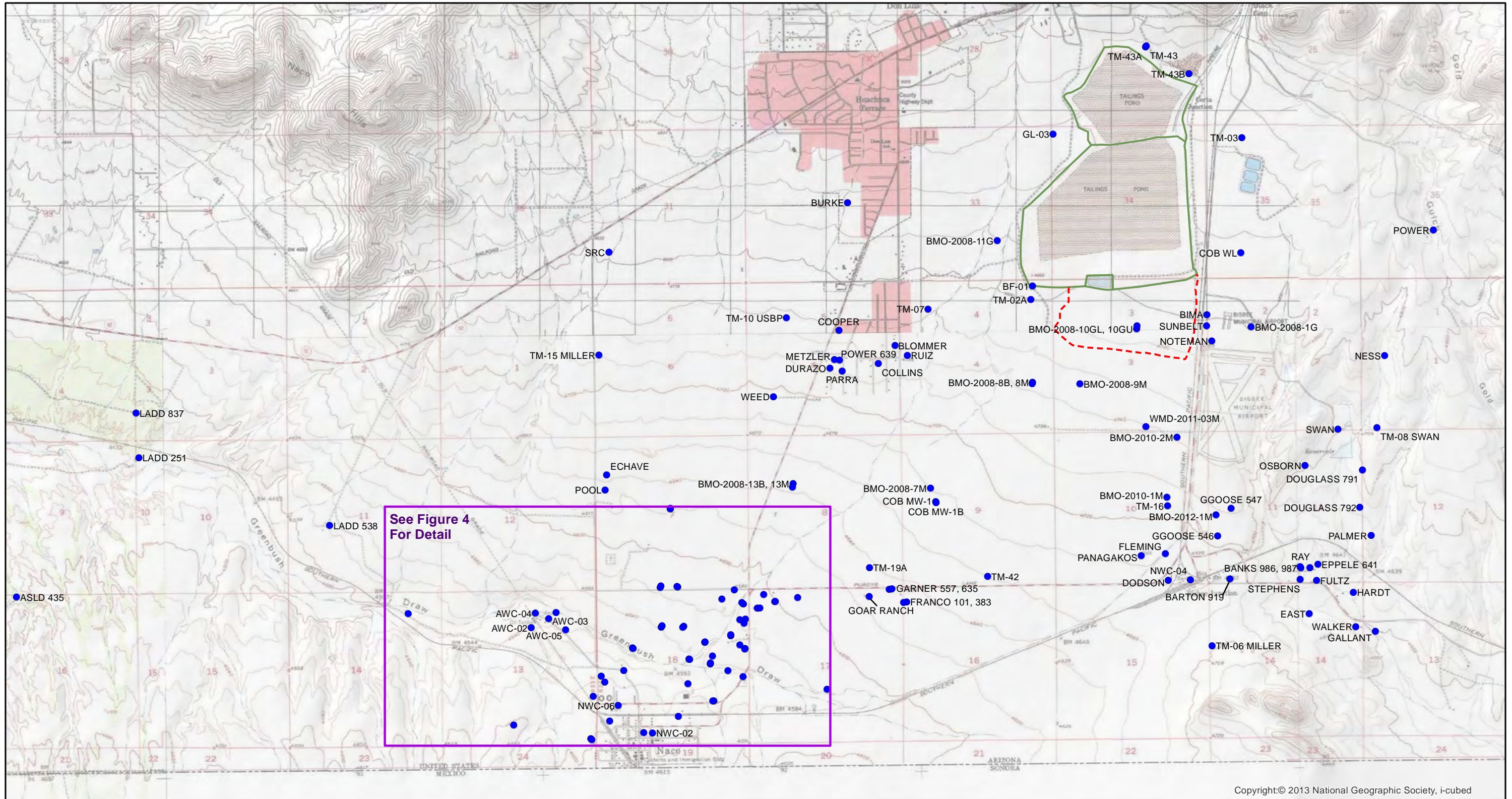
Date	12/26/18	File ID	055038-526
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**FIGURE 1
 PROJECT LOCATION MAP**



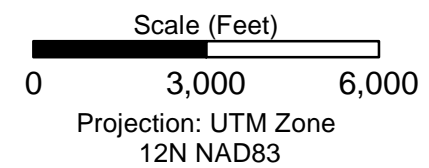
Legend <ul style="list-style-type: none"> ● Monitoring Location — Fault (dashed where inferred) Former Evaporation Ponds 	Basin Fill <ul style="list-style-type: none"> Qal - Quaternary Alluvium Qg - Quaternary Gravel QTs - Quaternary Tertiary sediment Ti - Tertiary Intrusive 	Bisbee Group <ul style="list-style-type: none"> Kc - Cintura Formation (not shown) Kmu - Upper Mural Limestone Kml - Lower Mural Limestone Km - Morita Formation Kg - Glance Conglomerate 	Geologic Unit - Hayes and Landis (1964) <ul style="list-style-type: none"> Pc - Colina Limestone PPe - Earp Formation Phu, Phm, Phi - Horquilla Limestone Me - Escabrosa Limestone Dm - Martin Limestone Ca - Abrigo Limestone 	Paleozoic Sedimentary Formations 	Scale (Feet) 0 3,000 6,000	Date 12/12/18	File ID 055038-402
						See Figure 3 for Monitoring Location Names	



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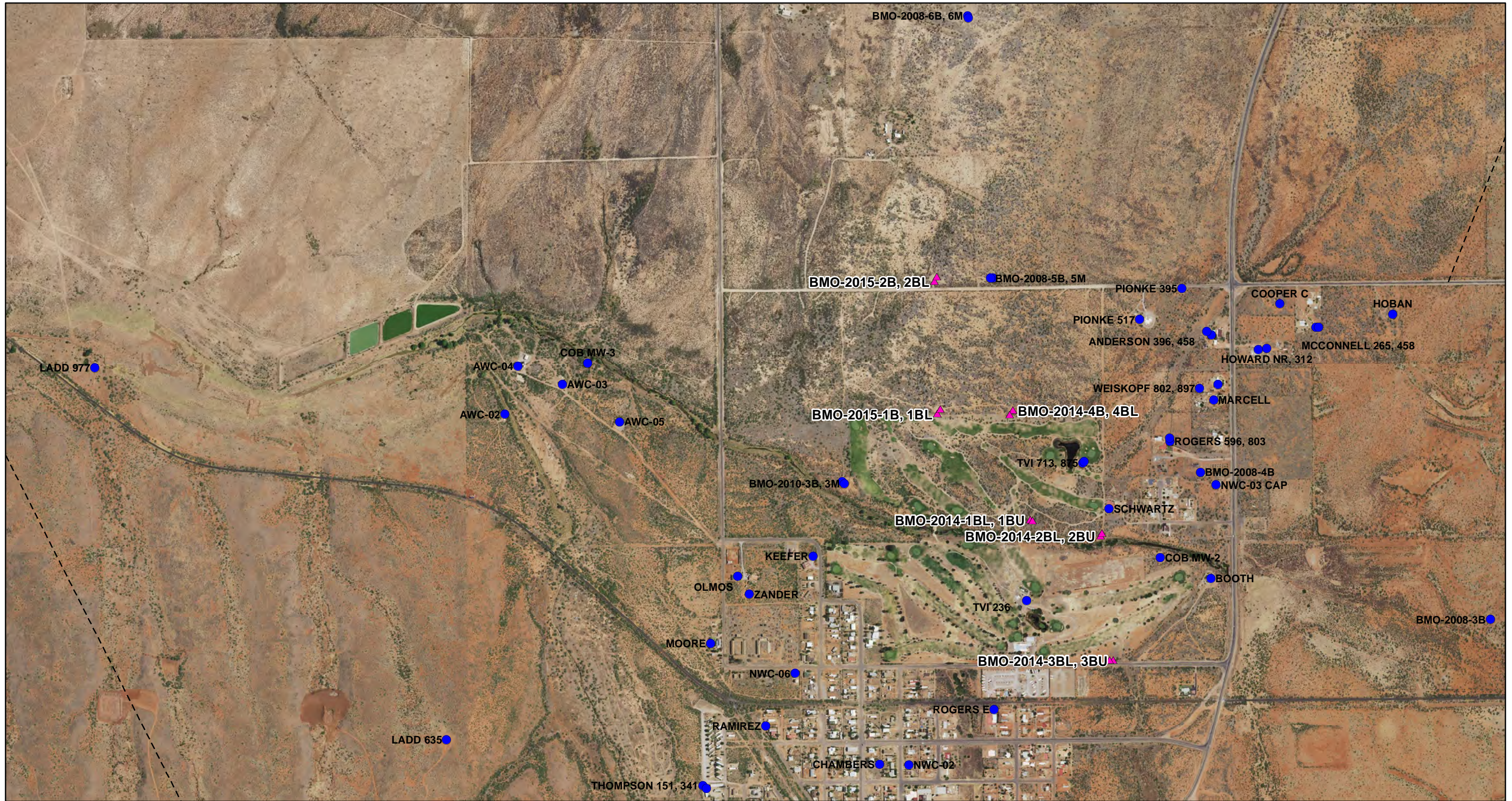
Legend

- Monitoring Location
- ▭ Former Evaporation Ponds
- ▭ CTSA Facility
- Fault (dashed where inferred)



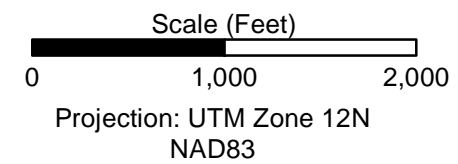
Date	12/12/18	File ID	055038-357

FIGURE 3
GROUNDWATER
MONITORING LOCATIONS



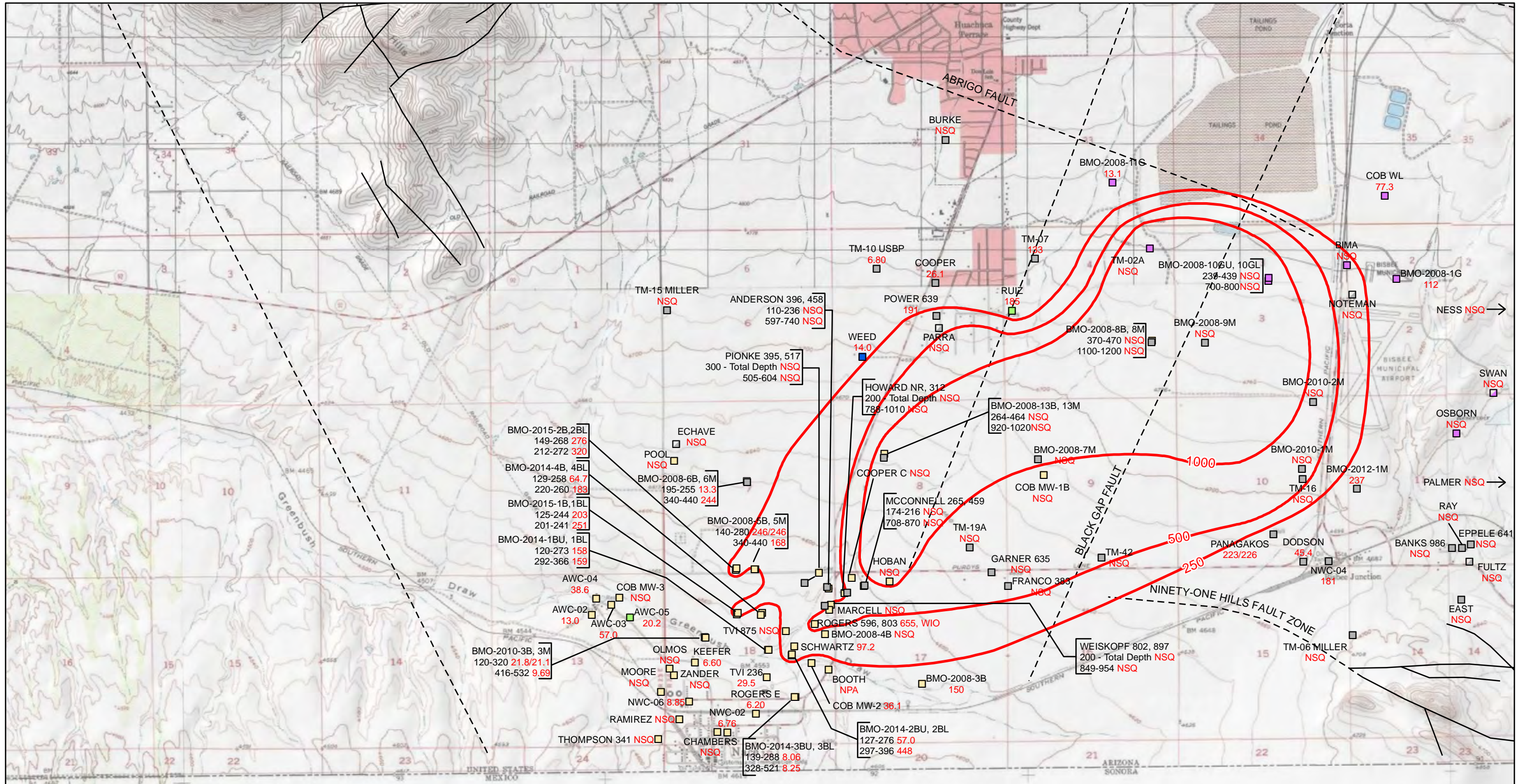
Legend

- ▲ Expanded Goundwater Monitoring Program Well
- Existing Well Location









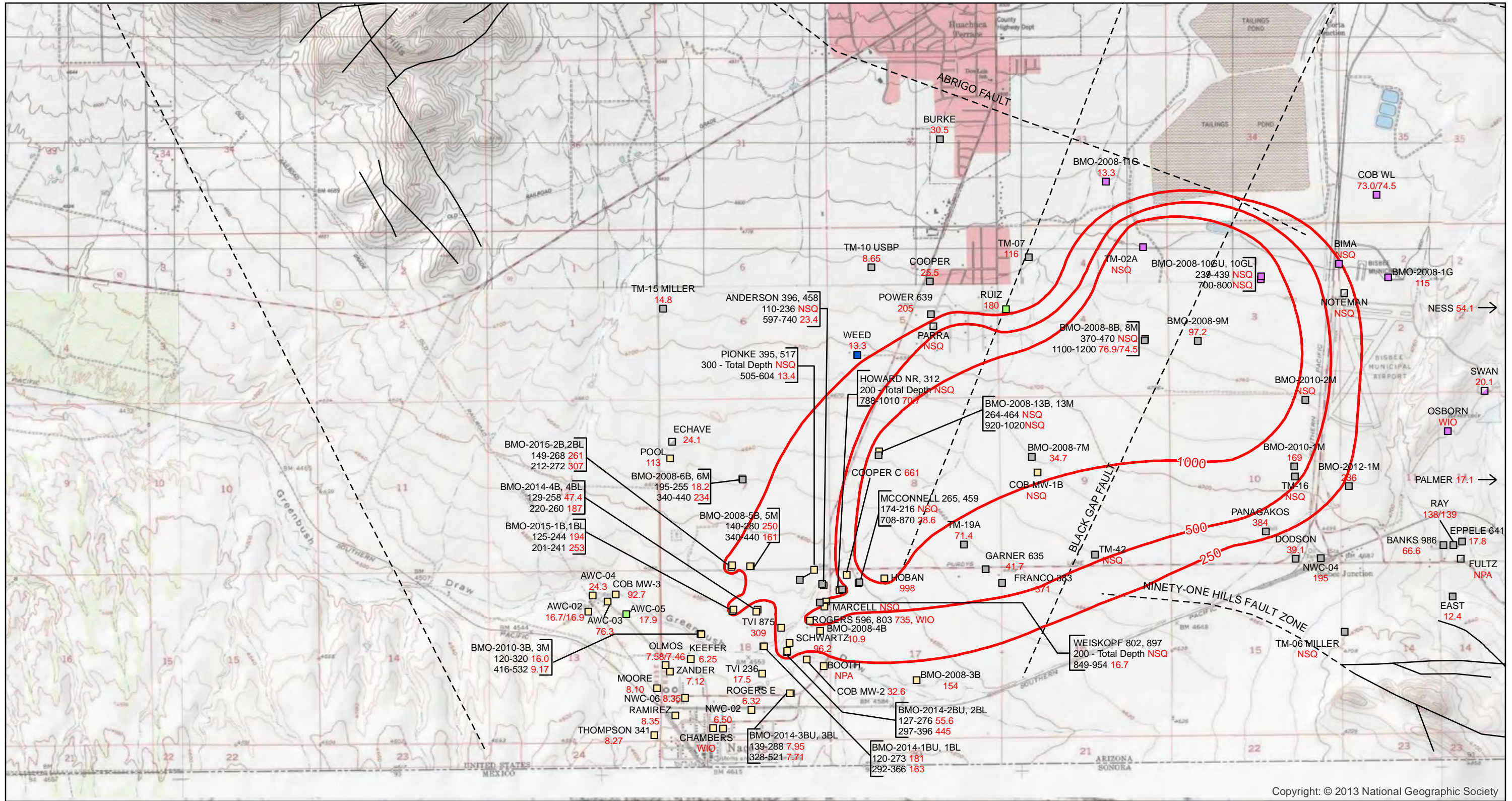
Date	12/12/18	File ID	055038-461

FIGURE 4
NACO AREA
WELL SITES



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<p>Legend</p> <ul style="list-style-type: none"> □ NWC-02 Well ID 6.76 SO4 Concentration (mg/L) Duplicate results separated by "/" — SO4 Concentration Contours - - - Fault (dashed where inferred) Co-located Wells □ Well ID □ Screen (ft bls): Sulfate Levels (mg/L) 	<p>Screened Formation</p> <ul style="list-style-type: none"> □ Basin Fill □ Basin Fill and Undifferentiated Bisbee Group □ Undifferentiated Bisbee Group □ Undifferentiated Bisbee Group - Estimated □ Undifferentiated Bisbee Group and Glance Conglomerate □ Glance Conglomerate □ Glance Conglomerate - Estimated Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations 	<p>NSQ = Not Scheduled for Quarter NPA = No Property Access WIO = Well Inoperable 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>Projection: UTM Zone 12N NAD83</p>	<table border="1"> <tr> <td>Date</td> <td>1/3/19</td> <td>File ID</td> <td>055038-514B</td> </tr> <tr> <td colspan="4" style="text-align: center;">   </td> </tr> </table>	Date	1/3/19	File ID	055038-514B	 				<p style="text-align: center;">FIGURE 5 SULFATE CONCENTRATIONS IN SITE-WIDE GROUNDWATER SAMPLES FOR FIRST QUARTER 2018</p>
Date	1/3/19	File ID	055038-514B										
 													

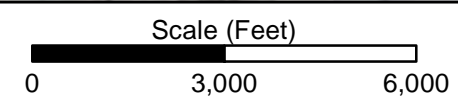


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- Legend**
- NWC-02 Well ID
 - 6.50 SO4 Concentration (mg/L)
 - Duplicate results separated by "/"
 - SO4 Concentration Contour
 - - - Fault (dashed where inferred)
 - Co-located Wells
 - Well ID
 - Screen (ft bls): Sulfate Levels (mg/L)

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

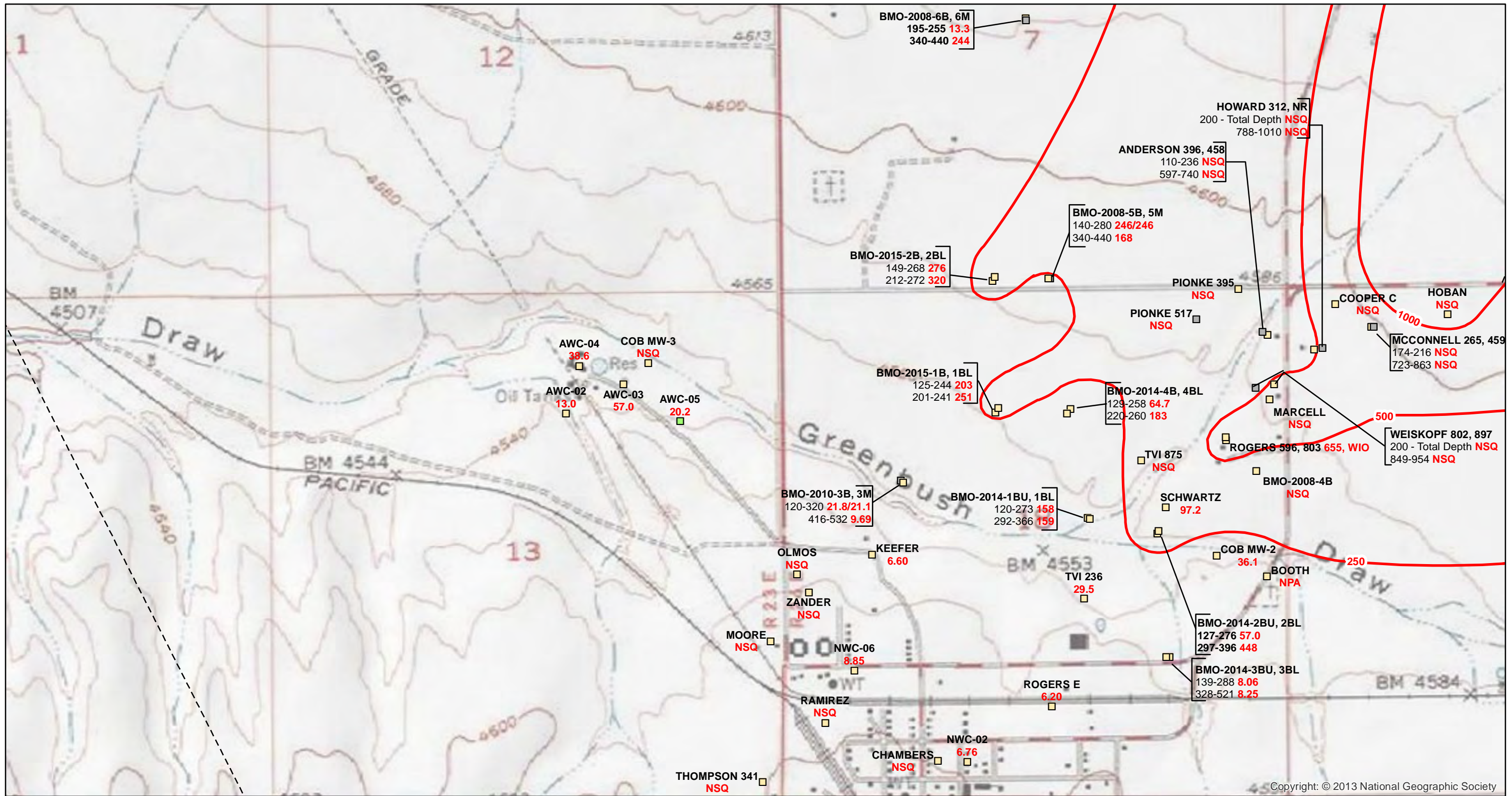
NPA = No Property Access
 NSQ = Not Scheduled for Quarter
 WIO = Well Inoperable
 mg/L = milligrams per liter
 ft bls = feet below land surface
 Sulfate contours are based on represented and historical data.



Date	1/3/19	File ID	055038-518

Projection: UTM Zone 12N NAD83

FIGURE 6
 SULFATE CONCENTRATIONS IN SITE-WIDE GROUNDWATER SAMPLES FOR THIRD QUARTER 2018



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Legend

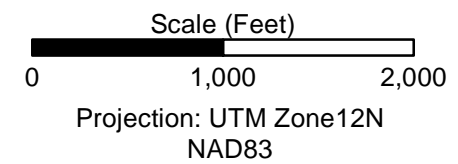
- NWC-02 Well ID
- 6.76 Sulfate Concentration (mg/L)
- Duplicate results separated by "/"
- Sulfate Concentration Contour
- - - Fault (Inferred)
- Co-located Wells
- Well ID
- Screen (ft bls): Sulfate Levels (mg/L)

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

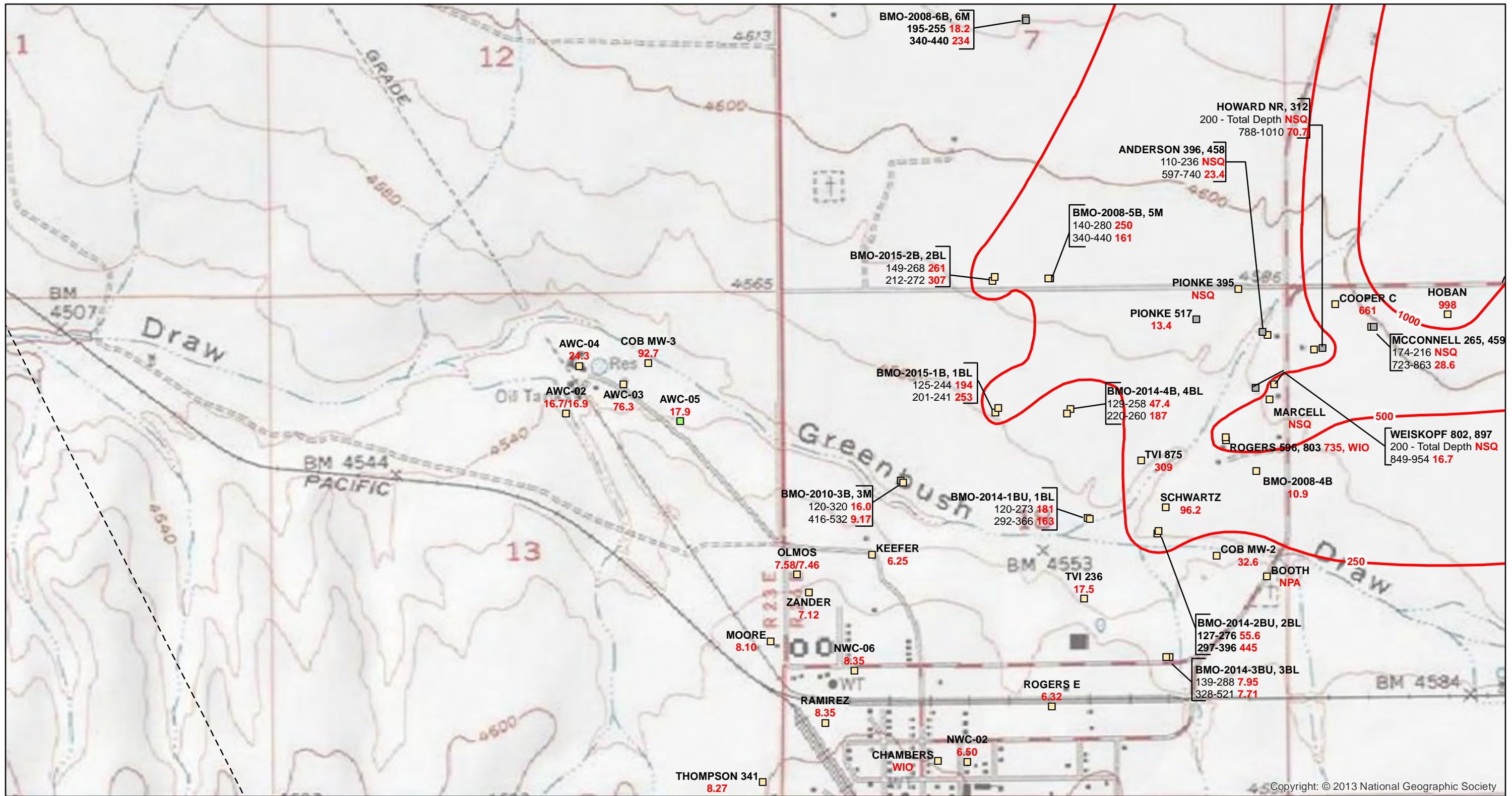
Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations

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	1/3/19	File ID	055038-512B

FIGURE 7
 SULFATE CONCENTRATIONS AT THE WEST EDGE OF THE PLUME FOR FIRST QUARTER 2018



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Legend

- NWC-02 Well ID
- 6.50 Sulfate Concentration (mg/L)
- Duplicate results separated by "/"
- Sulfate Concentration Contour
- - - Fault (Inferred)

Co-located Wells

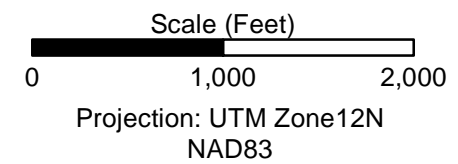
- Well ID
- Screen (ft bls): Sulfate Levels (mg/L)

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

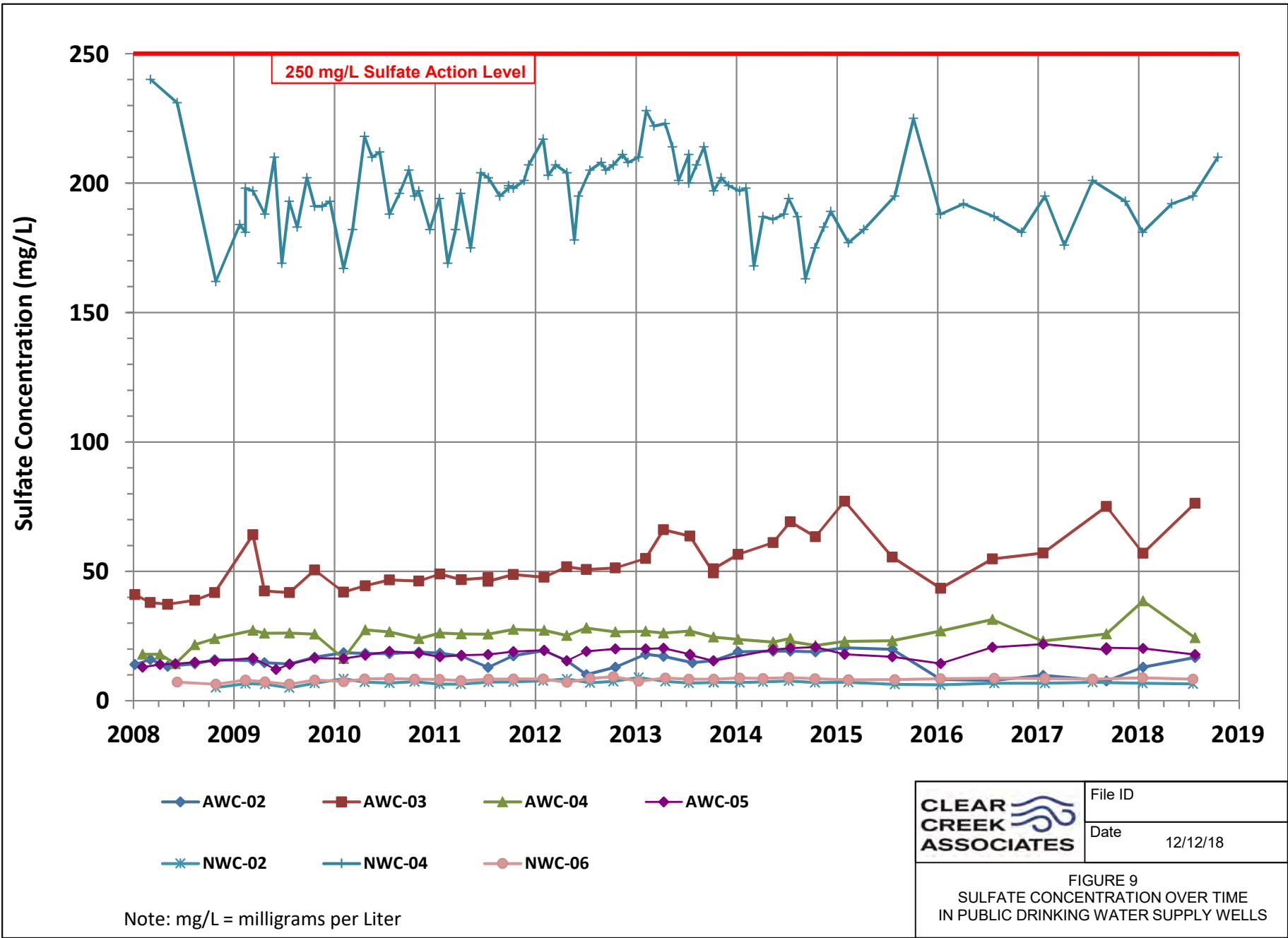
Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations

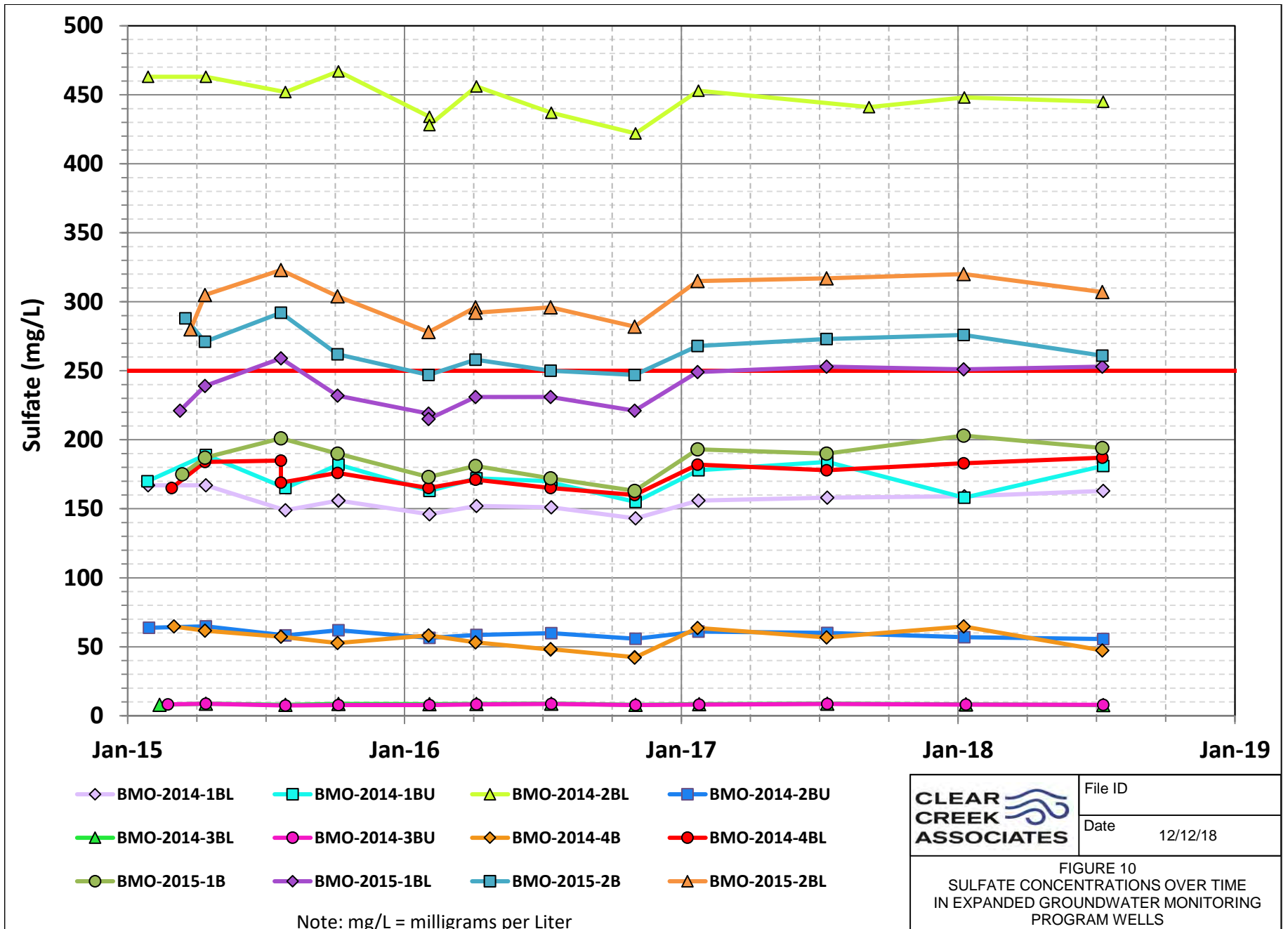
NPA = No Property Access
 NSQ = Not Scheduled for Quarter
 WIO = Well Inoperable
 mg/L = milligrams per liter
 ft bls = feet below land surface
 Sulfate contours are based on represented and historical data.



Date	1/3/19	File ID	055038-521

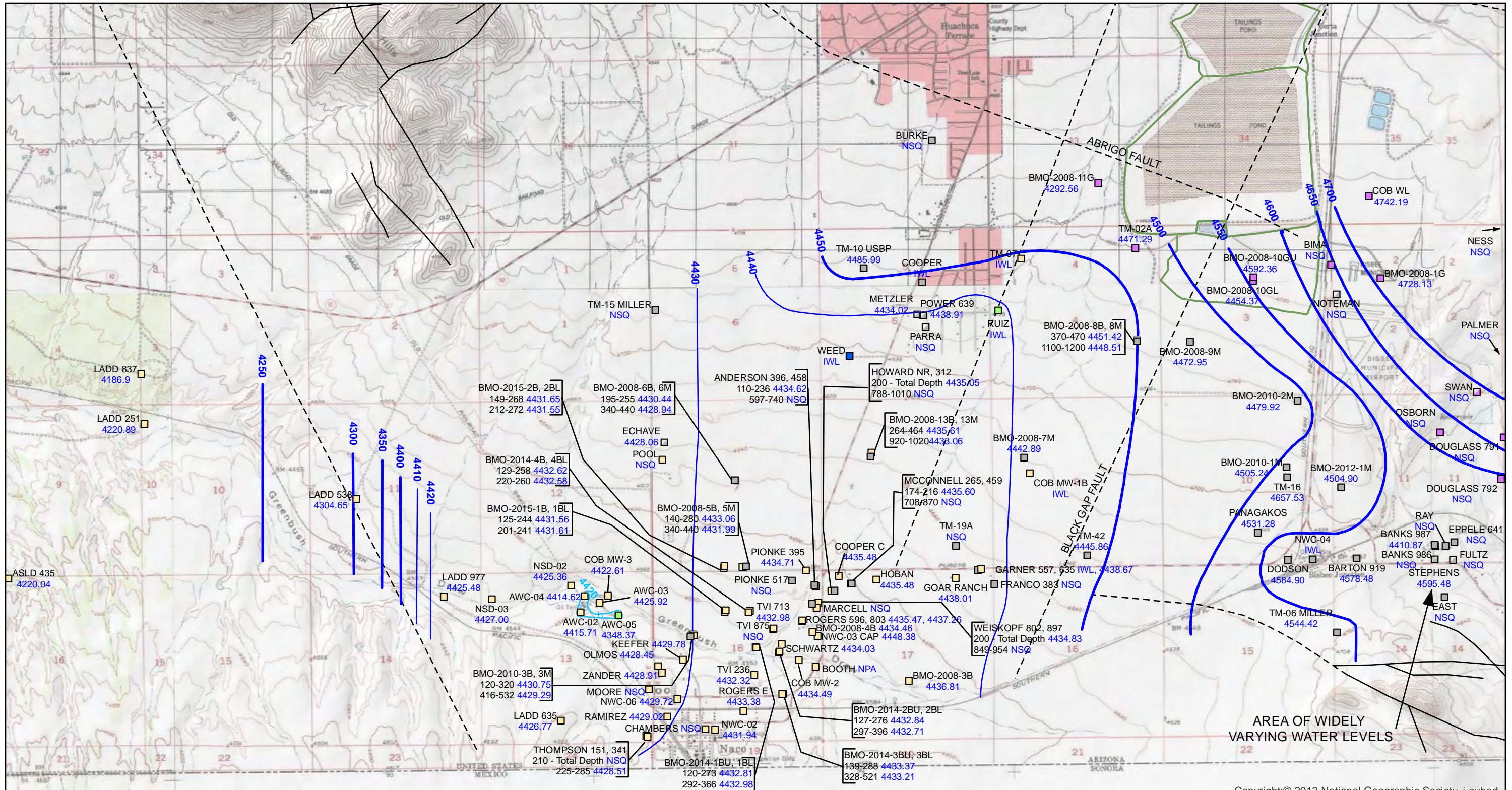
FIGURE 8
 SULFATE CONCENTRATIONS AT THE WEST EDGE OF THE PLUME FOR THIRD QUARTER 2018





File ID
Date 12/12/18

FIGURE 10
SULFATE CONCENTRATIONS OVER TIME
IN EXPANDED GROUNDWATER MONITORING
PROGRAM WELLS

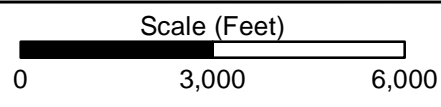


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Legend

- AWC-05 Well ID
- 4348.37 Groundwater Elevation (ft amsl)
- Groundwater Elevation Contours (10 ft)
- - - Groundwater Elevation Contours (50 ft) (dashed where inferred)
- ⌌ Groundwater Depression
- - - 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

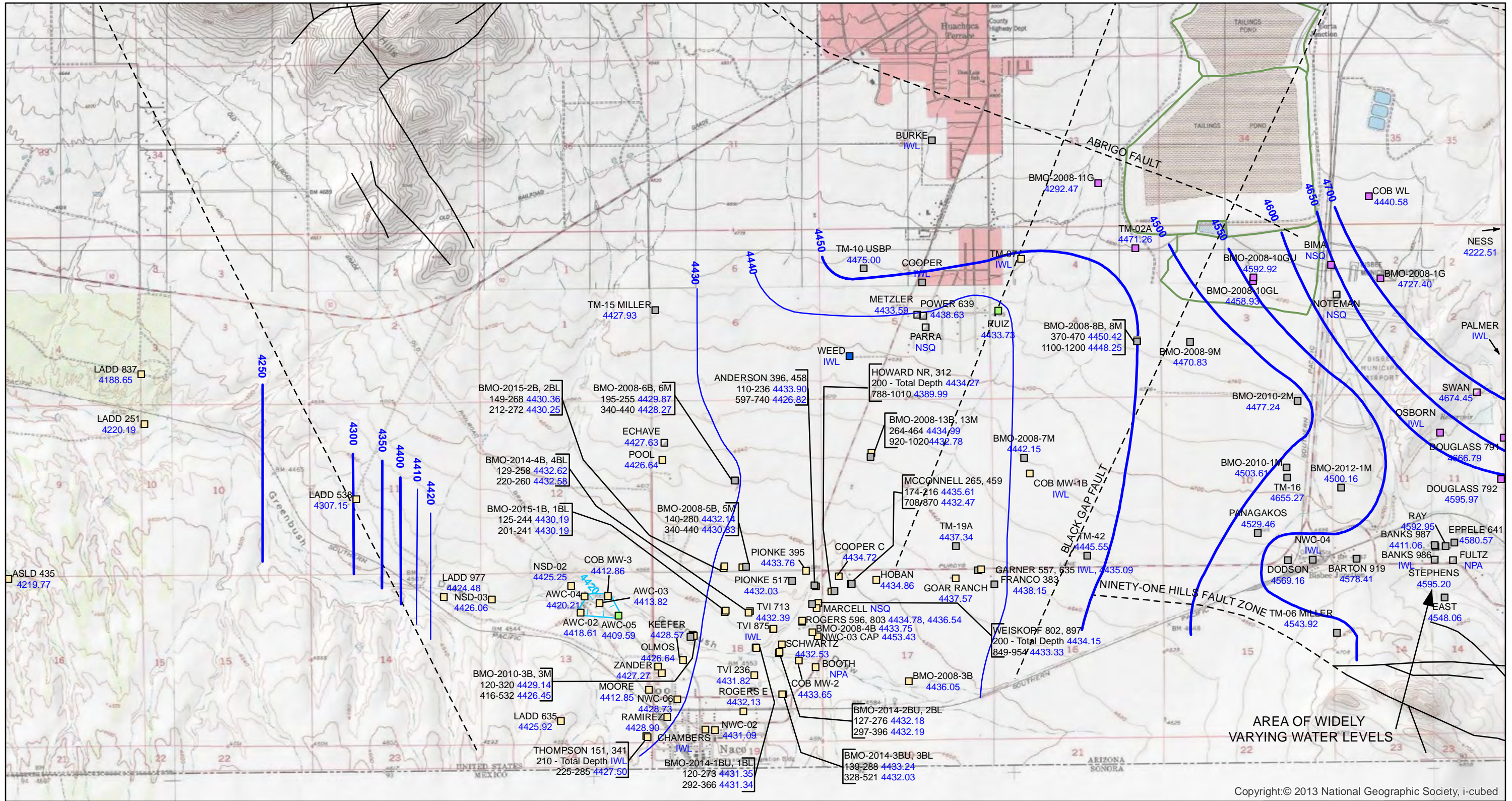
IWL = Inaccessible for Water Level
 NPA = No Property Access
 NSQ = Not Scheduled for Quarter
 ft amsl = feet above mean sea level
 ft bls = feet below land surface
 LADD 635 and NWC-03 CAP were not used for contouring



Projection: UTM Zone 12N NAD83

Date	3/26/18	File ID	055038-515

FIGURE 11
 SITE-WIDE
 GROUNDWATER ELEVATIONS
 FOR FIRST QUARTER 2018

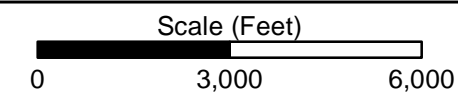


Copyright:© 2013 National Geographic Society, i-cubed

Legend

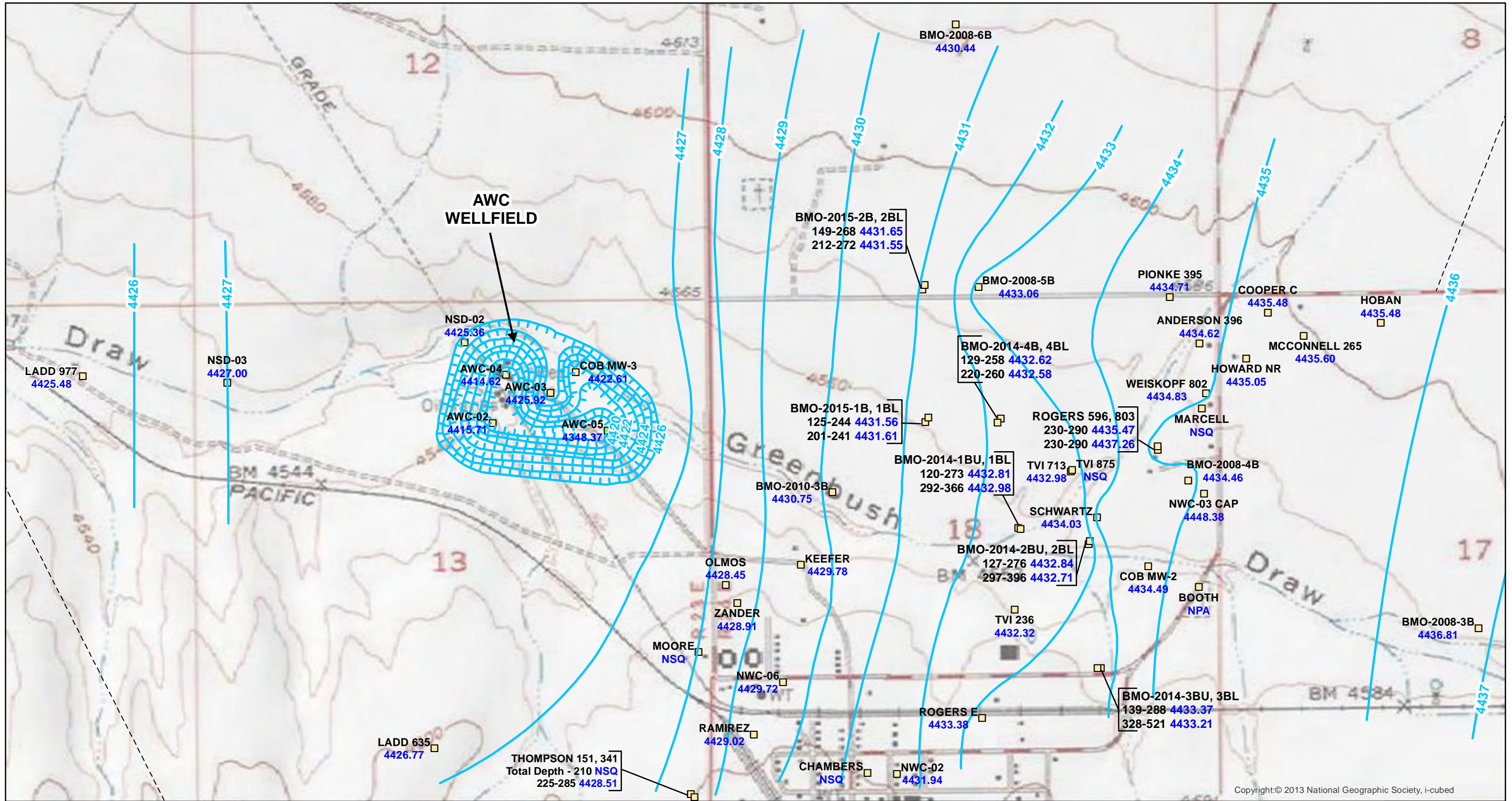
- AWC-05 Well ID
- 4409.59 Groundwater Elevation (ft amsl)
- Groundwater Elevation Contours (10 ft)
- - - Groundwater Elevation Contours (50 ft) (dashed where inferred)
- ⌌ Groundwater Depression
- - - Faults (dashed where inferred)
- CTSA Facility
- Co-located Wells
 - Well ID
 - Screen (ft bls): Water 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
 NWC-03 CAP was not used for contouring.



Projection: UTM Zone 12N NAD83

Date 9/27/18	File ID 055038-519
<p>FIGURE 12 SITE-WIDE GROUNDWATER ELEVATIONS FOR THIRD QUARTER 2018</p>	



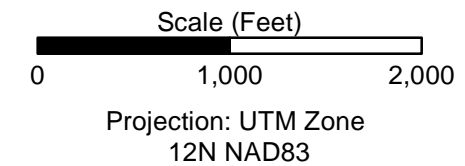
Copyright:© 2013 National Geographic Society, i-cubed

Legend

- AWC-02 Well ID
- 4415.71 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)

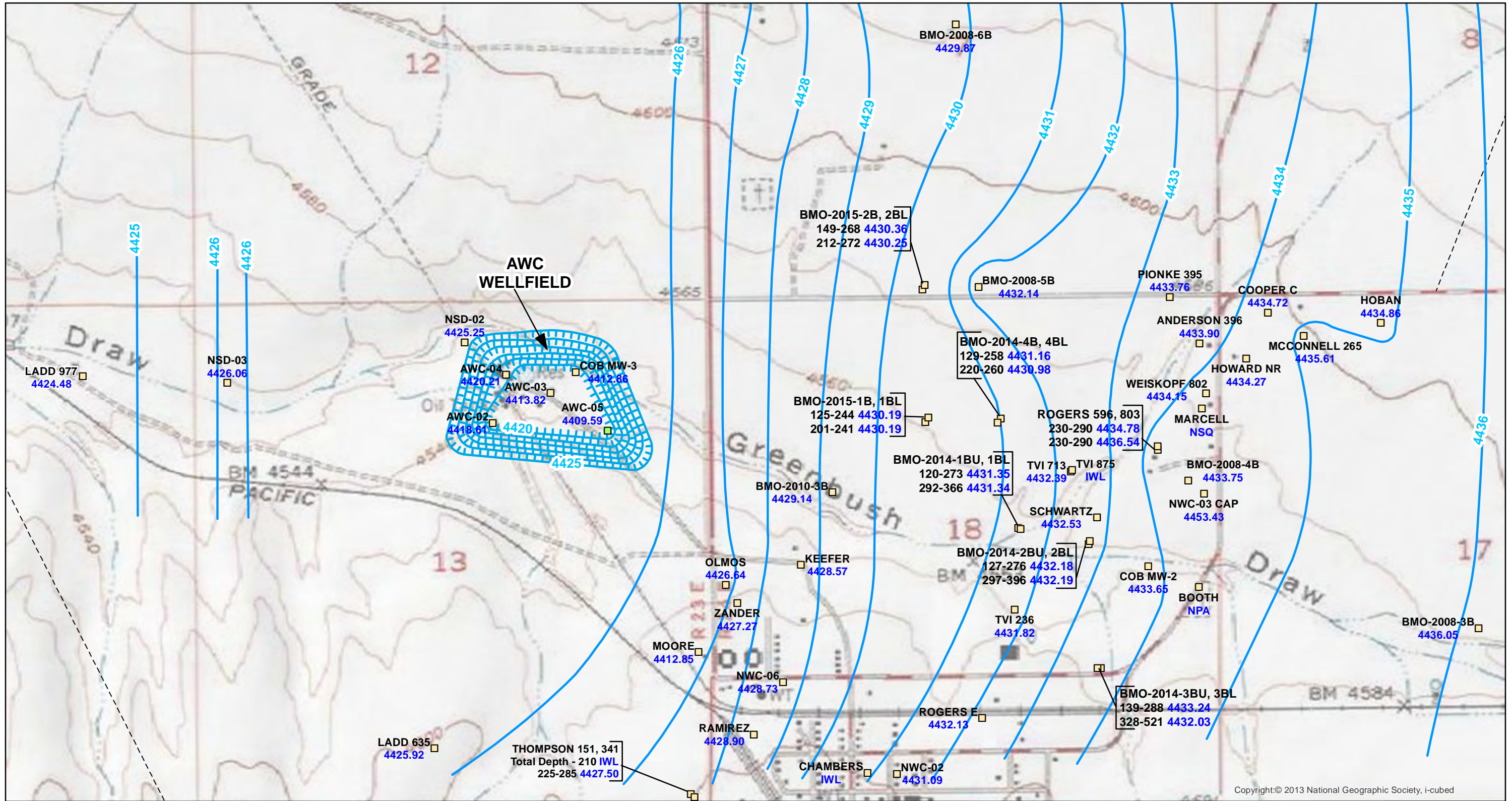
- Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate-Estimated

Notes:
 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
 LADD 635 and NWC-03 CAP were not used for contouring





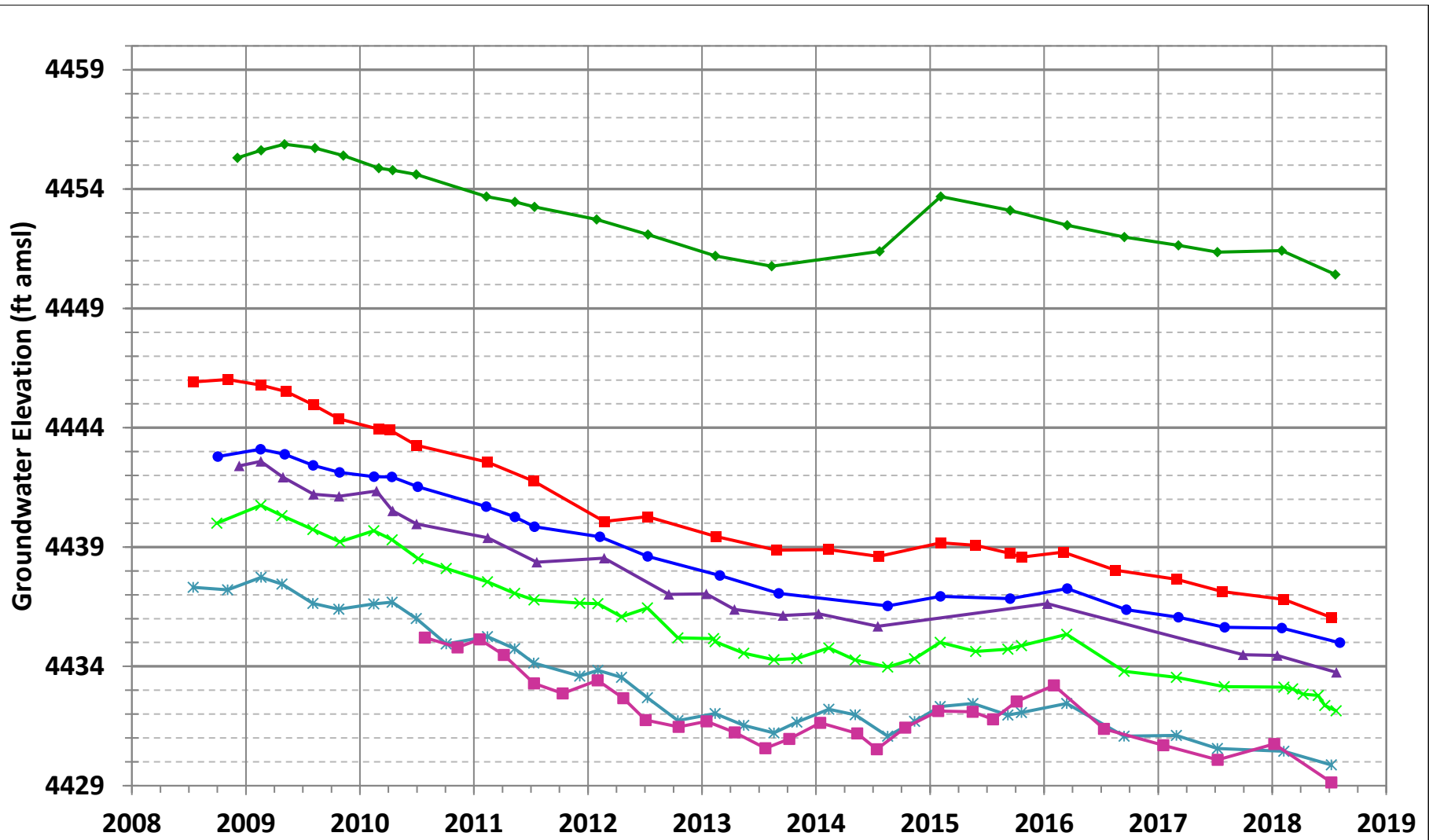
Date	1/3/19	File ID	055038-513

FIGURE 13
 BASIN FILL
 GROUNDWATER ELEVATIONS
 AT THE WEST EDGE OF THE PLUME
 FOR FIRST QUARTER 2018




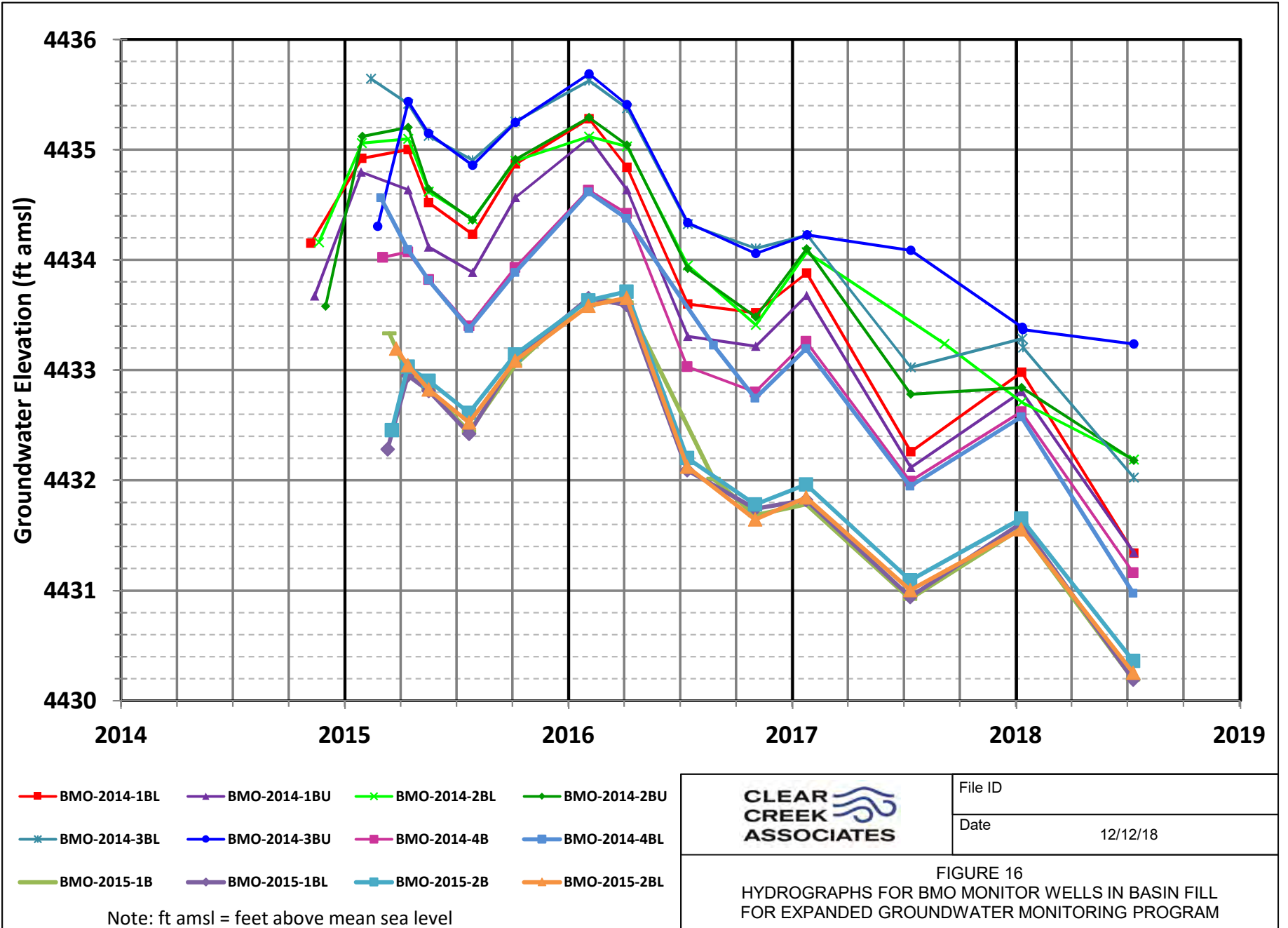
Copyright:© 2013 National Geographic Society, i-cubed

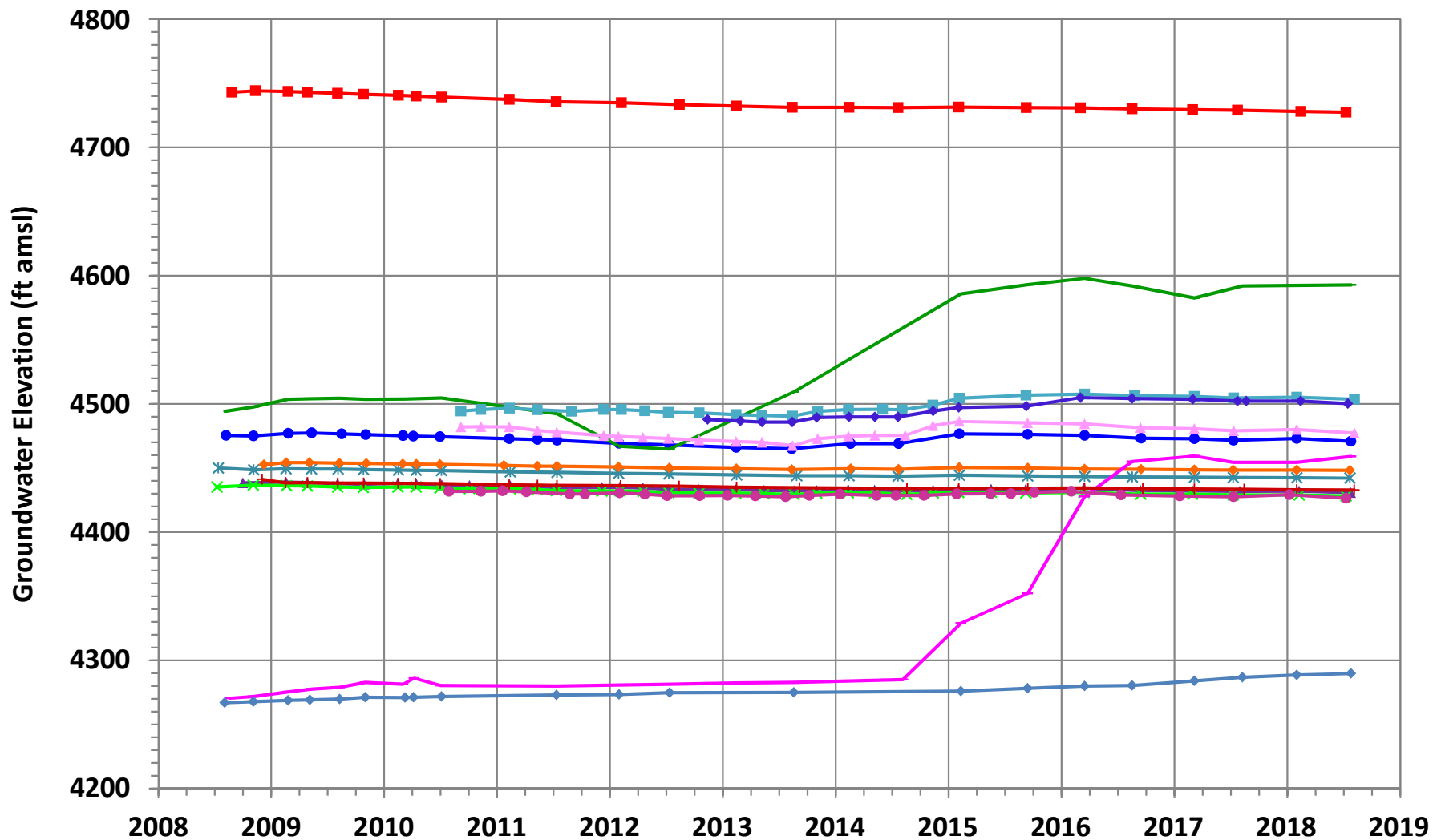
Legend □ AWC-02 Well ID 4418.61 Groundwater Elevation (ft amsl) — Groundwater Elevation Contour (ft amsl) — Groundwater Elevation Depression Contour (ft amsl) - - - Faults (dashed where inferred) Co-located Wells □ Well ID □ Screen (ft bls): Water Elevation (ft amsl)		Screened Formation □ Basin Fill □ 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		Scale (Feet) 0 1,000 2,000 Projection: UTM Zone 12N NAD83		Date: 12/26/18 File ID: 055038-520 			
FIGURE 14 BASIN FILL GROUNDWATER ELEVATIONS AT THE WEST EDGE OF THE PLUME FOR THIRD QUARTER 2018											



Note: ft amsl = feet above mean sea level


	File ID
	Date 12/12/18
<p>FIGURE 15 HYDROGRAPHS FOR SELECTED BMO MONITOR WELLS IN BASIN FILL</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

Note: ft amsl = feet above mean sea level

	File ID
	Date 12/12/18
FIGURE 17 HYDROGRAPHS FOR BMO MONITOR WELLS IN BEDROCK	

APPENDICES

APPENDIX A
GROUNDWATER SAMPLING FORMS

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-15-18
 Well ID: ANDERSON 396 Weather: Sunny, 60s
 ADWR No: 613 396 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>285</u>	Casing Capacity
Casing Diameter (in):	<u>8</u>	Nominal Size (inches) Gallons per Linear Foot
Static Water Level (ft bmp):	<u>153.89</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:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-17-18
 Well ID: AWC-02 Weather: clear, 40s
 ADWR No: 616586 Sampler: JA

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>131.93</u>	2	0.16
Casing Volume (gal): <u>3280 x3 = 9840</u>	4	0.65
Total Volume Purged (gal): <u>10710</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
	<u>20</u>	<u>16.31</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>1020</u>	<u>Pump On</u>						
<u>1035</u>	<u>15</u>	<u>90</u>	<u>1350</u>	<u>7.25</u>	<u>20.4</u>	<u>442.1</u>	
<u>1050</u>	<u>30</u>	<u>90</u>	<u>2700</u>	<u>7.27</u>	<u>20.4</u>	<u>450.0</u>	
<u>1105</u>	<u>45</u>	<u>90</u>	<u>4050</u>	<u>7.32</u>	<u>20.4</u>	<u>445.1</u>	
<u>1120</u>	<u>60</u>	<u>90</u>	<u>5400</u>	<u>7.31</u>	<u>20.5</u>	<u>442.3</u>	
<u>1135</u>	<u>75</u>	<u>90</u>	<u>6750</u>	<u>7.26</u>	<u>20.6</u>	<u>443.1</u>	
<u>1150</u>	<u>90</u>	<u>90</u>	<u>8100</u>	<u>7.27</u>	<u>20.6</u>	<u>444.9</u>	
<u>1205</u>	<u>105</u>	<u>90</u>	<u>9450</u>	<u>7.25</u>	<u>20.5</u>	<u>441.6</u>	
<u>1210</u>	<u>110</u>	<u>90</u>	<u>9900</u>	<u>7.26</u>	<u>20.5</u>	<u>442.6</u>	
<u>1219</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-02</u>	<u>1212</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: 1-17-18
 Well ID: AWC-03 Weather: clear, 30s
 ADWR No: 616585 Sampler: JA

WELL DATA			Casing Capacity	
Well Depth (ft bls):	<u>270</u>		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	<u>16</u>		2	0.16
Static Water Level (ft bmp):	<u>113.60</u>		4	0.65
Casing Volume (gal):	<u>1633</u>	x3 = <u>4899</u>	5	1.02
			6	1.47
			8	2.61
			10	4.08
Total Volume Purged (gal):	<u>22,400</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>0920</u>	<u>Pump On</u>						
<u>0922</u>	<u>2</u>	<u>800</u>	<u>1600</u>	<u>7.31</u>	<u>19.8</u>	<u>502.6</u>	
<u>0924</u>	<u>4</u>	<u>800</u>	<u>3200</u>	<u>7.28</u>	<u>19.9</u>	<u>495.8</u>	
<u>0926</u>	<u>6</u>	<u>800</u>	<u>4800</u>	<u>7.26</u>	<u>19.7</u>	<u>487.5</u>	
<u>0928</u>	<u>8</u>	<u>800</u>	<u>6400</u>	<u>7.27</u>	<u>19.8</u>	<u>484.0</u>	
<u>0930</u>	<u>10</u>	<u>800</u>	<u>8000</u>	<u>7.25</u>	<u>19.9</u>	<u>487.6</u>	
<u>0948</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-03</u>	<u>0933</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: 1-17-18
 Well ID: AWC-04 Weather: clear, 70s
 ADWR No: 616 584 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>337</u>	Casing Capacity	
Casing Diameter (in): <u>16</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>125.86</u>	2	0.16
Casing Volume (gal): <u>2204 x3 = 6612</u>	4	0.65
Total Volume Purged (gal): <u>16100</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
	<u>16</u>	<u>10.44</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>0950</u>	<u>Pump On</u>						
	<u>2</u>	<u>700</u>					
<u>0954</u>	<u>4</u>	<u>700</u>	<u>2800</u>	<u>7.16</u>	<u>19.8</u>	<u>516.4</u>	
<u>0956</u>	<u>6</u>	<u>700</u>	<u>4200</u>	<u>7.14</u>	<u>19.8</u>	<u>521.2</u>	
<u>0958</u>	<u>8</u>	<u>700</u>	<u>5600</u>	<u>7.16</u>	<u>19.7</u>	<u>533.2</u>	
<u>1000</u>	<u>10</u>	<u>700</u>	<u>7000</u>	<u>7.13</u>	<u>19.6</u>	<u>532.6</u>	
<u>1013</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-04</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
<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: 1-17-18
 Well ID: AWC-05 Weather: clear, 30s
 ADWR No: 590620 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>1183</u>	Casing Capacity	
Casing Diameter (in): <u>16</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp): <u>194.14</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>10,324</u> x3 = <u>30,972</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>37,620</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>08/2</u>	<u>Pump On</u>						
<u>0827</u>	<u>15</u>	<u>660</u>	<u>9,900</u>	<u>7.12</u>	<u>20.1</u>	<u>440.9</u>	
<u>0832</u>	<u>20</u>	<u>660</u>	<u>13,200</u>	<u>7.31</u>	<u>20.1</u>	<u>441.2</u>	
<u>0837</u>	<u>25</u>	<u>660</u>	<u>16,500</u>	<u>7.35</u>	<u>20.0</u>	<u>438.4</u>	
<u>0842</u>	<u>30</u>	<u>660</u>	<u>19,800</u>	<u>7.36</u>	<u>20.2</u>	<u>439.8</u>	
<u>0847</u>	<u>35</u>	<u>660</u>	<u>23,100</u>	<u>7.36</u>	<u>20.4</u>	<u>438.4</u>	
<u>0852</u>	<u>40</u>	<u>660</u>	<u>26,400</u>	<u>7.34</u>	<u>20.2</u>	<u>438.2</u>	
<u>0857</u>	<u>45</u>	<u>660</u>	<u>29,700</u>	<u>7.34</u>	<u>20.4</u>	<u>439.1</u>	
<u>0902</u>	<u>50</u>	<u>660</u>	<u>33,000</u>	<u>7.34</u>	<u>20.5</u>	<u>437.0</u>	
<u>0909</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>09:04</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-15-18
 Well ID: BANKS 987 Weather: clear, 60s
 ADWR No: 647987 Sampler: JA

WELL DATA		
Well Depth (ft bis): <u>339</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>237.31</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						
			W L O				
							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: 1-15-18
 Well ID: BARTON 919 Weather: Partly Cloudy, 50s
 ADWR No: _____ Sampler: JA

WELL DATA			
Well Depth (ft bls):	<u>130</u>	Casing Capacity	
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	<u>113.88</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)
<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: _____ Date: 2-14-18
 Well ID: BMD-2008-1E Weather: Cloudy
 ADWR No: _____ Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): <u>310</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>76.97</u> Casing Volume (gal): <u>237.7 x3 = 713.1</u> Total Volume Purged (gal): <u>747</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>0650</u>	<u>Pump On</u>						
<u>0720</u>	<u>30</u>	<u>8.3</u>	<u>249</u>	<u>7.11</u>	<u>20.7</u>	<u>931</u>	
<u>0740</u>	<u>50</u>	<u>8.3</u>	<u>415</u>	<u>7.09</u>	<u>20.9</u>	<u>928</u>	
<u>0800</u>	<u>70</u>	<u>8.3</u>	<u>581</u>	<u>7.07</u>	<u>20.8</u>	<u>925</u>	
<u>0820</u>	<u>90</u>	<u>8.3</u>	<u>747</u>	<u>7.08</u>	<u>20.9</u>	<u>929</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-2008-1E</u>	<u>0820</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>
<u>Dup-021418</u>	<u>0820</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: 233.1

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-8-18
 Well ID: BMO-2008-3B Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Johnson

WELL DATA

Well Depth (ft bls): <u>260</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>147.16</u> Casing Volume (gal): <u>115 = x3 = 345</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>1300</u>	<u>Pump On</u>						
<u>1310</u>	<u>10</u>	<u>27</u>	<u>135</u>	<u>7.47</u>	<u>21.1</u>	<u>654</u>	
<u>1315</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.49</u>	<u>21.2</u>	<u>655</u>	
<u>1320</u>	<u>20</u>	<u>27</u>	<u>540</u>	<u>7.46</u>	<u>21.0</u>	<u>653</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-2008-3B</u>	<u>1320</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Li</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: 112.8



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
Task No: 1 Date: 1-18-18
Well ID: BMO-2008-4B Weather: clear, 60s
ADWR No: 910 096 Sampler: SA

WELL DATA

Well Depth (ft bls):	<u>610</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>138.71</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)
<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: _____ Date: 2-8-18
 Well ID: BMO-2008-5B Weather: Sunny
 ADWR No: _____ Sampler: Christ. pluv L Skurvy

WELL DATA

Well Depth (ft bls): <u>285</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>151.97</u>	4	0.65
Casing Volume (gal): <u>135.6 x3 = 406.8</u>	5	1.02
Total Volume Purged (gal): <u>675</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>1135</u>	Pump On						
<u>1140</u>	<u>5</u>	<u>27</u>	<u>135</u>	<u>7.33</u>	<u>21.6</u>	<u>795</u>	
<u>1150</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.29</u>	<u>21.8</u>	<u>799</u>	
<u>1200</u>	<u>25</u>	<u>27</u>	<u>675</u>	<u>7.28</u>	<u>21.4</u>	<u>798</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-2008-5B</u>	<u>1200</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:
133

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 3-8-18
 Well ID: BMO-2008-5B Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA

Well Depth (ft bls): <u>285</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>152.04</u> Casing Volume (gal): <u>135.6 x3 = 406.8</u> Total Volume Purged (gal): <u>675</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>0700</u>	<u>Pump On</u>						
<u>0705</u>	<u>5</u>	<u>27</u>	<u>135</u>	<u>7.25</u>	<u>21.5</u>	<u>789</u>	
<u>0715</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.29</u>	<u>21.8</u>	<u>791</u>	
<u>0725</u>	<u>25</u>	<u>27</u>	<u>675</u>	<u>7.30</u>	<u>21.4</u>	<u>792</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>0725</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>
<u>Dup 030818</u>	<u>0725</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>FC</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



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-8-18
 Well ID: BMO-2008-5M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Sloman

WELL DATA		Casing Capacity	
Well Depth (ft bls): <u>450'</u>		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>5"</u>		2	0.16
Static Water Level (ft bmp): <u>153.03</u>		4	0.65
Casing Volume (gal): <u>302.8 x3 = 908.4</u>		5	1.02
Total Volume Purged (gal): <u>990</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>1035</u>	<u>Pump On</u>						
<u>1100</u>	<u>25</u>	<u>18</u>	<u>450</u>	<u>7.27</u>	<u>22.2</u>	<u>648</u>	
<u>1120</u>	<u>45</u>	<u>18</u>	<u>810</u>	<u>7.29</u>	<u>22.3</u>	<u>647</u>	
<u>1130</u>	<u>55</u>	<u>18</u>	<u>990</u>	<u>7.26</u>	<u>22.4</u>	<u>646</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>1130</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: 296.97



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-8-18
 Well ID: BMA-2008-6B Weather: Sunny
 ADWR No: _____ Sampler: Christopher Shuman

WELL DATA

Well Depth (ft bls): <u>265</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>197-</u> Casing Volume (gal): <u>69.3 x 3 = 208</u> Total Volume Purged (gal): <u>225</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>0915</u>	<u>Pump On</u>						
<u>0930</u>	<u>15</u>	<u>5.1</u>	<u>75</u>	<u>7.15</u>	<u>20.3</u>	<u>288</u>	
<u>0945</u>	<u>30</u>	<u>5.1</u>	<u>150</u>	<u>7.22</u>	<u>20.8</u>	<u>289</u>	
<u>1000</u>	<u>45</u>	<u>5.1</u>	<u>225</u>	<u>7.26</u>	<u>20.9</u>	<u>284</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>BMA-2008-6B</u>	<u>1000</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: 68

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-8-18
 Well ID: BMP-2008-6M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA			Casing Capacity	
Well Depth (ft bls): <u>450</u>	Nominal Size (inches)	Gallons per Linear Foot		
Casing Diameter (in): <u>5"</u>	2	0.16		
Static Water Level (ft bmp): <u>197.96</u>	4	0.65		
Casing Volume (gal): <u>257 - x3 = 771</u>	5	1.02		
Total Volume Purged (gal): <u>840</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>0810</u>	<u>Pump On</u>						
<u>0820</u>	<u>10</u>	<u>21</u>	<u>210</u>	<u>7.31</u>	<u>21.8</u>	<u>771</u>	
<u>0830</u>	<u>20</u>	<u>21</u>	<u>420</u>	<u>7.28</u>	<u>21.9</u>	<u>774</u>	
<u>0840</u>	<u>30</u>	<u>21</u>	<u>630</u>	<u>7.32</u>	<u>21.7</u>	<u>778</u>	
<u>0850</u>	<u>40</u>	<u>21</u>	<u>840</u>	<u>7.30</u>	<u>21.8</u>	<u>775</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-2008-6M</u>	<u>0850</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: 252.04



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-1-18
 Well ID: BMO-2008-8m Weather: Sunny
 ADWR No: _____ Sampler: Christopher & Shanna

WELL DATA

Well Depth (ft bls): <u>1210</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>303.94</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
	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: SWL only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-1-18
 Well ID: BMO-2008-9M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Sloman

WELL DATA

Well Depth (ft bls): <u>775</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>289.64</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
	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: 5 well only

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-1-18
 Well ID: BMO-2008-10 6u Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Sloman

WELL DATA

Well Depth (ft bls): <u>449</u> Casing Diameter (in): <u>5 1/2</u> Static Water Level (ft bmp): <u>201.09</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
	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: SWL only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-12-18
 Well ID: BMD-2008-116 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Sherman

WELL DATA		Casing Capacity	
Well Depth (ft bis): <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>552.11</u>		4	0.65
Casing Volume (gal): <u>212 x3 = 636</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>0800</u>	<u>Pump On</u>						
<u>0810</u>	<u>10</u>	<u>8</u>	<u>80</u>	<u>7.82</u>	<u>24.8</u>	<u>342</u>	
<u>0830</u>	<u>30</u>	<u>8</u>	<u>240</u>	<u>7.92</u>	<u>24.3</u>	<u>341</u>	
<u>0900</u>	<u>60</u>	<u>8</u>	<u>480</u>	<u>7.95</u>	<u>24.2</u>	<u>339</u>	
<u>0920</u>	<u>80</u>	<u>8</u>	<u>640</u>	<u>7.96</u>	<u>24.4</u>	<u>341</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-2008-116</u>	<u>0920</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: 207.8



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-1-18
 Well ID: BMO-2008-13B Weather: Sunny
 ADWR No: _____ Sampler: Christopher & Skirman

WELL DATA

Well Depth (ft bls): <u>475</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>213.60</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
	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: _____

SWL only

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-1-18
 Well ID: BMO-2008-13M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shurman

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>214.09</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: SWH only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-1-18
 Well ID: BMO-2010-1M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Sturman

WELL DATA

Well Depth (ft bls): <u>550</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>213.31</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: SWL only

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-1-18
 Well ID: BMD-2010-2M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Stevan

WELL DATA

Well Depth (ft bls): <u>380</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>266.24</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: SWL - only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-8-2018
 Well ID: BMO-2010-3B Weather: cloudy, 50s
 ADWR No: 219970 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>330</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
	2 4 <u>5</u> 6 8 10	0.16 0.65 <u>1.02</u> 1.47 2.61 4.08
Static Water Level (ft bmp): <u>119.84</u>		
Casing Volume (gal): <u>214.4 x3 = 643.2</u>		
Total Volume Purged (gal): <u>742</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>0805</u>	<u>Pump On</u>						
<u>0820</u>	<u>15</u>	<u>8</u>	<u>120</u>	<u>7.44</u>	<u>20.3</u>	<u>417.1</u>	
<u>0835</u>	<u>30</u>	<u>8</u>	<u>240</u>	<u>7.46</u>	<u>20.3</u>	<u>416.2</u>	
<u>0850</u>	<u>45</u>	<u>8</u>	<u>360</u>	<u>7.47</u>	<u>20.4</u>	<u>414.7</u>	
<u>0905</u>	<u>60</u>	<u>8</u>	<u>480</u>	<u>7.45</u>	<u>20.3</u>	<u>414.6</u>	
<u>0920</u>	<u>75</u>	<u>8</u>	<u>600</u>	<u>7.44</u>	<u>20.4</u>	<u>414.8</u>	
<u>0935</u>	<u>90</u>	<u>8</u>	<u>720</u>	<u>7.42</u>	<u>20.4</u>	<u>415.7</u>	
<u>0944</u>			<u>792</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: <u>SP:50+</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2010-3B</u>	<u>0939</u>	<u>poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP20180108</u>	<u>1200</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: 1-8-2018
 Well ID: BMO-2010-3M Weather: cloudy 60s
 ADWR No: 219469 Sampler: SA

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>121.24</u>	2 0.16
Casing Volume (gal):	<u>419</u> <u>x3 = 1257</u>	4 0.65
Total Volume Purged (gal):	<u>1400</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>0950</u>	<u>Pump On</u>						
<u>1005</u>	<u>15</u>	<u>8</u>	<u>120</u>	<u>8.11</u>	<u>20.9</u>	<u>283.3</u>	
<u>1020</u>	<u>30</u>	<u>8</u>	<u>240</u>	<u>7.59</u>	<u>21.5</u>	<u>375.6</u>	
<u>1050</u>	<u>60</u>	<u>8</u>	<u>480</u>	<u>7.56</u>	<u>21.9</u>	<u>379.2</u>	
<u>1120</u>	<u>90</u>	<u>8</u>	<u>720</u>	<u>7.54</u>	<u>22.1</u>	<u>379.0</u>	
<u>1150</u>	<u>120</u>	<u>8</u>	<u>960</u>	<u>7.53</u>	<u>22.2</u>	<u>379.1</u>	
<u>1220</u>	<u>150</u>	<u>8</u>	<u>1200</u>	<u>7.51</u>	<u>22.1</u>	<u>380.0</u>	
<u>1240</u>	<u>170</u>	<u>8</u>	<u>1360</u>	<u>7.52</u>	<u>22.2</u>	<u>379.7</u>	
<u>1245</u>			<u>1400</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>1244</u>	<u>Poly</u>	<u>200ML</u>	<u>1</u>	<u>3000</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: _____ Date: 2-13-18
 Well ID: BMO-2012-1M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Slarman

WELL DATA		Casing Capacity	
Well Depth (ft bls):	Casing Diameter (in):	Nominal Size (inches)	Gallons per Linear Foot
<u>905</u>	<u>5"</u>	2	0.16
Static Water Level (ft bmp):		4	0.65
		5	1.02
Casing Volume (gal):	<u>191.2 x3 = 573.6</u>	6	1.47
Total Volume Purged (gal):	<u>600</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>0840</u>	<u>Pump On</u>						
<u>0850</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>7.22</u>	<u>22.8</u>	<u>958</u>	
<u>0910</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>7.28</u>	<u>22.5</u>	<u>963</u>	
<u>0940</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>7.25</u>	<u>22.6</u>	<u>962</u>	
<u>1015</u>	<u>95</u>	<u>6</u>	<u>570</u>	<u>7.27</u>	<u>22.6</u>	<u>961</u>	
<u>1020</u>	<u>100</u>	<u>6</u>	<u>600</u>	<u>7.24</u>	<u>22.7</u>	<u>960</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>1020</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ju</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: 187.5



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-10-18
 Well ID: BMO-2014-1BL Weather: cloudy, 50s, windy
 ADWR No: 917393 Sampler: JA

WELL DATA		
Well Depth (ft bis): <u>366</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>125.47</u>	2	0.16
Casing Volume (gal): <u>245</u> x3 = <u>735</u>	4	0.65
Total Volume Purged (gal): <u>858</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>11:25</u>	<u>Pump On</u>						
<u>11:40</u>	<u>15</u>	<u>13</u>	<u>195</u>	<u>7.07</u>	<u>21.5</u>	<u>685.8</u>	
<u>11:55</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.27</u>	<u>21.5</u>	<u>687.0</u>	
<u>12:10</u>	<u>45</u>	<u>13</u>	<u>585</u>	<u>7.27</u>	<u>21.5</u>	<u>682.6</u>	
<u>12:25</u>	<u>60</u>	<u>13</u>	<u>780</u>	<u>7.24</u>	<u>21.5</u>	<u>685.3</u>	
<u>12:31</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: <u>Spring</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-1BL</u>	<u>12:28</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-10-18
 Well ID: BMO-2014-1B1 Weather: Partly cloudy, windy, 50s
 ADWR No: 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>125.73</u>	2	0.16
Casing Volume (gal): <u>150</u> x3 = <u>450</u>	4	0.65
Total Volume Purged (gal): <u>630</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>1030</u>	<u>10</u>	<u>14</u>	<u>140</u>	<u>7.27</u>	<u>20.4</u>	<u>720.8</u>	
<u>1040</u>	<u>20</u>	<u>14</u>	<u>280</u>	<u>7.24</u>	<u>20.3</u>	<u>708.7</u>	
<u>1050</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.24</u>	<u>20.5</u>	<u>700.8</u>	
<u>1100</u>	<u>40</u>	<u>14</u>	<u>560</u>	<u>7.25</u>	<u>20.5</u>	<u>694.3</u>	
<u>1105</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: <u>SPC gwt</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-1B1</u>	<u>1102</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>3000</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: 1-10-18
 Well ID: BMO-2014-2BL Weather: cloudy, windy, 40s
 ADWR No: 917452 Sampler: SA

WELL DATA		
Well Depth (ft bls): <u>396</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>129.09</u>	Ⓟ 6	1.47
	8	2.61
Casing Volume (gal): <u>272</u> x3 = <u>816</u>	10	4.08
Total Volume Purged (gal): <u>938</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>0748</u>	<u>Pump On</u>						
<u>0803</u>	<u>15</u>	<u>14</u>	<u>210</u>	<u>7.09</u>	<u>20.3</u>	<u>1171</u>	
<u>0818</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.18</u>	<u>20.4</u>	<u>1169</u>	
<u>0833</u>	<u>45</u>	<u>14</u>	<u>630</u>	<u>7.17</u>	<u>20.3</u>	<u>1158</u>	
<u>0848</u>	<u>60</u>	<u>14</u>	<u>840</u>	<u>7.10</u>	<u>20.5</u>	<u>1167</u>	
<u>0855</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: <u>Spugot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-2BL</u>	<u>0851</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-10-18
 Well ID: BMO-2014-2B4 Weather: cloudy, windy, 40s
 ADWR No: 917453 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>276</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>129.01</u>	2	0.16
Casing Volume (gal): <u>150</u> x3 = <u>450</u>	4	0.65
Total Volume Purged (gal): <u>602</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>0902</u>	<u>Pump On</u>						
<u>0912</u>	<u>10</u>	<u>14</u>	<u>140</u>	<u>7.35</u>	<u>19.7</u>	<u>524.7</u>	
<u>0922</u>	<u>20</u>	<u>14</u>	<u>280</u>	<u>7.35</u>	<u>19.8</u>	<u>526.1</u>	
<u>0932</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.33</u>	<u>19.8</u>	<u>525.6</u>	
<u>0937</u>	<u>35</u>	<u>14</u>	<u>490</u>	<u>7.35</u>	<u>19.8</u>	<u>525.4</u>	
<u>0945</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>0940</u>	<u>poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-12-18
 Well ID: BM0-2014-3BL Weather: Clear, 20s
 ADWR No: 917527 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>521</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 56</u>	5 1.02
		6 1.47
Casing Volume (gal):	<u>588</u> x3 = <u>1164</u>	8 2.61
		10 4.08
Total Volume Purged (gal):	<u>1260</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>0735</u>	<u>Pump On</u>						
<u>0755</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.11</u>	<u>21.0</u>	<u>407.1</u>	
<u>0815</u>	<u>40</u>	<u>12</u>	<u>480</u>	<u>7.34</u>	<u>21.0</u>	<u>405.2</u>	
<u>0835</u>	<u>60</u>	<u>12</u>	<u>720</u>	<u>7.32</u>	<u>21.2</u>	<u>404.4</u>	
<u>0855</u>	<u>80</u>	<u>12</u>	<u>960</u>	<u>7.28</u>	<u>21.3</u>	<u>403.1</u>	
<u>0915</u>	<u>100</u>	<u>12</u>	<u>1200</u>	<u>7.31</u>	<u>21.3</u>	<u>402.0</u>	
<u>0920</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: <u>SP: gat</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BM0-2014-3BL</u>	<u>09:16</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>04P20180112</u>	<u>12:00</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<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: 1-11-18
 Well ID: BMO-2014-3BL Weather: clear, 50s
 ADWR No: 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	
	2	0.16	
Static Water Level (ft bmp): <u>140.48</u>	4	0.65	
	⑤	①.02	
Casing Volume (gal): <u>388</u> x3 = <u>1164</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>0901</u>	Pump On						
<u>0921</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.35</u>	<u>21.2</u>	<u>419.5</u>	
<u>0941</u>	<u>40</u>	<u>12</u>	<u>480</u>	<u>7.35</u>	<u>21.3</u>	<u>416.5</u>	
<u>1001</u>	<u>60</u>	<u>12</u>	<u>720</u>	<u>7.32</u>	<u>21.4</u>	<u>415.1</u>	
<u>1021</u>	<u>80</u>	<u>12</u>	<u>960</u>	<u>7.33</u>	<u>21.3</u>	<u>414.5</u>	<u>generator out for ~7 min - restarted at 10:20</u>
<u>1041</u>	<u>100</u>	<u>12</u>	<u>1200</u>				<u>10:24 - generator idly down - off</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: <u>spot Not sampled</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-3BL	0A	Poly	250 mL	1	300.0	NP	Y
DWP20180111		Poly	250 mL	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 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: Not sampled due to generator failure, sampled on 1/12/18



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1/12/18
 Well ID: BMG-2014-3BU Weather: Sunny, Clear, 40's
 ADWR No: 917499 Sampler: GH

WELL DATA		
Well Depth (ft bls): <u>288</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>141.52</u>	2	0.16
Casing Volume (gal): <u>149</u> x3 = <u>447</u>	4	0.65
Total Volume Purged (gal): <u>576</u>	5 <u>Ⓢ</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>0937</u>	<u>Pump On</u>		<u>12</u>				
<u>0947</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.30</u>	<u>20.0</u>	<u>459.2</u>	
<u>0957</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.31</u>	<u>19.9</u>	<u>456.5</u>	
<u>1007</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.27</u>	<u>20.0</u>	<u>459.7</u>	
<u>1017</u>	<u>40</u>	<u>12</u>	<u>480</u>	<u>7.28</u>	<u>20.0</u>	<u>457.5</u>	
<u>Pump off</u>							
<u>1025</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>BMG-2014-3BU</u>	<u>1021</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: 1-11-18
 Well ID: BMO-2014-3B4 Weather: clear, 50s
 ADWR No: 917494 Sampler: JA

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>141.50</u>	2	0.16
Casing Volume (gal): <u>144.4 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
	Pump On						
							NOT purged
							generator failure on
							3 BCL purge
							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: <u>spot</u>							
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: 1-9-18
 Well ID: BMO-2014-4B Weather: cloudy, 60s
 ADWR No: 917620 Sampler: SA

WELL DATA		
Well Depth (ft bls):	258	Casing Capacity
Casing Diameter (in):	5	Nominal Size (inches)
Static Water Level (ft bmp):	135.05	Gallons per Linear Foot
Casing Volume (gal):	125 x3 = 375	2
Total Volume Purged (gal):	532	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
10:20	Pump On						
10:30	10	14		7.38	20.3	486.0	
10:40	20	14		7.37	20.3	485.6	
10:50	30	14		7.39	20.3	490.9	
10:58							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: <u>SP-30T</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2014-4B	10:53	Poly	300ml	1	300.0	MP	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: 1-9-18
 Well ID: BMO-2014-4BL Weather: cloudy, 60s
 ADWR No: 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
Static Water Level (ft bmp): <u>134.47</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>129</u> x3 = <u>387</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>468</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>1110</u>	<u>Pump On</u>						
<u>1120</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.40</u>	<u>20.2</u>	<u>661.4</u>	
<u>1130</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.38</u>	<u>20.5</u>	<u>680.4</u>	
<u>1140</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.36</u>	<u>20.5</u>	<u>681.5</u>	
<u>1146</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: <u>spot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2014-4BL</u>	<u>1143</u>	<u>poly</u>	<u>250mL</u>	<u>300</u> 1	<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: 1-9-18
 Well ID: BMO-2015-1B Weather: Partly Sunny, 70s
 ADWR No: 917622 Sampler: SA

WELL DATA		
Well Depth (ft bls): <u>244</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>130.50</u>	2	0.16
Casing Volume (gal): <u>116</u> x3 = <u>348</u>	4	0.65
Total Volume Purged (gal): <u>504</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>1233</u>	Pump On						
<u>1243</u>	<u>10</u>	<u>14</u>	<u>140</u>	<u>7.09</u>	<u>20.4</u>	<u>734.6</u>	
<u>1253</u>	<u>20</u>	<u>14</u>	<u>280</u>	<u>7.34</u>	<u>20.4</u>	<u>719.0</u>	
<u>1303</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.36</u>	<u>20.3</u>	<u>703.1</u>	
<u>1309</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: <u>SP102</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-1B</u>	<u>1305</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: 1-9-18
 Well ID: BMO-2015-1BL Weather: Partly Cloudy
 ADWR No: 917621 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>241</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>131.79</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>111</u> x3 = <u>333</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>507</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>1323</u>	<u>Pump On</u>						
<u>1333</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.32</u>	<u>20.5</u>	<u>783.0</u>	
<u>1343</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.30</u>	<u>20.3</u>	<u>781.1</u>	
<u>1353</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.38</u>	<u>20.5</u>	<u>784.5</u>	
<u>1402^{5A}</u>							
<u>1402</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: <u>Spring</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-1BL</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
<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: 1-9-18
 Well ID: BMO-2015-2B Weather: cloudy 50s
 ADWR No: 917827 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>268</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>150.43</u>	2	0.16
Casing Volume (gal): <u>120</u> x3 = <u>360</u>	4	0.65
Total Volume Purged (gal): <u>598</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>	<u>Pump On</u>						
<u>0813</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>6.97</u>	<u>20.2</u>	<u>880.5</u>	
<u>0823</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.34</u>	<u>20.0</u>	<u>857.4</u>	
<u>0833</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.27</u>	<u>20.2</u>	<u>849.3</u>	
<u>0843</u>	<u>40</u>	<u>13</u>	<u>520</u>	<u>7.25</u>	<u>20.2</u>	<u>841.9</u>	
<u>0849</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: <u>58:507</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-2B</u>	<u>0846</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: 1-9-18
 Well ID: BMO-2015-2BL Weather: cloudy, 50s
 ADWR No: 917828 Sampler: JA

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>149.09</u>	2	0.16
Casing Volume (gal): <u>123</u> x3 = <u>369</u>	4	0.65
Total Volume Purged (gal): <u>494</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>0902</u>	<u>Pump On</u>						
<u>0907</u>	<u>5</u>	<u>13</u>	<u>65</u>	<u>7.15</u>	<u>20.2</u>	<u>941.9</u>	
<u>0912</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.17</u>	<u>20.4</u>	<u>929.0</u>	
<u>0917</u>	<u>15</u>	<u>13</u>	<u>195</u>	<u>7.15</u>	<u>20.4</u>	<u>921.8</u>	
<u>0922</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.17</u>	<u>20.4</u>	<u>918.9</u>	
<u>0927</u>	<u>25</u>	<u>13</u>	<u>325</u>	<u>7.15</u>	<u>20.5</u>	<u>914.2</u>	
<u>0932</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.19</u>	<u>20.5</u>	<u>915.5</u>	
<u>0940</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: <u>Spot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2015-2BL</u>	<u>09:36</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-10-18
 Well ID: COB MW-1B Weather: NA
 ADWR No: 225906 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>500</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>IWL</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)
<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: No WL attempted per owner request (See Vetter - COB)

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: well did not have a sampling tube installed. Per owner request

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-11-18
 Well ID: COB MW-2 Weather: Partly Cloudy, 40°
 ADWR No: 903984 Sampler: SA

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>131.72</u>	2 0.16
Casing Volume (gal): <u>20</u> x3 = <u>60</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>0801</u>	<u>Pump On</u>						
<u>0806</u>	<u>5</u>	<u>6</u>	<u>30</u>	<u>7.12</u>	<u>19.3</u>	<u>548.1</u>	
<u>0811</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>7.24</u>	<u>19.3</u>	<u>551.4</u>	
<u>0816</u>	<u>15</u>	<u>6</u>	<u>90</u>	<u>7.26</u>	<u>19.3</u>	<u>552.3</u>	
<u>0826</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: <u>PVC Spout</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>COB MW-2</u>	<u>0820</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>VP</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: Hand filtered sample

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-11-18
 Well ID: COB WL Weather: clear, 50,
 ADWR No: 593116 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>150</u>	Casing Capacity	
Casing Diameter (in): <u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
	2 4 5 6 8 10	0.16 0.65 1.02 1.47 2.61 4.08
Static Water Level (ft bmp): <u>89.87</u>		
Casing Volume (gal): <u>39</u> x3 = <u>117</u>		
Total Volume Purged (gal): <u>106-146</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>1135</u>	<u>Pump On</u>						
<u>1140</u>	<u>5</u>	<u>7</u>	<u>35</u>	<u>6.94</u>	<u>20.0</u>	<u>1173</u>	
<u>1145</u>	<u>10</u>	<u>1</u>	<u>40</u>	<u>6.45</u>	<u>20.0</u>	<u>1170</u>	
<u>1205</u>	<u>30</u>	<u>1-2</u>	<u>60</u>	<u>7.21</u>	<u>21.5</u>	<u>1162</u>	
<u>1225</u>	<u>50</u>	<u>1</u>	<u>80</u>	<u>7.13</u>	<u>21.6</u>	<u>1164</u>	
<u>1245</u>	<u>70</u>	<u>1-2</u>	<u>100</u>	<u>7.07</u>	<u>21.7</u>	<u>1169</u>	
<u>1251</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>1250</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300 J</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: 1-16-18
 Well ID: COOPER Weather: Sunny, 50s
 ADWR No: 623564 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>325</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>IWL</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>x3 =</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>292</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>10 45</u>	<u>Pump On</u>						
<u>10 50</u>	<u>5</u>	<u>8</u>	<u>40</u>	<u>7.46</u>	<u>20.2</u>	<u>404.0</u>	
<u>10 55</u>	<u>10</u>	<u>4</u>	<u>80</u>	<u>7.46</u>	<u>20.5</u>	<u>405.5</u>	
<u>11 00</u>	<u>15</u>	<u>4</u>	<u>120</u>	<u>7.47</u>	<u>20.7</u>	<u>405.2</u>	
<u>11 05</u>	<u>20</u>	<u>4</u>	<u>160</u>	<u>7.45</u>	<u>20.7</u>	<u>403.9</u>	
<u>11 10</u>	<u>25</u>	<u>4</u>	<u>200</u>	<u>7.46</u>	<u>20.6</u>	<u>404.3</u>	
<u>11 15</u>	<u>30</u>	<u>4</u>	<u>240</u>	<u>7.46</u>	<u>20.8</u>	<u>403.2</u>	
<u>11 20</u>	<u>35</u>	<u>4</u>	<u>280</u>	<u>7.45</u>	<u>20.8</u>	<u>402.8</u>	
<u>11 23</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>1123</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: Smaller port plug appears to be glued in, unable to remove without damaging it.

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: 2-5-18
 Well ID: Cooper L Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA

Well Depth (ft bls): <u>220</u> Casing Diameter (in): <u>6"</u> Static Water Level (ft bmp): <u>163.66</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: SWL only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-17-18
 Well ID: DODSON Weather: clear, windy, 50s
 ADWR No: 644927 Sampler: SA

WELL DATA		
Well Depth (ft bls):	<u>200</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>101.44</u>	5 1.02
		<u>6</u> <u>1.47</u>
Casing Volume (gal):	<u>145</u> x3 = <u>435</u>	8 2.61
		10 4.08
Total Volume Purged (gal):	<u>715</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>1245</u>	<u>Pump On</u>						
<u>1255</u>	<u>10</u>	<u>13</u>	<u>1300</u>	<u>6.93</u>	<u>19.7</u>	<u>2196</u>	
<u>1305</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.18</u>	<u>19.6</u>	<u>2143</u>	
<u>1315</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.03</u>	<u>19.7</u>	<u>2033</u>	
<u>1325</u>	<u>40</u>	<u>13</u>	<u>520</u>	<u>7.03</u>	<u>19.7</u>	<u>1954</u>	
<u>1330</u>	<u>45</u>	<u>13</u>	<u>585</u>	<u>7.01</u>	<u>19.3</u>	<u>1916</u>	
<u>1335</u>	<u>50</u>	<u>13</u>	<u>650</u>	<u>7.01</u>	<u>19.6</u>	<u>1922</u>	
<u>1340</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>1340</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 10 Date: 2/23/18
 Well ID: ECHAVE Weather: clear, 60s
 ADWR No: 219449 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>345</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>219.94</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)
<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 paremeters 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: 1-16-18
 Well ID: GARNER 557 Weather: Sunny 50s
 ADWR No: 558557 Sampler: JA

WELL DATA		
Well Depth (ft bis): <u>300</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>IWL</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						
			<u>IWL</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>WLD</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 type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>WLD</u>

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-16-18
 Well ID: GARNER 635 Weather: Sunny, 50s
 ADWR No: 587635 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>680</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>202.07</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						
			<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:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-15-18
 Well ID: GOAR RANCH Weather: Sunny 60
 ADWR No: 610695 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>250</u>	Casing Capacity	
Casing Diameter (in): <u>7</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp): <u>193.12</u>	4	0.65
	5	1.02
Casing Volume (gal): <u> </u> 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						
			<u>W L O</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
<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>WLO</u>

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-5-18
 Well ID: Hoban Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA

Well Depth (ft bls): <u>300</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>172.12</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: SWT only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-15-18
 Well ID: HOWARD NR Weather: Sunny, 60S
 ADWR No: NR Sampler: JA

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>158.86</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						

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>WLO</u>

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 10 Date: 2/23/18
 Well ID: KEEFER Weather: clear, 50s
 ADWR No: 209744 Sampler: JA

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): <u>142.25</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>151</u> x3 = <u>453</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>540</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>1205</u>	<u>Pump On</u>						
<u>1215</u>	<u>10</u>	<u>10</u>	<u>100</u>	<u>7.29</u>	<u>18.0</u>	<u>452.7</u>	
<u>1225</u>	<u>20</u>	<u>10</u>	<u>200</u>	<u>7.30</u>	<u>19.4</u>	<u>462.8</u>	
<u>1235</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.28</u>	<u>19.4</u>	<u>473.8</u>	
<u>1245</u>	<u>40</u>	<u>10</u>	<u>400</u>	<u>7.30</u>	<u>19.1</u>	<u>467.5</u>	
<u>1255</u>	<u>50</u>	<u>10</u>	<u>500</u>	<u>7.31</u>	<u>19.5</u>	<u>472.7</u>	
<u>1259</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: <u>SP: spot at well</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>KEEFER</u>	<u>12:59</u>	<u>Poly</u>	<u>250mL</u>	<u>300-01</u>	<u>3000</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: 1-15-18
 Well ID: METZLER Weather: Sunny, 70s
 ADWR No: 35-71891 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>351</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>294.51</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						
			w	L	0		
							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>wLO</u>

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 10 Date: 3/26/18
 Well ID: NS0-02 Weather: cloudy 60s
 ADWR No: 527587 Sampler: JA

WELL DATA		
Well Depth (ft bls):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
120	2	0.16
Casing Diameter (in):	4	0.65
	5	1.02
	6	1.47
Static Water Level (ft bmp):	8	2.61
106.02	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 µS/cm)

SAMPLE INFORMATION

Sample Collection Point:

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: WLO

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 10 Date: 3/26/18
 Well ID: MSD-03 Weather: cloudy, 60s
 ADWR No: 527586 Sampler: JA

WELL DATA		
Well Depth (ft bis): <u>100</u>	Casing Capacity	
Casing Diameter (in): <u>12</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>91.28</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)
<u>WLD</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: WLD

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-16-18
 Well ID: NWC-02 Weather: cloudy, 40s
 ADWR No: 562944 Sampler: SA

WELL DATA		
Well Depth (ft bls): <u>312</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>168.50</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>211 x3 = 633</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>1800</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>0845</u>	<u>Pump On</u>						
<u>0850</u>	<u>5</u>	<u>90</u>	<u>450</u>	<u>7.48</u>	<u>20.7</u>	<u>428.6</u>	
<u>0855</u>	<u>10</u>	<u>90</u>	<u>900</u>	<u>7.43</u>	<u>21.0</u>	<u>429.0</u>	
<u>0900</u>	<u>15</u>	<u>90</u>	<u>1350</u>	<u>7.39</u>	<u>20.8</u>	<u>427.3</u>	
<u>0905</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>0904</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-16-18
 Well ID: NWC-03 CAP Weather: partly cloudy, 40s
 ADWR No: 627684 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>179</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>121.55</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)
<u>WLD</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>WLD</u>

Additional Comments: Water level re-measured on 2/23/18



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 10 Date: 2/23/18
 Well ID: NWC-03 CAP Weather: clear 40s
 ADWR No: 627684 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>179</u> Casing Diameter (in): <u>8</u> Static Water Level (ft bmp): <u>124.44/124.48 (2 ft. Head)</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
	Pump On						
							<div style="font-size: 4em; opacity: 0.5; transform: rotate(-45deg); position: absolute; top: 50%; left: 50%; width: 100%; height: 100%;"> WLO </div>
							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: Used a black 1000 sander for 124.44' measurement. Used an orange 800' sander for 124.48' measurement.



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-16-18
 Well ID: NWC-04 Weather: Partly Cloudy, 40s
 ADWR No: 551849 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>462</u>	Casing Capacity	
Casing Diameter (in): <u>10</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): _____ 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
<u>0708</u>	<u>Pump On</u>						
<u>0713</u>	<u>5</u>	<u>8</u>		<u>7.14</u>	<u>23.4</u>	<u>820.9</u>	
<u>0718</u>	<u>10</u>			<u>7.23</u>	<u>23.2</u>	<u>822.1</u>	
<u>0723</u>	<u>15</u>			<u>7.30</u>	<u>23.4</u>	<u>809.6</u>	
<u>0727</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-04</u>	<u>0726</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-16-18
 Well ID: NWC-06 Weather: partly cloudy, 70s
 ADWR No: 575700 Sampler: SA

WELL DATA			
Well Depth (ft bls): <u>340</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>162.78</u>	4	0.65	
	5	1.02	
Casing Volume (gal): <u>463</u> x3 = <u>1389</u>	6	1.47	
	8	<u>2.61</u>	
Total Volume Purged (gal): <u>3045</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>0806</u>	Pump On						
<u>0811</u>	<u>5</u>	<u>145</u>	<u>725</u>	<u>7.35</u>	<u>21.2</u>	<u>400.0</u>	
<u>0816</u>	<u>10</u>	<u>145</u>	<u>1450</u>	<u>7.38</u>	<u>21.1</u>	<u>399.3</u>	
<u>0821</u>	<u>15</u>	<u>145</u>	<u>2175</u>	<u>7.45</u>	<u>21.1</u>	<u>400.4</u>	
<u>0827</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>NWC-06</u>	<u>0826</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-15-18
 Well ID: OLMOS Weather: Sunny, 70s
 ADWR No: 224745 Sampler: SA

WELL DATA		
Well Depth (ft bls): <u>306</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>148.47</u>	2	0.16
Casing Volume (gal): <u> </u> x3 = <u> </u>	4	0.65
Total Volume Purged (gal): <u> </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						
			W	L	O		
							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>WLO</u>

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-18-18
 Well ID: PANAGAKOS Weather: clear, 60s
 ADWR No: 35-76413 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>200</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>160.12</u>	2	0.16
Casing Volume (gal): <u>104</u> x3 = <u>312</u>	4	0.65
Total Volume Purged (gal): <u>384</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>11:10</u>	<u>Pump On</u>						
<u>11:15</u>	<u>5</u>	<u>6</u>	<u>30</u>	<u>7.04</u>	<u>18.4</u>	<u>1085</u>	
<u>11:25</u>	<u>15</u>	<u>6</u>	<u>90</u>	<u>7.29</u>	<u>18.7</u>	<u>1091</u>	
<u>11:40</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>7.14</u>	<u>18.9</u>	<u>1129</u>	
<u>11:55</u>	<u>45</u>	<u>6</u>	<u>270</u>	<u>7.11</u>	<u>18.9</u>	<u>1136</u>	
<u>12:10</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>7.08</u>	<u>19.0</u>	<u>1151</u>	
<u>12:14</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>PANAGAKOS</u>	<u>12:14</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP20180118</u>	<u>14:00</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:

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: 1-15-18
 Well ID: PTOMKE 395 Weather: Sunny, 70s
 ADWR No: 613395 Sampler: SA

WELL DATA		
Well Depth (ft bls): <u>330</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>157.42</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						
			<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
<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>WLO</u>

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-10-18
 Well ID: POWER 639 Weather: partly cloudy, windy, 50s
 ADWR No: 222639 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>480</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>295.47</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>271</u> x3 = <u>813</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>13 16</u>	<u>Pump On</u>						
<u>13 31</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.69</u>	<u>20.9</u>	<u>443.5</u>	
<u>13 46</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.42</u>	<u>20.9</u>	<u>643.3</u>	
<u>14 01</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.32</u>	<u>20.7</u>	<u>742.4</u>	
<u>14 16</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.36</u>	<u>17.7</u>	<u>634.5</u>	
<u>14 31</u>	<u>75</u>	<u>10</u>	<u>750</u>	<u>7.30</u>	<u>20.7</u>	<u>829.7</u>	
<u>14 46</u>	<u>90</u>	<u>10</u>	<u>900</u>	<u>7.26</u>	<u>20.7</u>	<u>848.0</u>	
<u>14 51</u>	<u>95</u>	<u>10</u>	<u>950</u>	<u>7.25</u>	<u>20.7</u>	<u>852.9</u>	<u>Additional readings for stable field parameters</u>
<u>14 56</u>	<u>100</u>	<u>10</u>	<u>1000</u>	<u>7.25</u>	<u>20.7</u>	<u>856.9</u>	
<u>14 57</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>14:57</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: 1-15-18
 Well ID: RAMIREZ Weather: Sunny 70s
 ADWR No: 2/6 425 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>300</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>167.59</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)
<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: 1-18-18
 Well ID: ROGERS 596 Weather: Clear, 60s
 ADWR No: 573 596 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>290</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches) Gallons per Linear Foot
Static Water Level (ft bmp):	<u>141.88</u>	2 0.16
Casing Volume (gal):	<u>218</u> x3 = <u>654</u>	4 0.65
Total Volume Purged (gal):	<u>690</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>1355</u>	<u>Pump On</u>						
<u>1410</u>	<u>15</u>	<u>6</u>	<u>90</u>	<u>6.75</u>	<u>18.0</u>	<u>1486</u>	
<u>1425</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>6.92</u>	<u>18.5</u>	<u>1458</u>	
<u>1440</u>	<u>45</u>	<u>6</u>	<u>270</u>	<u>6.87</u>	<u>18.5</u>	<u>1412</u>	
<u>1455</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>6.89</u>	<u>18.7</u>	<u>1387</u>	
<u>1510</u>	<u>75</u>	<u>6</u>	<u>450</u>	<u>6.87</u>	<u>18.8</u>	<u>1393</u>	
<u>1525</u>	<u>90</u>	<u>6</u>	<u>540</u>	<u>6.89</u>	<u>18.9</u>	<u>1411</u>	
<u>1540</u>	<u>105</u>	<u>6</u>	<u>630</u>	<u>6.85</u>	<u>18.9</u>	<u>1423</u>	
<u>1545</u>	<u>110</u>	<u>6</u>	<u>660</u>	<u>6.85</u>	<u>18.9</u>	<u>1431</u>	
<u>1550</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 596</u>	<u>1549</u>	<u>807</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: 1-18-18
 Well ID: ROGERS 803 Weather: Clear, 60s
 ADWR No: 641 803 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>140</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>138.90</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						
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: unable to start pump

Additional Comments: Unable to sample, pump would not start



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 10 Date: 2/23/2018
 Well ID: ROGERS E Weather: clear, 50s
 ADWR No: 216018 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>285</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>157.28</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>188</u> x3 = <u>564</u>	<u>6</u>	<u>1.47</u>
	8	2.61
Total Volume Purged (gal): <u>620</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>10:45</u>	<u>Pump On</u>						
<u>11:00</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.33</u>	<u>20.6</u>	<u>424.7</u>	
<u>11:15</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.36</u>	<u>20.9</u>	<u>425.0</u>	
<u>11:30</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.32</u>	<u>20.8</u>	<u>423.5</u>	
<u>11:45</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.32</u>	<u>21.0</u>	<u>423.0</u>	
<u>11:47</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: <u>segs at well</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>ROGERS E</u>	<u>11:47</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: 1-16-18
 Well ID: RUIZ Weather: Sunny 50s
 ADWR No: 531770 Sampler: JA

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>Use 299.74 from 7/20/15</u>	2	0.16
Casing Volume (gal): <u>18</u> x3 = <u>54</u>	4	0.65
Total Volume Purged (gal): <u>69</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>1205</u>	<u>Pump On</u>						
<u>1210</u>	<u>5</u>	<u>3</u>	<u>15</u>	<u>6.94</u>	<u>19.8</u>	<u>830.3</u>	
<u>1215</u>	<u>10</u>	<u>3</u>	<u>30</u>	<u>7.05</u>	<u>19.9</u>	<u>827.6</u>	
<u>1220</u>	<u>15</u>	<u>3</u>	<u>45</u>	<u>7.03</u>	<u>20.1</u>	<u>827.2</u>	
<u>1225</u>	<u>20</u>	<u>3</u>	<u>60</u>	<u>7.03</u>	<u>20.1</u>	<u>829.4</u>	
<u>1228</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>RUIZ</u>	<u>1227</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 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:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-9-18
 Well ID: SCHWARTZ Weather: Partly Sunny, 70s
 ADWR No: 210865 Sampler: SA

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>130.46</u>	2	0.16
Casing Volume (gal): <u>257 x3 = 771</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>1425</u>	<u>Pump On</u>						
<u>1435</u>	<u>10</u>	<u>10</u>	<u>100</u>	<u>7.06</u>	<u>20.5</u>	<u>609.9</u>	
<u>1445</u>	<u>20</u>	<u>10</u>	<u>200</u>	<u>7.15</u>	<u>20.5</u>	<u>610.3</u>	
<u>1505</u>	<u>40</u>	<u>10</u>	<u>700</u>	<u>7.27</u>	<u>20.5</u>	<u>612.3</u>	
<u>1525</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.26</u>	<u>20.5</u>	<u>616.1</u>	
<u>1545</u>	<u>80</u>	<u>10</u>	<u>800</u>	<u>7.26</u>	<u>20.5</u>	<u>619.5</u>	
<u>1549</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: <u>spot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>SCHWARTZ</u>	<u>15:48</u>	<u>poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-15-18
 Well ID: STEPHENS Weather: partly cloudy 50s
 ADWR No: 808560 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>NA</u>	Casing Capacity	
Casing Diameter (in): <u>NA</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>55.74</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)
<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: 1-16-18
 Well ID: THOMPSON 151 Weather: Sunny, 50s
 ADWR No: 612151 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>210</u>	Casing Capacity
Casing Diameter (in):	<u>7</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>IWL</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
	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>w/o</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: w/o

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-16-18
 Well ID: THOMPSON 341 Weather: Sunny, 50s
 ADWR No: 218341 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>285</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>7</u>	2	0.16
Static Water Level (ft bmp): <u>168.22</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						
			W	L	O		
							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: _____ Date: 2-1-18
 Well ID: TM-2A Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): <u>925</u> Casing Diameter (in): <u>4"</u> Static Water Level (ft bmp): <u>337.14</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: SWL only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-5-18
 Well ID: TM-6 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA

Well Depth (ft bls): <u>200</u> Casing Diameter (in): <u>4"</u> Static Water Level (ft bmp): <u>163.46</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
	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: SWL only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-12-18
 Well ID: TM-7 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shuman

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
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
<u>1030</u>	<u>Pump On</u>						
<u>1032</u>	<u>2</u>	<u>10</u>	<u>20</u>	<u>7.64</u>	<u>20.6</u>	<u>542</u>	
<u>1042</u>	<u>-</u>	<u>-</u>					
<u>1044</u>	<u>4</u>	<u>10</u>	<u>40</u>	<u>7.71</u>	<u>20.7</u>	<u>539</u>	
<u>1054</u>	<u>-</u>	<u>-</u>					
<u>1056</u>	<u>6</u>	<u>10</u>	<u>60</u>	<u>7.77</u>	<u>20.6</u>	<u>540</u>	
<u>1104</u>	<u>-</u>	<u>-</u>					
<u>1106</u>	<u>8</u>	<u>10</u>	<u>80</u>	<u>7.78</u>	<u>20.4</u>	<u>544</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>1106</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Fe</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 checked="" type="checkbox"/> Other:

Additional Comments: Sampled per Clear Creek method



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-8-18
 Well ID: TM-10 USBP Weather: partly cloudy, 70s
 ADWR No: 522 696 Sampler: JA

WELL DATA			
Well Depth (ft bls):	<u>290</u>	Casing Capacity	
Casing Diameter (in):	<u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	<u>255.19</u>	2	0.16
Casing Volume (gal):	<u>23 x3 = 69</u>	4	0.65
Total Volume Purged (gal):	<u>160</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 50</u>	<u>Pump On</u>						
<u>13 55</u>	<u>5</u>	<u>8</u>	<u>40</u>	<u>6.97</u>	<u>20.7</u>	<u>390.4</u>	
<u>14 00</u>	<u>10</u>	<u>8</u>	<u>80</u>	<u>7.50</u>	<u>20.8</u>	<u>385.4</u>	
<u>14 05</u>	<u>15</u>	<u>8</u>	<u>120</u>	<u>7.60</u>	<u>20.8</u>	<u>387.3</u>	
<u>14 10</u>			<u>160</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: <u>PVC Spout</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TM-10 USBP</u>	<u>14:09</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<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: Hand filtered samples. Flow remained constant, has historically fluctuated / Pumped dry.



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-1-18
 Well ID: JM-16 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA

Well Depth (ft bls): <u>115</u> Casing Diameter (in): <u>4"</u> Static Water Level (ft bmp): <u>60.18</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: SWL only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 2-5-18
 Well ID: TM-42 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Skuman

WELL DATA

Well Depth (ft bls): <u>250</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>220.81</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 paremeters stabilized.
- Purged well until field parameters stabilized.
- Other: _____

Additional Comments:

Suck - only

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-17-18
 Well ID: TVI 236 Weather: clear, 50s
 ADWR No: 802236 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>222</u>	Casing Capacity	
Casing Diameter (in): <u>12</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>129.66</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
<u>1433</u>	<u>Pump On</u>	<u>-</u>	<u>-</u>	<u>7.30</u>	<u>18.6</u>	<u>531.3</u>	
<u>1448</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>TVI 236</u>	<u>14:47</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: Ran for 10 mins to clear drop pipe, collected sample

Additional Comments: Hand filtered sample



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-10-18
 Well ID: TVI-713 Weather: cloudy, 50s
 ADWR No: 567713 Sampler: JA

WELL DATA																
Well Depth (ft bis): <u>200</u> Casing Diameter (in): <u>8</u> Static Water Level (ft bmp): <u>134.24</u> Casing Volume (gal): <u>x3 =</u> Total Volume Purged (gal):	Casing Capacity <table style="margin: auto;"> <tr> <th>Nominal Size (inches)</th> <th>Gallons per Linear Foot</th> </tr> <tr><td>2</td><td>0.16</td></tr> <tr><td>4</td><td>0.65</td></tr> <tr><td>5</td><td>1.02</td></tr> <tr><td>6</td><td>1.47</td></tr> <tr><td>8</td><td>2.61</td></tr> <tr><td>10</td><td>4.08</td></tr> </table>		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
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						
			W L O				
							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>WLO</u>

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-16-18
 Well ID: WEED Weather: Sunny, 50s
 ADWR No: 544535 Sampler: JA

WELL DATA		
Well Depth (ft bis): <u>320</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>IWL</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
<u>13 45</u>	<u>Pump On</u>						
<u>13 50</u>	<u>5</u>	<u>3</u>	<u>15</u>	<u>7.53</u>	<u>20.2</u>	<u>386.5</u>	
<u>13 55</u>	<u>10</u>	<u>3</u>	<u>30</u>	<u>7.50</u>	<u>20.3</u>	<u>383.1</u>	
<u>14 00</u>	<u>15</u>	<u>3</u>	<u>45</u>	<u>7.51</u>	<u>20.3</u>	<u>384.2</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>1403</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: 1-12-18
 Well ID: WEISKOPF 802 Weather: Clear, 50s
 ADWR No: 641802 Sampler: JA/GK

WELL DATA		
Well Depth (ft bls): <u>200</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>152.06</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						
			<u>W</u>	<u>L</u>	<u>0</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:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 1-16-18
 Well ID: ZANDER Weather: Sunny 50s
 ADWR No: 205126 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>280</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
	4	0.65
	5	1.02
	6	1.47
	8	2.61
Static Water Level (ft bmp): <u>152.03</u>	10	4.08
Casing Volume (gal): <u>x3 =</u>		
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>w</u>	<u>L</u>	<u>0</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
<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>wLO</u>

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 4-11-18
 Well ID: BMO-2008-5B Weather: Sunny
 ADWR No: _____ Sampler: Christopher J. Skimmer

WELL DATA

Well Depth (ft bls): <u>285</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>152.27</u> Casing Volume (gal): <u>135.3 x3 = 406</u> Total Volume Purged (gal): <u>675</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> Casing Volume = gallons/foot * water column (feet)	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>	<u>Pump On</u>						
<u>0635</u>	<u>5</u>	<u>27</u>	<u>135</u>	<u>7.27</u>	<u>21.6</u>	<u>809</u>	
<u>0645</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.24</u>	<u>21.6</u>	<u>811</u>	
<u>0655</u>	<u>25</u>	<u>27</u>	<u>675</u>	<u>7.25</u>	<u>21.4</u>	<u>814</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>0655</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>IL</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:

152.7

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 5-29-18
 Well ID: BMO-2008-5B Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Sherman

WELL DATA

Well Depth (ft bls): <u>285</u> Casing Diameter (in): <u>5 1/2</u> Static Water Level (ft bmp): <u>152.32</u> Casing Volume (gal): <u>135.3 x3 = 406</u> Total Volume Purged (gal): <u>675</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>0715</u>	<u>Pump On</u>						
<u>0720</u>	<u>5</u>	<u>27</u>	<u>135</u>	<u>7.29</u>	<u>21.9</u>	<u>807</u>	
<u>0730</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.30</u>	<u>22.0</u>	<u>809</u>	
<u>0740</u>	<u>25</u>	<u>27</u>	<u>675</u>	<u>7.31</u>	<u>22.1</u>	<u>811</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>0740</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Dec</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:

132.7



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 6-19-18
 Well ID: BMO-2008-5B Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shuman / Fernando Aldey

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>152.74</u>	2	0.16
Casing Volume (gal): <u>135 - x3 = 405</u>	4	0.65
Total Volume Purged (gal): <u>750</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>1100</u>	Pump On						
<u>1105</u>	<u>5</u>	<u>30</u>	<u>150</u>	<u>7.25</u>	<u>22.2</u>	<u>822</u>	
<u>1115</u>	<u>15</u>	<u>30</u>	<u>450</u>	<u>7.21</u>	<u>22.4</u>	<u>818</u>	
<u>1125</u>	<u>25</u>	<u>30</u>	<u>750</u>	<u>7.26</u>	<u>22.3</u>	<u>817</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-2008-5B</u>	<u>1125</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>JL</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: 132.3



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 5/2/18
 Well ID: NWC-04 Weather: partly cloudy, 60s
 ADWR No: 551849 Sampler: JA

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): _____	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
<u>0908</u>	Pump On						
<u>0913</u>	<u>5</u>	<u>16</u>	<u>80</u>	<u>7.39</u>	<u>23.6</u>	<u>848.7</u>	
<u>0918</u>	<u>10</u>	<u>1</u>	<u>160</u>	<u>7.39</u>	<u>23.6</u>	<u>848.5</u>	
<u>0923</u>	<u>15</u>		<u>240</u>	<u>7.41</u>	<u>23.7</u>	<u>854.1</u>	
<u>0927</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: <u>JP-901</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC-04</u>	<u>09:26</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/18/18
 Well ID: ANDERSON 396 Weather: Mostly clear, 80s
 ADWR No: 613396 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>285</u>	Casing Capacity
Casing Diameter (in):	<u>8</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>154.61</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
<u>09:40</u>	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>		<u>g/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: wlo

Additional Comments:

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/18/18
 Well ID: ANDERSON 458 Weather: Mostly clear, 80s
 ADWR No: 221458 Sampler: JA

WELL DATA			
Well Depth (ft bls):	Casing Diameter (in):	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
<u>734</u>	<u>5</u>	2	0.16
		4	0.65
		<u>5</u>	<u>1.02</u>
		6	1.47
Static Water Level (ft bmp):	<u>158.55</u>	8	2.61
Casing Volume (gal):	<u>587</u> x3 = <u>1761</u>	10	4.08
Total Volume Purged (gal):	<u>1900</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>09:40</u>	<u>Pump On</u>						
<u>09:55</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.94</u>	<u>23.1</u>	<u>404.0</u>	
<u>10:25</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.93</u>	<u>23.9</u>	<u>396.8</u>	
<u>10:55</u>	<u>75</u>	<u>10</u>	<u>750</u>	<u>7.95</u>	<u>23.5</u>	<u>395.9</u>	
<u>11:25</u>	<u>105</u>	<u>10</u>	<u>1050</u>	<u>7.97</u>	<u>23.9</u>	<u>395.8</u>	
<u>11:55</u>	<u>135</u>	<u>10</u>	<u>1350</u>	<u>7.98</u>	<u>24.0</u>	<u>395.4</u>	
<u>12:25</u>	<u>165</u>	<u>10</u>	<u>1650</u>	<u>7.94</u>	<u>24.0</u>	<u>395.1</u>	
<u>12:40</u>	<u>180</u>	<u>10</u>	<u>1800</u>	<u>7.88</u>	<u>24.2</u>	<u>397.1</u>	
<u>12:50</u>							<u>Pump Off</u>

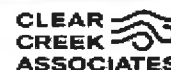
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 µS/cm)

SAMPLE INFORMATION							
Sample Collection Point:							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>ANDERSON</u>	<u>12:43</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/25/18
 Well ID: AWC-02 Weather: Partly Cloudy, 90s
 ADWR No: 616 586 Sampler: JA

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>129.03</u>	2 0.16
Casing Volume (gal):	<u>3327 x3 = 9980</u>	4 0.65
Total Volume Purged (gal):	<u>10 720</u>	5 1.02
		6 1.47
		8 2.61
		10 4.08
		20 16.31
		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>10:11</u>	<u>Pump On</u>						
<u>10:21</u>	<u>10</u>	<u>80</u>	<u>800</u>	<u>7.28</u>	<u>20.5</u>	<u>482.5</u>	
<u>10:41</u>	<u>30</u>	<u>80</u>	<u>2400</u>	<u>7.28</u>	<u>20.4</u>	<u>502.0</u>	
<u>11:01</u>	<u>50</u>	<u>80</u>	<u>4000</u>	<u>7.30</u>	<u>20.5</u>	<u>495.2</u>	
<u>11:21</u>	<u>70</u>	<u>80</u>	<u>5600</u>	<u>7.33</u>	<u>20.5</u>	<u>491.6</u>	
<u>11:41</u>	<u>90</u>	<u>80</u>	<u>7200</u>	<u>7.31</u>	<u>20.5</u>	<u>488.0</u>	
<u>12:01</u>	<u>110</u>	<u>80</u>	<u>8800</u>	<u>7.34</u>	<u>20.5</u>	<u>488.9</u>	
<u>12:16</u>	<u>125</u>	<u>80</u>	<u>10,000</u>	<u>7.33</u>	<u>20.5</u>	<u>489.9</u>	
<u>12:25</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-02</u>	<u>12:19</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>04P20180725</u>	<u>12:19</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/25/18
 Well ID: AWC-03 Weather: clear, 90s
 ADWR No: 616585 Sampler: SA

WELL DATA		
Well Depth (ft bis): <u>270</u>	Casing Capacity	
Casing Diameter (in): <u>16</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>125.7</u>	2	0.16
Casing Volume (gal): <u>1507</u> x3 = <u>452</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
	<u>16</u>	<u>10.44</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>09:22</u>	<u>Pump On</u>						
<u>09:25</u>	<u>3</u>	<u>720</u>	<u>2160</u>	<u>7.37</u>	<u>20.3</u>	<u>509.7</u>	
<u>09:28</u>	<u>6</u>	<u>720</u>	<u>4320</u>	<u>7.37</u>	<u>20.2</u>	<u>506.7</u>	
<u>09:31</u>	<u>9</u>	<u>720</u>	<u>6480</u>	<u>7.36</u>	<u>20.3</u>	<u>504.5</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>AWC-03</u>	<u>09:32</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>WP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/25/18
 Well ID: AWC-04 Weather: clear, 90s
 ADWR No: 616584 Sampler: SA

WELL DATA		
Well Depth (ft bls):	<u>337</u>	Casing Capacity
Casing Diameter (in):	<u>16</u>	Nominal Size (inches) Gallons per Linear Foot
Static Water Level (ft bmp):	<u>120.27</u>	2 0.16
Casing Volume (gal):	<u>2203 x3 = 6788</u>	4 0.65
Total Volume Purged (gal):		5 1.02
		6 1.47
		8 2.61
		10 4.08
		<div style="border: 1px solid black; display: inline-block; padding: 2px;">16</div> <div style="border: 1px solid black; display: inline-block; padding: 2px;">10.44</div>
		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>09:48</u>	<u>Pump On</u>						
<u>09:51</u>	<u>3</u>	<u>1050</u>	<u>3150</u>	<u>7.01</u>	<u>19.9</u>	<u>648.5</u>	
<u>09:54</u>	<u>6</u>	<u>1050</u>	<u>6300</u>	<u>7.03</u>	<u>19.5</u>	<u>657.4</u>	
<u>09:57</u>	<u>9</u>	<u>1050</u>	<u>9450</u>	<u>6.99</u>	<u>19.3</u>	<u>663.1</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-04</u>	<u>09:59</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/25/18
 Well ID: AWC-Ø5 Weather: clear, 90s
 ADWR No: 590620 Sampler: SA

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>132.92</u>	2 0.16
Casing Volume (gal):	<u>10963</u> x3 = <u>32,889</u>	4 0.65
Total Volume Purged (gal):		5 1.02
		6 1.47
		8 2.61
		10 4.08
		16 10.44
		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>08:10</u>	<u>Pump On</u>						
<u>08:20</u>	<u>10</u>	<u>750</u>	<u>7500</u>	<u>7.30</u>	<u>20.1</u>	<u>465.0</u>	
<u>08:30</u>	<u>20</u>	<u>750</u>	<u>15,000</u>	<u>7.32</u>	<u>20.2</u>	<u>458.9</u>	
<u>08:40</u>	<u>30</u>	<u>750</u>	<u>22,500</u>	<u>7.33</u>	<u>20.3</u>	<u>458.2</u>	
<u>08:50</u>	<u>40</u>	<u>750</u>	<u>30,000</u>	<u>7.33</u>	<u>20.3</u>	<u>456.5</u>	
<u>09:00</u>	<u>50</u>	<u>750</u>	<u>37,500</u>	<u>7.35</u>	<u>20.4</u>	<u>456.9</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>AWC-Ø5</u>	<u>09:01</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/30/18
 Well ID: BANKS 986 Weather: Partly Cloudy, 90s
 ADWR No: 647 986 Sampler: JA

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>DWL, use WL from BANKS 987: 237.12</u>	2	0.16
Casing Volume (gal):	<u>291 x3 = 873</u>	4	0.65
Total Volume Purged (gal):	<u>937</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>13:05</u>	<u>Pump On</u>						
<u>13:20</u>	<u>15</u>	<u>9</u>	<u>135</u>	<u>7.29</u>	<u>21.3</u>	<u>1043</u>	
<u>13:35</u>	<u>30</u>	<u>9</u>	<u>270</u>	<u>7.35</u>	<u>21.6</u>	<u>1021</u>	
<u>13:50</u>	<u>45</u>	<u>9</u>	<u>405</u>	<u>7.36</u>	<u>21.6</u>	<u>1005</u>	
<u>14:05</u>	<u>60</u>	<u>7.8</u>	<u>510</u>	<u>7.36</u>	<u>21.2</u>	<u>999.0</u>	
<u>14:20</u>	<u>75</u>	<u>7</u>	<u>615</u>	<u>7.39</u>	<u>21.2</u>	<u>986.0</u>	
<u>14:35</u>	<u>90</u>	<u>7</u>	<u>720</u>	<u>7.40</u>	<u>21.0</u>	<u>993.3</u>	
<u>14:50</u>	<u>105</u>	<u>7</u>	<u>825</u>	<u>7.41</u>	<u>21.1</u>	<u>984.2</u>	
<u>15:00</u>	<u>115</u>	<u>7</u>	<u>895</u>	<u>7.40</u>	<u>21.0</u>	<u>987.6</u>	
<u>15:06</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>15:06</u>	<u>poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: Used WL from BANKS 987 well on same property

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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/30/18
 Well ID: BANKS 987 Weather: Mostly Sunny, 90s
 ADWR No: 647 987 Sampler: JA

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>237.12</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)
<u>wco</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: wco

Additional Comments:

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/17/18
 Well ID: BARTON 929 Weather: partly cloudy, 80s
 ADWR No: 644919 Sampler: JA

WELL DATA			
Well Depth (ft bls):	<u>130</u>	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	<u>6</u>	2	0.16
Static Water Level (ft bmp):	<u>113.95</u>	4	0.65
		5	1.02
Casing Volume (gal):	<u>x3 =</u>	6	1.47
		8	2.61
Total Volume Purged (gal):	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
							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>wl0</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>wl0</u>

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-10-18
 Well ID: BMO-2008-16 Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Skovron

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>77.70</u>	2	0.16
Casing Volume (gal): <u>237 x3 = 711</u>	4	0.65
Total Volume Purged (gal): <u>746</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>1015</u>	<u>Pump On</u>						
<u>1045</u>	<u>30</u>	<u>8.3</u>	<u>249</u>	<u>7.25</u>	<u>22.5</u>	<u>925</u>	
<u>1105</u>	<u>50</u>	<u>8.3</u>	<u>415</u>	<u>7.22</u>	<u>22.6</u>	<u>927</u>	
<u>1125</u>	<u>70</u>	<u>8.3</u>	<u>581</u>	<u>7.25</u>	<u>22.7</u>	<u>927</u>	
<u>1145</u>	<u>90</u>	<u>8.3</u>	<u>747</u>	<u>7.24</u>	<u>22.2</u>	<u>920</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-2008-16</u>	<u>1145</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>IG</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: 232.3

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-10-18
 Well ID: BMO-2008-3B Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Swann

WELL DATA

Well Depth (ft bis): <u>200</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>147.92</u> Casing Volume (gal): <u>114.3 x3 = 343</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>0900</u>	<u>Pump On</u>						
<u>0910</u>	<u>10</u>	<u>27</u>	<u>135</u>	<u>7.31</u>	<u>22.0</u>	<u>665</u>	
<u>0915</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.34</u>	<u>21.9</u>	<u>665</u>	
<u>0920</u>	<u>20</u>	<u>27</u>	<u>540</u>	<u>7.35</u>	<u>21.9</u>	<u>663</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-2008-3B</u>	<u>0920</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: 112.1



Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/26/18
 Well ID: BM0-2008-4B Weather: Mostly Sunny, 90s
 ADWR No: 910096 Sampler: JA

WELL DATA			
Well Depth (ft bls):	<u>610</u>	Casing Capacity	
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	<u>139.42'</u>	2	0.16
Casing Volume (gal):	<u>480</u> x3 = <u>1440</u>	4	0.65
Total Volume Purged (gal):	<u>1530</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>12:50</u>	<u>Pump On</u>						
<u>13:05</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.74</u>	<u>22.3</u>	<u>368.2</u>	
<u>13:35</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.37</u>	<u>22.6</u>	<u>379.1</u>	
<u>14:05</u>	<u>75</u>	<u>10</u>	<u>750</u>	<u>7.43</u>	<u>22.7</u>	<u>381.2</u>	
<u>14:35</u>	<u>105</u>	<u>10</u>	<u>1050</u>	<u>7.43</u>	<u>22.7</u>	<u>383.4</u>	
<u>15:05</u>	<u>135</u>	<u>10</u>	<u>1350</u>	<u>7.42</u>	<u>22.6</u>	<u>384.4</u>	
<u>15:15</u>	<u>145</u>	<u>10</u>	<u>1450</u>	<u>7.43</u>	<u>22.6</u>	<u>386.1</u>	
<u>15:23</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>BM0-2008-4B</u>	<u>15:18</u>	<u>Poly</u>	<u>200mL</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: 7-25-18
 Well ID: BMD-2008-5B Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): <u>285</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>152.96</u> Casing Volume (gal): <u>134.7 x3 = 404.1</u> Total Volume Purged (gal): <u>675</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>	Pump On						
<u>1150</u>	<u>5</u>	<u>27</u>	<u>135</u>	<u>6.98</u>	<u>23.4</u>	<u>790</u>	
<u>1200</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>7.01</u>	<u>23.2</u>	<u>796</u>	
<u>1210</u>	<u>25</u>	<u>27</u>	<u>675</u>	<u>7.02</u>	<u>23.0</u>	<u>797</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>BMD-2008-5B</u>	<u>1210</u>	<u>P2</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: 1321



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-25-18
 Well ID: BMO-2008-5M Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Swann

WELL DATA

Well Depth (ft bls): <u>450</u> Casing Diameter (in): <u>5 1/2</u> Static Water Level (ft bmp): <u>154.19</u> Casing Volume (gal): <u>302 x3 = 906</u> Total Volume Purged (gal): <u>990</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>1045</u>	Pump On						
<u>1110</u>	<u>25</u>	<u>18</u>	<u>450</u>	<u>7.21</u>	<u>23.2</u>	<u>650</u>	
<u>1130</u>	<u>45</u>	<u>18</u>	<u>810</u>	<u>7.19</u>	<u>23.1</u>	<u>648</u>	
<u>1140</u>	<u>55</u>	<u>18</u>	<u>990</u>	<u>7.22</u>	<u>23.2</u>	<u>651</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-2008-5M</u>	<u>1140</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: 296

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-10-18
 Well ID: BMO-2008-LB Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Starnin

WELL DATA

Well Depth (ft bls): <u>265</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>197.57</u> Casing Volume (gal): <u>68.8 x3 = 206.4</u> Total Volume Purged (gal): <u>225</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>0650</u>	<u>Pump On</u>						
<u>0705</u>	<u>15</u>	<u>5.1</u>	<u>75</u>	<u>7.76</u>	<u>22.1</u>	<u>297</u>	
<u>0720</u>	<u>30</u>	<u>5.1</u>	<u>150</u>	<u>7.78</u>	<u>22.2</u>	<u>294</u>	
<u>0735</u>	<u>45</u>	<u>5.1</u>	<u>225</u>	<u>7.78</u>	<u>22.7</u>	<u>296</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-LB</u>	<u>0735</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>2cr</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: 67.5



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-10-18
 Well ID: BMO-2008-6M Weather: Partly Cloudy
 ADWR No: _____ Sampler: Chung

WELL DATA

Well Depth (ft bls): <u>450</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>198.63</u> Casing Volume (gal): <u>256.4 x3 = 769.2</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
<u>0600</u>	<u>Pump On</u>						
<u>0610</u>	<u>10</u>	<u>21</u>	<u>210</u>	<u>7.22</u>	<u>22.2</u>	<u>761</u>	
<u>0620</u>	<u>20</u>	<u>21</u>	<u>420</u>	<u>7.24</u>	<u>22.1</u>	<u>760</u>	
<u>0630</u>	<u>30</u>	<u>21</u>	<u>630</u>	<u>7.25</u>	<u>22.0</u>	<u>763</u>	
<u>0640</u>	<u>40</u>	<u>21</u>	<u>840</u>	<u>7.26</u>	<u>22.1</u>	<u>761</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>0640</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300.0</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: 251.4

Groundwater Sampling Form

Project No: 287030
 Task No: _____
 Well ID: BMO-2008-7M
 ADWR No: _____

Client: Freeport Copper Queen Branch
 Date: 7-23-17 7/23/18 per clear
 Weather: Sunny Creek Associates
 Sampler: Christopher L. Shuman CS

WELL DATA

Well Depth (ft bls): <u>670</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>246.18</u> Casing Volume (gal): <u>432.2 x3 = 1297</u> Total Volume Purged (gal): <u>1365</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>0945</u>	<u>Pump On</u>						
<u>1010</u>	<u>25</u>	<u>21</u>	<u>525</u>	<u>7.64</u>	<u>23.9</u>	<u>475</u>	
<u>1030</u>	<u>45</u>	<u>21</u>	<u>945</u>	<u>7.63</u>	<u>23.7</u>	<u>474</u>	
<u>1050</u>	<u>65</u>	<u>21</u>	<u>1365</u>	<u>7.67</u>	<u>24.0</u>	<u>475</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-2008-7M</u>	<u>1050</u>	<u>PL</u>	<u>250</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: 4238

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-23-18
 Well ID: BMO-2008-8B Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): <u>480</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>302.83</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
	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: 7-23-18
 Well ID: BMO-2008-8M Weather: _____
 ADWR No: _____ Sampler: _____

WELL DATA		
Well Depth (ft bls):	<u>1210</u>	Casing Capacity
Casing Diameter (in):	<u>5"</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>304.20</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>924 x3 = 2772</u>	2: 0.16
Total Volume Purged (gal):	<u>2816</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>0600</u>	Pump On						
<u>0700</u>	<u>60</u>	<u>17.6</u>	<u>1056</u>	<u>7.49</u>	<u>24.7</u>	<u>536</u>	
<u>0800</u>	<u>120</u>	<u>17.6</u>	<u>2112</u>	<u>7.51</u>	<u>24.8</u>	<u>537</u>	
<u>0830</u>	<u>150</u>	<u>17.6</u>	<u>2640</u>	<u>7.45</u>	<u>24.9</u>	<u>534</u>	
<u>0840</u>	<u>160</u>	<u>17.6</u>	<u>2816</u>	<u>7.48</u>	<u>24.8</u>	<u>536</u>	
		<u>1</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-2008-8M</u>	<u>0840</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>Y</u>
<u>Dup-072318</u>	<u>0840</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: 905.8



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-26-18
 Well ID: BMO-2008-9M Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Sturmon

WELL DATA

Well Depth (ft bls): <u>775</u> Casing Diameter (in): <u>5 1/2</u> Static Water Level (ft bmp): <u>291.78</u> Casing Volume (gal): <u>493</u> x3 = <u>1479</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>0530</u>	Pump On						
<u>0550</u>	<u>20</u>	<u>18.8</u>	<u>376</u>	<u>7.66</u>	<u>24.3</u>	<u>580</u>	
<u>0610</u>	<u>40</u>	<u>18.8</u>	<u>752</u>	<u>7.68</u>	<u>24.4</u>	<u>587</u>	
<u>0630</u>	<u>60</u>	<u>18.8</u>	<u>1128</u>	<u>7.69</u>	<u>24.5</u>	<u>587</u>	
<u>0650</u>	<u>80</u>	<u>18.8</u>	<u>1504</u>	<u>7.66</u>	<u>24.4</u>	<u>584</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-2008-9M</u>	<u>0650</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: 483.3

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-26-13
 Well ID: BMD-2008-106L Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Skarm

WELL DATA

Well Depth (ft bls): <u>810</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>333.28</u> Casing Volume (gal): <u>x3 =</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; margin-top: 10px;">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
	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: SWL only



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-26-18
 Well ID: BMO-2008-106U Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Shaw

WELL DATA

Well Depth (ft bls): <u>449</u> Casing Diameter (in): <u>5 1/2</u> Static Water Level (ft bmp): <u>200.53</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
	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: 7-12-18
 Well ID: BMO-2008-116 Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Sherman

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>552.20</u>		4	0.65
Casing Volume (gal): <u>212 x3 = 636</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>0545</u>	Pump On						
<u>0555</u>	<u>10</u>	<u>8</u>	<u>80</u>	<u>7.88</u>	<u>25.3</u>	<u>338</u>	
<u>0615</u>	<u>30</u>	<u>8</u>	<u>240</u>	<u>7.86</u>	<u>25.4</u>	<u>335</u>	
<u>0645</u>	<u>60</u>	<u>8</u>	<u>480</u>	<u>7.89</u>	<u>25.5</u>	<u>339</u>	
<u>0705</u>	<u>80</u>	<u>8</u>	<u>640</u>	<u>7.89</u>	<u>25.4</u>	<u>339</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-2008-116</u>	<u>0705</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: 207.8



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 8-6-18
 Well ID: BMO-2008-13B Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Stuckman

WELL DATA

Well Depth (ft bls): <u>47.5</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>214.22</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
	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: 8-6-18
 Well ID: BMD-2008-13M Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Skurms

WELL DATA

Well Depth (ft bls): <u>1030</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>214.37</u> Casing Volume (gal): <u>x3 =</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; font-size: small;">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
	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: 8-7-18
 Well ID: BMO-2010-1M Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Skuman

WELL DATA

Well Depth (ft bls): <u>550</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>214.94</u> Casing Volume (gal): <u>341.8 x3 = 1,025</u> Total Volume Purged (gal): <u>1035</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>0530</u>	Pump On						
<u>0545</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.69</u>	<u>24.0</u>	<u>753</u>	
<u>0630</u>	<u>60</u>	<u>5</u>	<u>375</u>	<u>7.76</u>	<u>23.8</u>	<u>744</u>	
<u>0730</u>	<u>120</u>	<u>3</u>	<u>555</u>	<u>7.80</u>	<u>23.9</u>	<u>752</u>	
<u>0830</u>	<u>180</u>	<u>3</u>	<u>735</u>	<u>7.82</u>	<u>23.8</u>	<u>751</u>	
<u>0930</u>	<u>240</u>	<u>3</u>	<u>915</u>	<u>7.84</u>	<u>23.9</u>	<u>750</u>	
<u>1010</u>	<u>280</u>	<u>3</u>	<u>1035</u>	<u>7.85</u>	<u>23.8</u>	<u>751</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-2010-1M</u>	<u>1010</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: 335.1

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 8-7-18
 Well ID: BMO-2010-2M Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA

Well Depth (ft bls): <u>380</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>268.92</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
	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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/10/18
 Well ID: BMO-2010-3B Weather: cloudy, 80s
 ADWR No: 219970 Sampler: JA

WELL DATA			
Well Depth (ft bls):	Casing Diameter (in):	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
330	5	2	0.16
		4	0.65
		5	1.02
		6	1.47
		8	2.61
		10	4.08
Static Water Level (ft bmp):	121.45		
Casing Volume (gal):	213 x3 = 639		
Total Volume Purged (gal):	770	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
08:55	Pump On						
09:10	15	7	105	7.45	20.6	432.4	
09:25	30	7	210	7.42	20.6	428.7	
09:40	45	7	315	7.42	20.5	429.2	
09:55	60	7	420	7.43	20.6	428.1	
10:10	75	7	525	7.43	20.5	428.6	
10:25	90	7	630	7.43	20.6	428.1	
10:40	105	7	735	7.44	20.5	428.1	
10:45							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: <u>Spout</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2010-3B	10:42	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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/10/18
 Well ID: BMO-2010-3M Weather: cloudy, 80's, rain
 ADWR No: 219969 Sampler: JA

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>124.08</u>	2 0.16
Casing Volume (gal):	<u>708 416 x3 = 1248</u>	4 0.65
Total Volume Purged (gal):	<u>1337</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>11:07</u>	<u>Pump On</u>						
<u>11:22</u>	<u>15</u>	<u>7</u>	<u>105</u>	<u>8.16</u>	<u>21.0</u>	<u>306.7</u>	
<u>11:37</u>	<u>30</u>	<u>7</u>	<u>210</u>	<u>7.77</u>	<u>21.5</u>	<u>346.1</u>	
<u>12:07</u>	<u>60</u>	<u>7</u>	<u>420</u>	<u>7.57</u>	<u>22.0</u>	<u>392.9</u>	
<u>12:37</u>	<u>90</u>	<u>7</u>	<u>630</u>	<u>7.57</u>	<u>22.1</u>	<u>391.0</u>	
<u>13:07</u>	<u>120</u>	<u>7</u>	<u>840</u>	<u>7.56</u>	<u>22.0</u>	<u>391.5</u>	
<u>13:37</u>	<u>150</u>	<u>7</u>	<u>1050</u>	<u>7.52</u>	<u>22.0</u>	<u>390.4</u>	
<u>14:07</u>	<u>180</u>	<u>7</u>	<u>1260</u>	<u>7.55</u>	<u>22.1</u>	<u>389.2</u>	
<u>14:18</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:		<u>Spigot</u>					
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2010-3M</u>	<u>14:10</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: _____ Date: 7-16-18
 Well ID: BMO-2012-1M Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA

Well Depth (ft bls): <u>405</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>219.60</u> Casing Volume (gal): <u>189.1 x3 = 567.3</u> Total Volume Purged (gal): <u>600</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>0545</u>	Pump On						
<u>0555</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>7.29</u>	<u>23.8</u>	<u>963</u>	
<u>0615</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>7.30</u>	<u>23.6</u>	<u>960</u>	
<u>0645</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>7.31</u>	<u>23.4</u>	<u>958</u>	
<u>0725</u>	<u>100</u>	<u>6</u>	<u>600</u>	<u>7.33</u>	<u>23.4</u>	<u>960</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-2012-1M</u>	<u>0725</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: 185.4



Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/12/18
 Well ID: BMO-2014-ZBL Weather: cloudy, 90s
 ADWR No: 917394 Sampler: JA

WELL DATA			
Well Depth (ft bls):	<u>366</u>	Casing Capacity	
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	<u>127.11</u>	2	0.16
Casing Volume (gal):	<u>244</u> x3 = <u>731</u>	4	0.65
Total Volume Purged (gal):	<u>814</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>10:27</u>	<u>Pump On</u>						
<u>10:42</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.23</u>	<u>21.9</u>	<u>686.9</u>	
<u>10:57</u>	<u>30</u>	<u>11</u>	<u>330</u>	<u>7.26</u>	<u>21.7</u>	<u>690.8</u>	
<u>11:12</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.24</u>	<u>21.6</u>	<u>689.6</u>	
<u>11:27</u>	<u>60</u>	<u>11</u>	<u>660</u>	<u>7.25</u>	<u>21.6</u>	<u>690.4</u>	
<u>11:37</u>	<u>70</u>	<u>11</u>	<u>770</u>	<u>7.25</u>	<u>21.7</u>	<u>693.4</u>	
<u>11:41</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-ZBL</u>	<u>11:39</u>	<u>Poly</u>	<u>350mL</u>	<u>300</u>	<u>300.0</u>	<u>MP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/12/18
 Well ID: BMO-2014-1BU Weather: Mostly cloudy, 80s
 ADWR No: 917393 Sampler: SA

WELL DATA		
Well Depth (ft bls):	<u>273</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>127.19</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>149</u> x3 = <u>446</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>09:35</u>	<u>Pump On</u>						
<u>09:45</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.23</u>	<u>20.9</u>	<u>744.7</u>	
<u>09:55</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.23</u>	<u>20.8</u>	<u>746.6</u>	
<u>10:05</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.24</u>	<u>20.7</u>	<u>737.2</u>	
<u>10:15</u>	<u>40</u>	<u>13</u>	<u>520</u>	<u>7.24</u>	<u>20.7</u>	<u>730.3</u>	
<u>10:20</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>10:16</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/12/18
 Well ID: BMO-2014-2BL Weather: Mostly Sunny, 70s
 ADWR No: 917452 Sampler: 5A

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>129.61'</u>	2	0.16
Casing Volume (gal): <u>272 x3 = 815</u>	4	0.65
Total Volume Purged (gal): <u>910</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>07:08</u>	<u>Pump On</u>						
<u>07:23</u>	<u>15</u>	<u>14</u>	<u>210</u>	<u>7.13</u>	<u>20.5</u>	<u>1193</u>	
<u>07:38</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.07</u>	<u>20.6</u>	<u>1195</u>	
<u>07:53</u>	<u>45</u>	<u>14</u>	<u>630</u>	<u>7.12</u>	<u>20.4</u>	<u>1188</u>	
<u>08:08</u>	<u>60</u>	<u>14</u>	<u>840</u>	<u>7.12</u>	<u>20.4</u>	<u>1186</u>	
<u>08:13</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-2014-2BL</u>	<u>08:10</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/12/18
 Well ID: BMO-2014-2Bu Weather: Partly cloudy, 80s
 ADWR No: 917453 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>276</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>129.67</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>149</u> x3 = <u>448</u>	2 0.16
Total Volume Purged (gal):	<u>476</u>	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>08:18</u>	<u>Pump On</u>						
<u>08:28</u>	<u>10</u>	<u>14</u>	<u>140</u>	<u>7.37</u>	<u>20.0</u>	<u>537.1</u>	
<u>08:38</u>	<u>20</u>	<u>14</u>	<u>280</u>	<u>7.38</u>	<u>20.1</u>	<u>536.7</u>	
<u>08:48</u>	<u>30</u>	<u>14</u>	<u>420</u>	<u>7.37</u>	<u>20.1</u>	<u>537.5</u>	
<u>08:52</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>08:50</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/12/18
 Well ID: BMO-2014-3BL Weather: cloudy, 80s
 ADWR No: 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>14.74</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>379</u> x3 = <u>1137</u>	2 4 <u>5</u> 6 8 10
Total Volume Purged (gal):	<u>1222</u>	0.16 0.65 <u>1.02</u> 1.47 2.61 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>12:07</u>	<u>Pump On</u>						
<u>12:22</u>	<u>15</u>	<u>13</u>	<u>195</u>	<u>7.37</u>	<u>21.1</u>	<u>430.9</u>	
<u>12:37</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.33</u>	<u>21.4</u>	<u>425.5</u>	
<u>12:52</u>	<u>45</u>	<u>13</u>	<u>585</u>	<u>7.40</u>	<u>21.4</u>	<u>424.4</u>	
<u>13:07</u>	<u>60</u>	<u>13</u>	<u>780</u>	<u>7.42</u>	<u>21.5</u>	<u>425.7</u>	
<u>13:22</u>	<u>75</u>	<u>13</u>	<u>975</u>	<u>7.39</u>	<u>21.3</u>	<u>422.1</u>	
<u>13:37</u>	<u>90</u>	<u>13</u>	<u>1170</u>	<u>7.42</u>	<u>21.5</u>	<u>423.0</u>	
<u>13:41</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>13:38</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/12/18
 Well ID: BMO-2014-3BU Weather: Am, 70s
 ADWR No: 917 494 Sampler: SA

WELL DATA		
Well Depth (ft bls): <u>288</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>141.65</u>	2	0.16
Casing Volume (gal): <u>149</u> x3 = <u>448</u>	4	0.65
Total Volume Purged (gal): <u>507</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>13:45</u>	<u>Pump On</u>						
<u>13:55</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.35</u>	<u>20.1</u>	<u>473.9</u>	
<u>14:05</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.35</u>	<u>20.0</u>	<u>468.7</u>	
<u>14:15</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.36</u>	<u>20.0</u>	<u>474.0</u>	
<u>14:20</u>	<u>35</u>	<u>13</u>	<u>455</u>	<u>7.35</u>	<u>20.0</u>	<u>470.0</u>	
<u>14:24</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>14:21</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/11/18
 Well ID: BMO-2014-4B Weather: cloudy, 80s, rain
 ADWR No: 917620 Sampler: SA

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>136.51</u>	2	0.16
Casing Volume (gal):	<u>124</u> x3 = <u>372</u>	4	0.65
Total Volume Purged (gal):	<u>455</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>10:27</u>	<u>Pump On</u>						
<u>10:37</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.36</u>	<u>20.2</u>	<u>462.3</u>	
<u>10:47</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.35</u>	<u>20.3</u>	<u>461.7</u>	
<u>10:57</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.38</u>	<u>20.3</u>	<u>467.7</u>	
<u>11:02</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>10:59</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/11/18
 Well ID: BMO-2014-4BL Weather: cloudy, 80s
 ADWR No: 917619 Sampler: SA

WELL DATA		
Well Depth (ft bls):	<u>261</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>136.07</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>127</u> x3 = <u>382</u>	2 0.16
Total Volume Purged (gal):	<u>480</u>	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>09:40</u>	<u>Pump On</u>						
<u>09:50</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.38</u>	<u>20.6</u>	<u>672.0</u>	
<u>10:00</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.31</u>	<u>20.6</u>	<u>683.4</u>	
<u>10:10</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.34</u>	<u>20.6</u>	<u>692.9</u>	
<u>10:15</u>	<u>35</u>	<u>12</u>	<u>420</u>	<u>7.32</u>	<u>20.6</u>	<u>687.8</u>	
<u>10:20</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>10:17</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/22/18
 Well ID: BMO-2014-1B Weather: cloudy, 80s
 ADWR No: 917622 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>244</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>131.87</u>	2	0.16
Casing Volume (gal): <u>114</u> x3 = <u>343</u>	4	0.65
Total Volume Purged (gal): <u>507</u>	<u>5</u>	<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>11:40</u>	<u>Pump On</u>						
<u>11:50</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.31</u>	<u>20.3</u>	<u>739.3</u>	
<u>12:00</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.38</u>	<u>20.4</u>	<u>721.4</u>	
<u>12:10</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.39</u>	<u>20.3</u>	<u>705.9</u>	
<u>12:14</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-2014-1B</u>	<u>12:14</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/11/18
 Well ID: BMO-2015-18L Weather: CL-4, 80s
 ADWR No: 917621 Sampler: SA

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>133.21</u>	2	0.16
Casing Volume (gal): <u>110</u> x3 = <u>330</u>	4	0.65
Total Volume Purged (gal): <u>468</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>12:28</u>	<u>Pump On</u>						
<u>12:38</u>	<u>10</u>	<u>13</u>	<u>130</u>	<u>7.33</u>	<u>20.5</u>	<u>796.0</u>	
<u>12:48</u>	<u>20</u>	<u>13</u>	<u>260</u>	<u>7.36</u>	<u>20.5</u>	<u>794.3</u>	
<u>12:58</u>	<u>30</u>	<u>13</u>	<u>390</u>	<u>7.35</u>	<u>20.5</u>	<u>791.5</u>	
<u>13:04</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-2015-18L</u>	<u>13:00</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>y</u>

WATER LEVEL MEASUREMENT COLLECTION
<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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/11/18
 Well ID: BMO-2015-28 Weather: cloudy, 70s
 ADWR No: 917827 Sampler: JA

WELL DATA			
Well Depth (ft bls): <u>268</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>151.72</u>	4	0.65	
	5	1.02	
Casing Volume (gal): <u>119</u> x3 = <u>357</u>	6	1.47	
	8	2.61	
Total Volume Purged (gal): <u>468</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>0730</u>	<u>Pump On</u>						
<u>0740</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.08</u>	<u>20.4</u>	<u>895.4</u>	
<u>0750</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.14</u>	<u>20.4</u>	<u>870.3</u>	
<u>0800</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.17</u>	<u>20.4</u>	<u>862.8</u>	
<u>0805</u>	<u>35</u>	<u>12</u>	<u>420</u>	<u>7.17</u>	<u>20.4</u>	<u>856.9</u>	
<u>0809</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-2015-28</u>	<u>0807</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/11/18
 Well ID: BMO-2015-2BL Weather: cloudy, 80s
 ADWR No: 917828 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>272</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>150.39</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>124</u> x3 = <u>372</u>	2 4 <u>5</u> 6 8 10
Total Volume Purged (gal):	<u>540</u>	0.16 0.65 <u>1.02</u> 1.47 2.61 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>08:30</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.06</u>	<u>20.4</u>	<u>941.0</u>	
<u>08:40</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.11</u>	<u>20.5</u>	<u>932.0</u>	
<u>08:50</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.07</u>	<u>20.5</u>	<u>925.2</u>	
<u>09:00</u>	<u>40</u>	<u>12</u>	<u>480</u>	<u>7.14</u>	<u>20.5</u>	<u>923.8</u>	
<u>09:05</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>0903</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/26/18
 Well ID: BURKE Weather: Partly Cloudy, 90s
 ADWR No: 212268 Sampler: SA

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>410 587.6 from 8/3/15</u>	2	0.16
Casing Volume (gal): <u>285 x3 = 855</u>	4	0.65
Total Volume Purged (gal): <u>341</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>16:00</u>	<u>Pump On</u>						
<u>16:05</u>	<u>5</u>	<u>11</u>	<u>55</u>	<u>7.52</u>	<u>27.4</u>	<u>482.9</u>	
<u>16:20</u>	<u>20</u>	<u>11</u>	<u>220</u>	<u>7.57</u>	<u>27.4</u>	<u>482.0</u>	
<u>16:25</u>	<u>25</u>	<u>11</u>	<u>275</u>	<u>7.51</u>	<u>27.4</u>	<u>481.7</u>	
<u>16:30</u>	<u>30</u>	<u>11</u>	<u>330</u>	<u>7.51</u>	<u>27.4</u>	<u>480.8</u>	
<u>16:31</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>16:31</u>	<u>POLY</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<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 checked="" type="checkbox"/> Other: <u>No WL collected per owner request</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>Sampled from tank, waited for stable field parameters</u>

Additional Comments: Per owner - water is from tank, no spigot between well & tank, spigot at pressure tanks discharges from storage tank

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/25/18
 Well ID: CHAMBERS Weather: Cloudy, 100s
 ADWR No: 029 807 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>245</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 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
							+0 u n a b l e s a m p l e
							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: Pump not working per owner

Additional Comments: Unable to sample. Pump not working per owner



Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/17/18
 Well ID: COB MW-2 Weather: Mistly, Sunny, FC
 ADWR No: 903984 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>162</u>	Casing Capacity
Casing Diameter (in):	<u>132.56</u> ^{5A} <u>4</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>132.56</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>19</u> x3 = <u>57</u>	2 4 5 6 8 10
Total Volume Purged (gal):	<u>132</u>	0.16 1.02 1.47 2.61 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>09:31</u>	<u>Pump On</u>						
<u>09:36</u>	<u>5</u>	<u>6</u>	<u>30</u>	<u>7.30</u>	<u>19.3</u>	<u>570.0</u>	
<u>09:41</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>7.28</u>	<u>19.4</u>	<u>572.3</u>	
<u>09:46</u>	<u>15</u>	<u>6</u>	<u>90</u>	<u>7.28</u>	<u>19.4</u>	<u>572.5</u>	
<u>09:53</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>09:49</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>VP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/17/18
 Well ID: COB MW-3 Weather: Clear, 70s
 ADWR No: 906823 Sampler: JA

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>125.77</u>	2	0.16
Casing Volume (gal): <u>113</u> $x3 = 340$	④	0.65
Total Volume Purged (gal): <u>450</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>08:47</u>	<u>Pump On</u>						
<u>08:52</u>	<u>5</u>	<u>18</u>	<u>90</u>	<u>7.50</u>	<u>20.0</u>	<u>524.1</u>	
<u>08:57</u>	<u>10</u>	<u>18</u>	<u>180</u>	<u>7.35</u>	<u>20.0</u>	<u>531.1</u>	
<u>09:02</u>	<u>15</u>	<u>18</u>	<u>270</u>	<u>7.38</u>	<u>20.0</u>	<u>529.7</u>	
<u>09:07</u>	<u>20</u>	<u>18</u>	<u>360</u>	<u>7.37</u>	<u>20.0</u>	<u>528.5</u>	
<u>09:12</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>09:09</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<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: Hand filtered sample

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/9/18
 Well ID: COB WL Weather: cloudy, 80's
 ADWR No: 593116 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>150</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>4</u>	2	0.16
	4	<u>0.65</u>
Static Water Level (ft bmp): <u>91.48'</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>38</u> x3 = <u>114</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>125</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>10:30</u>	<u>Pump On</u>						
<u>10:35</u>	<u>5</u>	<u>7</u>	<u>35</u>	<u>6.94</u>	<u>20.2</u>	<u>1164</u>	
<u>10:40</u>	<u>10</u>	<u>1</u>	<u>40</u>	<u>6.98</u>	<u>20.2</u>	<u>1169</u>	
<u>11:00</u>	<u>30</u>	<u>1</u>	<u>60</u>	<u>7.32</u>	<u>21.6</u>	<u>1163</u>	
<u>11:20</u>	<u>50</u>	<u>1</u>	<u>80</u>	<u>7.34</u>	<u>21.6</u>	<u>1163</u>	
<u>11:40</u>	<u>70</u>	<u>1</u>	<u>100</u>	<u>7.24</u>	<u>21.8</u>	<u>1168</u>	
<u>12:00</u>	<u>90</u>	<u>1</u>	<u>120</u>	<u>7.21</u>	<u>21.8</u>	<u>1165</u>	
<u>12:05</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>12:03</u>	<u>poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>y</u>
<u>DUP 20180709</u>	<u>12:00</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:

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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/16/18
 Well ID: COOPER Weather: Cloudy, 70s, 40-70, humid
 ADWR No: 623564 Sampler: JA

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): <u>N/A (IWL)</u>	2	0.16
Casing Volume (gal): <u>x3 =</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>15:20</u>	<u>Pump On</u>						
<u>15:25</u>	<u>5</u>	<u>9</u>	<u>45</u>	<u>7.48</u>	<u>21.3</u>	<u>416.0</u>	
<u>15:30</u>	<u>10</u>	<u>9</u>	<u>95</u>	<u>7.47</u>	<u>21.5</u>	<u>415.5</u>	
<u>15:35</u>	<u>15</u>	<u>9</u>	<u>145</u>	<u>7.45</u>	<u>21.6</u>	<u>416.9</u>	
<u>15:40</u>	<u>20</u>	<u>9</u>	<u>195</u>	<u>7.43</u>	<u>21.7</u>	<u>417.1</u>	
<u>15:45</u>	<u>25</u>	<u>5</u>	<u>245</u>	<u>7.45</u>	<u>21.7</u>	<u>415.9</u>	
<u>15:50</u>	<u>30</u>	<u>5</u>	<u>295</u>	<u>7.45</u>	<u>21.7</u>	<u>414.8</u>	
<u>15:55</u>	<u>35</u>	<u>5</u>	<u>345</u>	<u>7.45</u>	<u>21.8</u>	<u>415.8</u>	
<u>15:58</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>15:57</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<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 checked="" type="checkbox"/> Other: <u>Port plug in wellhead cannot be removed - no damage</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 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: 7-25-18
 Well ID: Cooper C Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Slawson

WELL DATA

Well Depth (ft bls): <u>220</u> Casing Diameter (in): <u>6"</u> Static Water Level (ft bmp): <u>169.42</u> Casing Volume (gal): <u>81.7 x3 = 245.1</u> Total Volume Purged (gal): <u>297</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>0930</u>	Pump On						
<u>0940</u>	<u>10</u>	<u>8.5</u>	<u>85</u>	<u>6.90</u>	<u>22.8</u>	<u>1539</u>	
<u>0950</u>	<u>20</u>	<u>8.5</u>	<u>170</u>	<u>6.94</u>	<u>22.2</u>	<u>1542</u>	
<u>1000</u>	<u>30</u>	<u>2.5</u>	<u>297</u>	<u>6.98</u>	<u>22.2</u>	<u>1545</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>Cooper C</u>	<u>1000</u>	<u>P</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: 55 L

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/30/18
 Well ID: DODSON Weather: clear, 90s
 ADWR No: 644927 Sampler: SA

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>117.18</u>	2	0.16
Casing Volume (gal): <u>122</u> x3 = <u>365</u>	4	0.65
Total Volume Purged (gal): <u>504</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>09:12</u>	<u>Pump On</u>						
<u>09:22</u>	<u>10</u>	<u>12</u>	<u>120</u>	<u>7.07</u>	<u>20.0</u>	<u>2350</u>	
<u>09:32</u>	<u>20</u>	<u>12</u>	<u>240</u>	<u>7.06</u>	<u>19.9</u>	<u>2394</u>	
<u>09:42</u>	<u>30</u>	<u>12</u>	<u>360</u>	<u>7.09</u>	<u>20.2</u>	<u>2405</u>	
<u>09:52</u>	<u>40</u>	<u>12</u>	<u>480</u>	<u>7.05</u>	<u>19.9</u>	<u>2408</u>	
<u>09:54</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>09:54</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 8/1/18
 Well ID: DOUGLASS 791 Weather: clear, 90s
 ADWR No: 592791 Sampler: JA

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>36.48</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

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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 8/1/18
 Well ID: DOUGLASS 792 Weather: _____
 ADWR No: 592 792 Sampler: 5A

WELL DATA		
Well Depth (ft bls): <u>200</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>85.76</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)
<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>WLO</u>

Additional Comments:

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/30/18
 Well ID: EAST Weather: Cloudy, 90s
 ADWR No: 599 796 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>125</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>77.95</u>	2	0.16
Casing Volume (gal): <u>69</u> x3 = <u>208</u>	4	0.65
Total Volume Purged (gal): <u>333</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>15:38</u>	<u>Pump On</u>						
<u>15:48</u>	<u>10</u>	<u>9</u>	<u>90</u>	<u>7.24</u>	<u>19.9</u>	<u>606.4</u>	
<u>15:58</u>	<u>20</u>	<u>9</u>	<u>180</u>	<u>7.24</u>	<u>19.8</u>	<u>605.8</u>	
<u>16:08</u>	<u>30</u>	<u>9</u>	<u>270</u>	<u>7.26</u>	<u>19.8</u>	<u>605.9</u>	
<u>16:15</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>16:15</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: Well was purging prior to WL measurement

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/17/18
 Well ID: ECHAVE Weather: Partly Cloudy, 80°
 ADWR No: 219449 Sampler: JA

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>220.37</u>	2	0.16
Casing Volume (gal): <u>183</u> x3 = <u>550</u>	4	0.65
Total Volume Purged (gal): <u>184</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>10:20</u>	<u>Pump On</u>						
<u>10:25</u>	<u>5</u>	<u>8</u>	<u>40</u>	<u>7.68</u>	<u>24.1</u>	<u>396.9</u>	
<u>10:30</u>	<u>10</u>	<u>8</u>	<u>80</u>	<u>7.64</u>	<u>24.6</u>	<u>401.6</u>	
<u>10:35</u>	<u>15</u>	<u>8</u>	<u>120</u>	<u>7.68</u>	<u>24.3</u>	<u>397.5</u>	
<u>10:43</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>10:40</u>	<u>Polg</u>	<u>250mL</u>	<u>1</u>	<u>3000</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: Water from tank filled by well, sampled from spigot near tank

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/31/18
 Well ID: EPPELE 641 Weather: Partly Cloudy, 80s
 ADWR No: 805641 Sampler: JA

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>62.29</u>	2	0.16
Casing Volume (gal): <u>529 x3 = 1587</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>09:15</u>	<u>Pump On</u>						
<u>09:30</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.48</u>	<u>20.4</u>	<u>577.0</u>	
<u>09:45</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.49</u>	<u>20.1</u>	<u>579.5</u>	
<u>10:00</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.52</u>	<u>20.1</u>	<u>589.3</u>	
<u>10:10</u>	<u>55</u>	<u>10</u>	<u>550</u>	<u>7.61</u>	<u>20.2</u>	<u>575.7</u>	
<u>10:13</u>	<u>58</u>	<u>10</u>	<u>580</u>				<u>Pumped Dry</u>
<u>10:43</u>				<u>7.65</u>	<u>20.6</u>	<u>568.9</u>	<u>Pumped Dry in 4 minutes</u>
<u>11:07</u>				<u>7.76</u>	<u>23.3</u>	<u>560.6</u>	<u>Pumped Dry in 4 minutes</u>
<u>11:31</u>							<u>No water</u>
<u>11:51</u>				<u>7.78</u>	<u>21.6</u>	<u>558.9</u>	<u>Pump Off 11:53</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>EPPELE 641</u>	<u>11:53</u>	<u>8017</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>MP</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 at 58 minutes. Wait 30 minutes for recharge - Pumped dry after 4 minutes. Wait 20 minutes for recharge - pumped dry after 4 minutes. Wait 20 minutes for recharge / readings / sample - no water available - wait 20 minutes.

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/27/18
 Well ID: FRANCO 383 Weather: clear, 80s
 ADWR No: 221 383 Sampler: SA

WELL DATA		
Well Depth (ft bls):	<u>711</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>198.73</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>523</u> x3 = <u>1569</u>	2 4 6 8 10
Total Volume Purged (gal):	<u>1672</u>	0.16 0.65 <u>1.02</u> 1.47 2.61 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>09:10</u>	<u>Pump On</u>						
<u>09:25</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.38</u>	<u>26.3</u>	<u>1066</u>	
<u>09:55</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.42</u>	<u>26.1</u>	<u>1068</u>	
<u>10:25</u>	<u>75</u>	<u>11</u>	<u>825</u>	<u>7.44</u>	<u>26.0</u>	<u>1062</u>	
<u>10:55</u>	<u>105</u>	<u>11</u>	<u>1155</u>	<u>7.43</u>	<u>25.7</u>	<u>1069</u>	
<u>11:25</u>	<u>135</u>	<u>11</u>	<u>1485</u>	<u>7.41</u>	<u>26.0</u>	<u>1066</u>	
<u>11:35</u>	<u>145</u>	<u>11</u>	<u>1595</u>	<u>7.42</u>	<u>25.8</u>	<u>1063</u>	
<u>11:42</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>11:38</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>HP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/24/18
 Well ID: GARNER 557 Weather: Partly cloudy, 100%
 ADWR No: 558 557 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>300</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>IWL</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>wl0</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 type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>wl0</u>

Additional Comments:

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/24/18
 Well ID: GARNER 635 Weather: Partly cloudy, 100s
 ADWR No: 587 635 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>680</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>205.65</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>484</u> x3 = <u>1452</u>	2: 0.16
Total Volume Purged (gal):	<u>200</u>	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>15:10</u>	<u>Pump On</u>						
<u>15:15</u>	<u>5</u>	<u>10</u>		<u>7.48</u>	<u>23.7</u>	<u>468.4</u>	
<u>15:20</u>	<u>10</u>	<u>10</u>		<u>7.48</u>	<u>23.7</u>	<u>468.7</u>	
<u>15:25</u>	<u>15</u>	<u>10</u>		<u>7.48</u>	<u>23.9</u>	<u>468.1</u>	
<u>15:30</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>GARNER 635</u>	<u>15:29</u>	<u>POLY</u>	<u>250mL</u>	<u>1</u>	<u>300</u>	<u>MP</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: Per owner request - no full purge, 15min ok.

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-25-18
 Well ID: Hoban Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher E. Stevens

WELL DATA

Well Depth (ft bls): <u>300'</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>172.74</u> Casing Volume (gal): <u>129.8 x3 = 389.4</u> Total Volume Purged (gal): <u>528</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>0720</u>	Pump On						
<u>0730</u>	<u>10</u>	<u>17.6</u>	<u>176</u>	<u>7.04</u>	<u>22.4</u>	<u>1914</u>	
<u>0740</u>	<u>20</u>	<u>17.6</u>	<u>352</u>	<u>6.99</u>	<u>22.2</u>	<u>1910</u>	
<u>0750</u>	<u>30</u>	<u>17.6</u>	<u>528</u>	<u>7.01</u>	<u>22.2</u>	<u>1907</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>Hoban</u>	<u>0750</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Free</u>	<u>yes</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: 127.3



Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/23/18
 Well ID: HOWARD 312 Weather: clear, 90s
 ADWR No: 221312 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>980</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>204.95</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>791</u> $\times 3 =$ <u>2372</u>	2 0.16
Total Volume Purged (gal):	<u>2457</u>	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>11:22</u>	<u>Pump On</u>						
<u>11:37</u>	<u>15</u>	<u>9</u>	<u>135</u>	<u>8.01</u>	<u>21.9</u>	<u>607.6</u>	
<u>12:07</u>	<u>45</u>	<u>9</u>	<u>405</u>	<u>8.06</u>	<u>23.7</u>	<u>615.8</u>	
<u>12:52</u>	<u>90</u>	<u>9</u>	<u>810</u>	<u>8.07</u>	<u>25.3</u>	<u>613.6</u>	
<u>13:37</u>	<u>135</u>	<u>9</u>	<u>1215</u>	<u>8.06</u>	<u>25.8</u>	<u>615.5</u>	
<u>14:22</u>	<u>180</u>	<u>9</u>	<u>1620</u>	<u>8.06</u>	<u>26.1</u>	<u>616.3</u>	
<u>15:07</u>	<u>225</u>	<u>9</u>	<u>2025</u>	<u>8.05</u>	<u>26.2</u>	<u>614.1</u>	
<u>15:52</u>	<u>270</u>	<u>9</u>	<u>2430</u>	<u>8.05</u>	<u>26.1</u>	<u>614.7</u>	
<u>15:55</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>15:55</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>3000</u>	<u>IVP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/23/18
 Well ID: HOWARD NR Weather: clear, 90s
 ADWR No: NR Sampler: JA

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>159.64</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)
<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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/9/18
 Well ID: KEEFER Weather: Partly Cloudy, 90s
 ADWR No: 209744 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>245</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>143.46</u>	2	0.16
Casing Volume (gal): <u>149</u> x3 = <u>448</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
<u>14:37</u>	<u>Pump On</u>						
<u>14:47</u>	<u>10</u>	<u>9</u>	<u>90</u>	<u>7.27</u>	<u>19.7</u>	<u>782.6</u>	
<u>14:57</u>	<u>20</u>	<u>9</u>	<u>180</u>	<u>7.28</u>	<u>21.1</u>	<u>787.8</u>	
<u>15:07</u>	<u>30</u>	<u>9</u>	<u>270</u>	<u>7.30</u>	<u>19.5</u>	<u>490.8</u>	
<u>15:17</u>	<u>40</u>	<u>9</u>	<u>360</u>	<u>7.35</u>	<u>19.4</u>	<u>491.4</u>	
<u>15:27</u>	<u>50</u>	<u>9</u>	<u>450</u>	<u>7.35</u>	<u>19.9</u>	<u>494.4</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>KEEFER</u>	<u>15:30</u>	<u>807</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: 8-22-18
 Well ID: LADP-251 Weather: Sunny
 ADWR No: _____ Sampler: Christopher & Susan

WELL DATA

		Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Well Depth (ft bis): _____		2	0.16
Casing Diameter (in): _____		4	0.65
Static Water Level (ft bmp): <u>223.64</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
	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: 8-22-18
 Well ID: LADD-435 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Slurman

WELL DATA

Well Depth (ft bls): _____ Casing Diameter (in): _____ Static Water Level (ft bmp): <u>251.57</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: 8-22-18
 Well ID: LADD-538 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Skvran

WELL DATA

Well Depth (ft bls): _____ Casing Diameter (in): _____ Static Water Level (ft bmp): <u>219.90</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: 8-22-18
 Well ID: LADD-635 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Swanson

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>173.07</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: WSS-2015-01

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 8-22-18
 Well ID: LADP-837 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shuman

WELL DATA

Well Depth (ft bls): _____ Casing Diameter (in): _____ Static Water Level (ft bmp): <u>281.46</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: 8-22-18
 Well ID: LADD-977 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Shivers

WELL DATA

Well Depth (ft bls): _____ Casing Diameter (in): _____ Static Water Level (ft bmp): <u>88.92</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: CC13.2870.30

Client: Freeport Copper Queen Branch

Task No: 0010

Date: 7/17/18

Well ID: MCCONNELL 265

Weather: cloudy, 80s

ADWR No: 539 265

Sampler:

WELL DATA			
Well Depth (ft bls):	216	Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	3 3/4 165.6	2	0.16
		4	0.65
Static Water Level (ft bmp):	165.09	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 µS/cm

SAMPLE INFORMATION

Sample Collection Point:

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: wlo

Additional Comments:

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/17/18
 Well ID: MCCONNELL 459 Weather: cloudy, 80s
 ADWR No: 221459 Sampler: JA

WELL DATA		
Well Depth (ft bis):	<u>863</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>169.08</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>708 x3 = 2123</u>	2 4 5 6 8 10
Total Volume Purged (gal):	<u>2320</u>	0.16 0.65 1.02 1.47 2.61 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>12:30</u>	<u>Pump On</u>						
<u>12:45</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.93</u>	<u>23.4</u>	<u>442.2</u>	
<u>13:15</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.94</u>	<u>24.5</u>	<u>449.0</u>	
<u>13:45</u>	<u>75</u>	<u>10</u>	<u>750</u>	<u>7.90</u>	<u>24.7</u>	<u>449.6</u>	
<u>14:15</u>	<u>105</u>	<u>10</u>	<u>1050</u>	<u>7.92</u>	<u>24.7</u>	<u>450.7</u>	
<u>14:45</u>	<u>135</u>	<u>10</u>	<u>1350</u>	<u>7.90</u>	<u>24.8</u>	<u>448.2</u>	
<u>15:15</u>	<u>165</u>	<u>10</u>	<u>1650</u>	<u>7.93</u>	<u>24.8</u>	<u>448.5</u>	
<u>15:45</u>	<u>195</u>	<u>10</u>	<u>1950</u>	<u>7.92</u>	<u>24.9</u>	<u>447.6</u>	
<u>16:15</u>	<u>225</u>	<u>10</u>	<u>2250</u>	<u>7.93</u>	<u>24.8</u>	<u>446.7</u>	
<u>16:22</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>16:17</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>VP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/17/18
 Well ID: METZLER Weather: partly cloudy, 80s
 ADWR No: 35-71891 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>351</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>294.94</u>	2	0.16
Casing Volume (gal): <u>x3 =</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)
<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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 8/1/18
 Well ID: MOORE Weather: clear, 90s
 ADWR No: 538847 Sampler: JA

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>155.64</u>	2	0.16
Casing Volume (gal): <u>95</u> x3 = <u>284</u>	4	0.65
Total Volume Purged (gal): <u>286</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>10:21</u>	<u>Pump On</u>						
<u>10:31</u>	<u>10</u>	<u>8</u>	<u>80</u>	<u>7.17</u>	<u>28.4</u>	<u>436.1</u>	
<u>10:41</u>	<u>20</u>	<u>8</u>	<u>160</u>	<u>7.24</u>	<u>27.8</u>	<u>435.8</u>	
<u>10:51</u>	<u>30</u>	<u>8</u>	<u>240</u>	<u>7.24</u>	<u>27.2</u>	<u>436.4</u>	
<u>11:01</u>	<u>40</u>	<u>8</u>	<u>320</u>	<u>7.24</u>	<u>26.9</u>	<u>436.8</u>	
<u>11:03</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>MOORE</u>	<u>11:03</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:

Additional Comments:



Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/31/18
 Well ID: NESS Weather: pt. cloudy, 90S
 ADWR No: 509127 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>812</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>538.72</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
<u>14:45</u>	<u>Pump On</u>						
<u>14:50</u>	<u>5</u>	<u>12</u>	<u>60</u>	<u>7.42</u>	<u>26.4</u>	<u>552.6</u>	
<u>14:52</u>	<u>7</u>	<u>12</u>	<u>84</u>	<u>7.42</u>	<u>26.4</u>	<u>551.2</u>	
<u>14:54</u>	<u>9</u>	<u>12</u>	<u>108</u>	<u>7.42</u>	<u>26.4</u>	<u>550.7</u>	
<u>14:57</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>14:57</u>	<u>Poly</u>	<u>200mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>✓</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: Sampled from seagat supplied by tank

Additional Comments: No purge per owner req. v. 2 - sampled from tank

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 BSD Date: 9/24/18
 Well ID: NSD-03-NSD-02 Weather: Sunny 80's
 ADWR No: _____ Sampler: BTD

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
Casing Diameter (in): _____	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>106.13</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 sb 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: _____

Additional Comments: WLO

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 9/24/16
 Well ID: MSD-0203 BJD Weather: SUNNY 80s
 ADWR No: _____ Sampler: BJD

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
Casing Diameter (in): _____	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>92.22</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: L20

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/18/18
 Well ID: NWC-02 Weather: clear, 80s
 ADWR No: 562944 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>317</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>169.35</u>	2	0.16
Casing Volume (gal): <u>210</u> x3 = <u>629</u>	4	0.65
Total Volume Purged (gal): <u>1700</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>08:36</u>	<u>Pump On</u>						
<u>08:41</u>	<u>5</u>	<u>100</u>	<u>500</u>	<u>7.35</u>	<u>20.7</u>	<u>435.5</u>	
<u>08:46</u>	<u>10</u>	<u>100</u>	<u>1000</u>	<u>7.34</u>	<u>20.7</u>	<u>435.0</u>	
<u>08:51</u>	<u>15</u>	<u>100</u>	<u>1500</u>	<u>7.34</u>	<u>20.7</u>	<u>435.3</u>	
<u>08:53</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>08:53</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.c1</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/18/18
 Well ID: NWC-03 CAP Weather: clear, 70s
 ADWR No: 627 684 Sampler: SA

WELL DATA		
Well Depth (ft bls):	<u>179</u>	Casing Capacity
Casing Diameter (in):	<u>8</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>119.39 *</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

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: * Anomalous readings possibly due to leak in pipe at storage tank, significant vegetation growth in area w/ leak identified during previous monitoring event.

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/18/18
 Well ID: NWC-04 Weather: clear, 70s
 ADWR No: 551849 Sampler: JA

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>IWL</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
Total Volume Purged (gal): <u>288</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>07:00</u>	<u>Pump On</u>						
<u>07:05</u>	<u>5</u>	<u>16</u>	<u>80</u>	<u>7.29</u>	<u>23.2</u>	<u>871.4</u>	
<u>07:10</u>	<u>10</u>	<u>16</u>	<u>160</u>	<u>7.31</u>	<u>23.2</u>	<u>865.1</u>	
<u>07:15</u>	<u>15</u>	<u>16</u>	<u>240</u>	<u>7.32</u>	<u>23.2</u>	<u>863.5</u>	
<u>07:18</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-04</u>	<u>07:17</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>IVP</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: Hand Filtered Sample



Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/18/18
 Well ID: NWC-06 Weather: Clear, 80s
 ADWR No: 575700 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>340</u>	Casing Capacity
Casing Diameter (in):	<u>8</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>163.77</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>460 x3 = 1380</u>	2 0.16
Total Volume Purged (gal):	<u>2755</u>	4 0.65
		5 1.02
		6 1.47
		<u>8</u> <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
<u>08:00</u>	<u>Pump On</u>						
<u>08:05</u>	<u>5</u>	<u>145</u>	<u>725</u>	<u>7.42</u>	<u>21.3</u>	<u>403.7</u>	
<u>08:10</u>	<u>10</u>	<u>145</u>	<u>1450</u>	<u>7.39</u>	<u>21.3</u>	<u>405.8</u>	
<u>08:15</u>	<u>15</u>	<u>145</u>	<u>2175</u>	<u>7.38</u>	<u>21.2</u>	<u>407.2</u>	
<u>08:19</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>08:19</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: Hand Filtered Sampled

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/28/18
 Well ID: OLMOS Weather: Partly cloudy, 80s
 ADWR No: 224745 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>306</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>150.28</u>	2	0.16
Casing Volume (gal): <u>229</u> x3 = <u>687</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>11:00</u>	<u>Pump On</u>						
<u>11:15</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.31</u>	<u>20.5</u>	<u>433.4</u>	
<u>11:30</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.31</u>	<u>20.6</u>	<u>435.1</u>	
<u>11:45</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.30</u>	<u>20.6</u>	<u>447.1</u>	
<u>12:00</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.30</u>	<u>20.6</u>	<u>446.8</u>	
<u>12:15</u>	<u>75</u>	<u>10</u>	<u>750</u>	<u>7.31</u>	<u>20.6</u>	<u>446.1</u>	
<u>12:19</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: <u>spring</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>OLMOS</u>	<u>12:18</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>VP</u>	<u>Y</u>
<u>04P20180713</u>	<u>12:00</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>VP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 8/1/18
 Well ID: OSBORN Weather: clear, 90s
 ADWR No: 643436 Sampler: JA

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						
							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: per owner - pump not working - currently hauling water into sample

Additional Comments:



Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/31/18
 Well ID: PALMER Weather: Partly Cloudy, 90s
 ADWR No: 578819 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>220</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):		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						
<u>15:20</u>	—	—	—	<u>7.75</u>	<u>29.6</u>	<u>534.8</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>PALMER</u>	<u>15:22</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

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 water from kitchen sink provided by owner

Additional Comments: Plant filtered sample

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/30/18
 Well ID: PANAGAKOS Weather: clear, 90s
 ADWR No: 35-76413 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>200</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>161.94</u>	2	0.16
Casing Volume (gal): <u>99 x3 = 298</u>	4	0.65
Total Volume Purged (gal): <u>390</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>10:40</u>	<u>Pump On</u>						
<u>10:45</u>	<u>5</u>	<u>6</u>	<u>30</u>	<u>6.99</u>	<u>20.6</u>	<u>1333</u>	
<u>10:55</u>	<u>15</u>	<u>6</u>	<u>90</u>	<u>6.96</u>	<u>20.6</u>	<u>1371</u>	
<u>11:10</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>6.96</u>	<u>20.6</u>	<u>1380</u>	
<u>11:25</u>	<u>45</u>	<u>6</u>	<u>270</u>	<u>6.96</u>	<u>20.6</u>	<u>1387</u>	
<u>11:40</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>6.96</u>	<u>20.5</u>	<u>1389</u>	
<u>11:45</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>PANAGAKOS</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/24/18
 Well ID: PIOWKE 395 Weather: clear, 90s
 ADWR No: 613395 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>330</u>	Casing Capacity
Casing Diameter (in):	<u>8</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>158.37</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>WLO</u>

Additional Comments:

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/24/18
 Well ID: PIONKE 517 Weather: clear, 90s
 ADWR No: 221517 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>604</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>155.18</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>458</u> x3 = <u>1373</u>	2 0.16
Total Volume Purged (gal):	<u>1512</u>	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>09:23</u>	<u>Pump On</u>						
<u>09:43</u>	<u>15</u>	<u>12</u>	<u>180</u>	<u>7.47</u>	<u>21.6</u>	<u>386.0</u>	
<u>10:03</u>	<u>35</u>	<u>12</u>	<u>420</u>	<u>7.53</u>	<u>22.2</u>	<u>384.8</u>	
<u>10:23</u>	<u>55</u>	<u>12</u>	<u>660</u>	<u>7.53</u>	<u>22.2</u>	<u>385.0</u>	
<u>10:43</u>	<u>75</u>	<u>12</u>	<u>900</u>	<u>7.55</u>	<u>22.3</u>	<u>385.3</u>	
<u>11:03</u>	<u>95</u>	<u>12</u>	<u>1140</u>	<u>7.52</u>	<u>22.3</u>	<u>386.6</u>	
<u>11:23</u>	<u>115</u>	<u>12</u>	<u>1380</u>	<u>7.53</u>	<u>22.3</u>	<u>385.7</u>	
<u>11:34</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>11:28</u>	<u>poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>IVP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 8/1/18
 Well ID: POOL Weather: Clear, 90s
 ADWR No: 509518 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>313</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>212.45</u>	2	0.16
Casing Volume (gal): <u>148</u> x3 = <u>443.4</u>	4	0.65
	5	1.02
	<u>6</u>	<u>1.47</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>11:32</u>	<u>Pump On</u>						
<u>11:33</u>	<u>1</u>	—	—	<u>7.30</u>	<u>24.2</u>	<u>594.4</u>	
<u>11:34</u>	<u>2</u>	—	—	<u>7.29</u>	<u>24.0</u>	<u>593.3</u>	
<u>11:35</u>	<u>3</u>	—	—	<u>7.35</u>	<u>24.8</u>	<u>583.4</u>	
<u>11:36</u>	<u>4</u>	—	—	<u>7.47</u>	<u>24.2</u>	<u>580.9</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>POOL</u>	<u>11:38</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 checked="" type="checkbox"/> Other: <u>Per owner request - no purge</u>

Additional Comments: Ran water from spigot until well turned on, collected sample



Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/25/18
 Well ID: POWER 639 Weather: cloudy, 100%
 ADWR No: 222639 Sampler: JA

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>295.75</u>	2	0.16
Casing Volume (gal): 774 ²⁷¹ x3 = <u>813</u>	4	0.65
Total Volume Purged (gal): <u>950</u>	5	1.02
	8	1.42
	10	2.61
		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>15:00</u>	<u>Pump On</u>						
<u>15:15</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.71</u>	<u>21.2</u>	<u>472.4</u>	
<u>15:30</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.49</u>	<u>21.0</u>	<u>638.2</u>	
<u>15:45</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.40</u>	<u>20.9</u>	<u>717.8</u>	
<u>16:00</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.43</u>	<u>22.4</u>	<u>618.4</u>	
<u>16:15</u>	<u>75</u>	<u>10</u>	<u>750</u>	<u>7.38</u>	<u>20.4</u>	<u>798.3</u>	
<u>16:30</u>	<u>90</u>	<u>10</u>	<u>900</u>	<u>7.34</u>	<u>20.8</u>	<u>813.4</u>	
<u>16:33</u>	<u>93</u>	<u>10</u>	<u>930</u>	<u>7.35</u>	<u>20.8</u>	<u>814.9</u>	
<u>16:35</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>16:35</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/25/18
 Well ID: RAMIREZ Weather: cloudy
 ADWR No: 216425 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>300</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>167.71</u>	2	0.16
Casing Volume (gal): <u>195 x3 = 585</u>	4	0.65
Total Volume Purged (gal): <u>704</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>12:55</u>	<u>Pump On</u>						
<u>13:10</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.25</u>	<u>22.3</u>	<u>425.4</u>	
<u>13:25</u>	<u>30</u>	<u>11</u>	<u>330</u>	<u>7.34</u>	<u>22.2</u>	<u>424.1</u>	
<u>13:40</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.35</u>	<u>22.1</u>	<u>422.9</u>	
<u>13:55</u>	<u>60</u>	<u>11</u>	<u>660</u>	<u>7.35</u>	<u>22.1</u>	<u>420.2</u>	
<u>13:59</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>13:59</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>VP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/31/18
 Well ID: RAY Weather: Cloudy 90s
 ADWR No: 803772 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>100</u>	Casing Capacity
Casing Diameter (in):	<u>8</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>54.96</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>118</u> x3 = <u>353</u>	2 0.16
Total Volume Purged (gal):	<u>390</u>	4 0.65
		5 1.02
		6 1.47
		8 <u>2.81</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>12:10</u>	<u>Pump On</u>						
<u>12:20</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>6.83</u>	<u>19.7</u>	<u>1471</u>	
<u>12:30</u>	<u>20</u>	<u>6</u>	<u>120</u>	<u>6.88</u>	<u>19.8</u>	<u>1487</u>	
<u>12:40</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>6.88</u>	<u>20.0</u>	<u>1487</u>	
<u>12:50</u>	<u>40</u>	<u>6</u>	<u>240</u>	<u>6.89</u>	<u>19.8</u>	<u>1488</u>	
<u>13:00</u>	<u>50</u>	<u>6</u>	<u>300</u>	<u>6.90</u>	<u>19.8</u>	<u>1485</u>	
<u>13:10</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>6.89</u>	<u>19.8</u>	<u>1493</u>	
<u>13:15</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>RAY</u>	<u>13:15</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>y</u>
<u>DUP20180731</u>	<u>13:15</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>y</u>

WATER LEVEL MEASUREMENT COLLECTION

- 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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/26/18
 Well ID: ROGERS 596 Weather: partly cloudy
 ADWR No: 573596 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>290</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>142.57</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>217</u> x3 = <u>650</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>749</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>10:50</u>	<u>Pump On</u>						
<u>11:05</u>	<u>15</u>	<u>7</u>	<u>105</u>	<u>6.83</u>	<u>22.8</u>	<u>1680</u>	
<u>11:20</u>	<u>30</u>	<u>7</u>	<u>210</u>	<u>6.84</u>	<u>22.5</u>	<u>1694</u>	
<u>11:35</u>	<u>45</u>	<u>7</u>	<u>315</u>	<u>6.83</u>	<u>22.4</u>	<u>1694</u>	
<u>11:50</u>	<u>60</u>	<u>7</u>	<u>420</u>	<u>6.84</u>	<u>22.4</u>	<u>1683</u>	
<u>12:05</u>	<u>75</u>	<u>7</u>	<u>525</u>	<u>6.85</u>	<u>22.3</u>	<u>1677</u>	
<u>12:20</u>	<u>90</u>	<u>7</u>	<u>630</u>	<u>6.86</u>	<u>22.7</u>	<u>1658</u>	
<u>12:35</u>	<u>105</u>	<u>7</u>	<u>735</u>	<u>6.85</u>	<u>22.9</u>	<u>1644</u>	
<u>12:57</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 596</u>	<u>12:37</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/26/18
 Well ID: ROGERS 803 Weather: cloudy, 90s
 ADWR No: 641803 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>140</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>139.62</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>x3 =</u>	2
		4
		5
		6
		8
		10
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
<div style="font-size: 2em; opacity: 0.5; transform: rotate(-15deg);"> UNABLE TO SAMPLE </div>							
							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: Pump not working

Additional Comments: Unable to sample - pump not turning on

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/13/18
 Well ID: ROGERS E Weather: overcast, 70s
 ADWR No: 216018 Sampler: JA

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>158.53</u>	2	0.16
Casing Volume (gal): <u>186</u> x3 = <u>558</u>	4	0.65
Total Volume Purged (gal): <u>610</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>09:30</u>	<u>Pump On</u>						
<u>09:45</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.28</u>	<u>20.7</u>	<u>429.5</u>	
<u>10:00</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.32</u>	<u>20.9</u>	<u>430.7</u>	
<u>10:15</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.33</u>	<u>20.8</u>	<u>431.4</u>	
<u>10:30</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.33</u>	<u>20.8</u>	<u>430.3</u>	
<u>10:31</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: <u>SP5587</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>ROGERS E</u>	<u>10:31</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 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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/24/18
 Well ID: RUIZ Weather: Mothy, Sunny, 90s
 ADWR No: 531770 Sampler: SA

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>301.45</u>	2 0.16
Casing Volume (gal):	<u>16</u> x3 = <u>47</u>	4 0.65
Total Volume Purged (gal):	<u>66</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>12:03</u>	<u>Pump On</u>						
<u>12:08</u>	<u>5</u>	<u>3</u>	<u>15</u>	<u>6.94</u>	<u>19.5</u>	<u>826.8</u>	
<u>12:13</u>	<u>10</u>	<u>3</u>	<u>30</u>	<u>7.01</u>	<u>20.5</u>	<u>826.5</u>	
<u>12:18</u>	<u>15</u>	<u>3</u>	<u>45</u>	<u>7.01</u>	<u>20.6</u>	<u>827.5</u>	
<u>12:23</u>	<u>20</u>	<u>3</u>	<u>60</u>	<u>7.02</u>	<u>20.7</u>	<u>827.2</u>	
<u>12:25</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>RUIZ</u>	<u>12:24</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/11/18
 Well ID: SCHWARTZ Weather: partly cloudy
 ADWR No: 210865 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>305</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>131.96</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>254</u> x3 = <u>763</u>	2 0.16
Total Volume Purged (gal):	<u>830</u>	4 0.65
		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>13:30</u>	<u>Pump On</u>						
<u>13:45</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.30</u>	<u>20.5</u>	<u>609.5</u>	
<u>14:00</u>	<u>30</u>	<u>10</u>	<u>300</u>	<u>7.31</u>	<u>20.5</u>	<u>612.3</u>	
<u>14:15</u>	<u>45</u>	<u>10</u>	<u>450</u>	<u>7.29</u>	<u>20.5</u>	<u>618.3</u>	
<u>14:30</u>	<u>60</u>	<u>10</u>	<u>600</u>	<u>7.33</u>	<u>20.5</u>	<u>622.6</u>	
<u>14:45</u>	<u>75</u>	<u>10</u>	<u>750</u>	<u>7.31</u>	<u>20.4</u>	<u>625.7</u>	
<u>14:50</u>	<u>80</u>	<u>10</u>	<u>800</u>	<u>7.33</u>	<u>20.4</u>	<u>622.9</u>	
<u>14:53</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>SCHWARTZ</u>	<u>14:53</u>	<u>poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>VP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/31/18
 Well ID: SWAN Weather: Partly Cloudy, 90s
 ADWR No: NR Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>98</u>	Casing Capacity
Casing Diameter (in):	<u>4</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>42.14</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>36</u> x3 = <u>109</u>	2 0.16
Total Volume Purged (gal):	<u>238</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>13:51</u>	<u>Pump On</u>						
<u>13:56</u>	<u>5</u>	<u>14</u>	<u>70</u>	<u>7.29</u>	<u>21.0</u>	<u>549.2</u>	
<u>14:01</u>	<u>10</u>	<u>14</u>	<u>140</u>	<u>7.12</u>	<u>21.0</u>	<u>551.0</u>	
<u>14:06</u>	<u>15</u>	<u>14</u>	<u>210</u>	<u>7.10</u>	<u>20.9</u>	<u>557.7</u>	
<u>14:08</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>SWAN</u>	<u>14:08</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/25/18
 Well ID: THOMPSON 151 Weather: cloudy, 100s
 ADWR No: 612 151 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>210</u>	Casing Capacity
Casing Diameter (in):	<u>7</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>IWL</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**
- 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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/26/18
 Well ID: THOMPSON 341 Weather: Partly Cloudy, 80s
 ADWR No: 218341 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>285</u>	Casing Capacity	
Casing Diameter (in): <u>169.23 7</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>169.23</u>	2	0.16
Casing Volume (gal): <u>236 x3 = 709</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>09:38</u>	<u>Pump On</u>						
<u>09:43</u>	<u>5</u>			<u>7.22</u>	<u>21.0</u>	<u>419.4</u>	
<u>09:48</u>	<u>10</u>			<u>7.31</u>	<u>21.0</u>	<u>420.9</u>	
<u>09:53</u>	<u>15</u>			<u>7.34</u>	<u>21.0</u>	<u>420.6</u>	
<u>09:53</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>THOMPSON 341</u>	<u>09:53</u>	<u>P617</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: NO full purge per owner request - do not overflow tank - Hand filtered sample.

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-26-18
 Well ID: TM-2A Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L. Shaw

WELL DATA

Well Depth (ft bls): <u>925</u> Casing Diameter (in): <u>4"</u> Static Water Level (ft bmp): <u>337.17</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
	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: 7-16-18
 Well ID: TM-6 Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Shuman

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>163.96</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 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: SWL only

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 8-6-18
 Well ID: TM-7 Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher I Skumon

WELL DATA			Casing Capacity	
Well Depth (ft bls):	<u>350</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>NA</u> x3 =		5	1.02
Total Volume Purged (gal):	<u>NA</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>0700</u>	<u>Pump On</u>						
<u>0702</u>	<u>2</u>	<u>10</u>	<u>20</u>	<u>7.47</u>	<u>21.8</u>	<u>620</u>	
<u>0712</u>	<u>-</u>						
<u>0714</u>	<u>4</u>	<u>10</u>	<u>40</u>	<u>7.54</u>	<u>21.7</u>	<u>581</u>	
<u>0724</u>	<u>-</u>						
<u>0726</u>	<u>6</u>	<u>10</u>	<u>60</u>	<u>7.56</u>	<u>21.7</u>	<u>584</u>	
<u>0736</u>	<u>-</u>						
<u>0738</u>	<u>8</u>	<u>10</u>	<u>80</u>	<u>7.52</u>	<u>21.8</u>	<u>586</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>0838</u>	<u>PL</u>	<u>25</u>	<u>1</u>	<u>300</u>	<u>Ice</u>	<u>yes</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 checked="" type="checkbox"/> Other:

Additional Comments: Sampled per Clear Creek method

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/9/18
 Well ID: TM-10 USRP Weather: Partly cloudy, 90's
 ADWR No: 522696 Sampler: JA

WELL DATA		
Well Depth (ft bls):	<u>290</u>	Casing Capacity
Casing Diameter (in):	<u>4</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>266.18</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>15.5</u> x3 = <u>47</u>	2 ④ 5 6 8 10
Total Volume Purged (gal):	<u>66</u>	0.16 0.65 1.02 1.47 2.61 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>13:13</u>	<u>Pump On</u>						
<u>13:18</u>	<u>5</u>	<u>5</u>	<u>25</u>	<u>7.82</u>	<u>21.0</u>	<u>387.5</u>	
<u>13:23</u>	<u>10</u>	<u>1</u>	<u>30</u>	<u>7.81</u>	<u>20.6</u>	<u>388.6</u>	
<u>13:33</u>	<u>20</u>	<u>1</u>	<u>40</u>	<u>7.78</u>	<u>21.0</u>	<u>388.4</u>	
<u>13:43</u>	<u>30</u>	<u>1</u>	<u>50</u>	<u>7.90</u>	<u>22.9</u>	<u>389.5</u>	
<u>13:53</u>	<u>40</u>	<u>1</u>	<u>60</u>	<u>7.92</u>	<u>23.5</u>	<u>391.4</u>	
<u>13:59</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 USRP</u>	<u>13:58</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: Discharge fluctuates between ~0.5 gpm + ~1.5 gpm after first 5 minutes. Hand filtered sample

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 7-18-18
 Well ID: TM-15 Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Slawson

WELL DATA

Well Depth (ft bls): <u>325</u> Casing Diameter (in): <u>4"</u> Static Water Level (ft bmp): <u>301.32</u> Casing Volume (gal): <u>15.4 x3 = 46.2</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
<u>0615</u>	Pump On						
<u>0625</u>	<u>10</u>	<u>9</u>	<u>90</u>	<u>7.45</u>	<u>23.1</u>	<u>387</u>	
<u>0635</u>	<u>20</u>	<u>9</u>	<u>180</u>	<u>7.41</u>	<u>23.2</u>	<u>384</u>	
<u>0645</u>	<u>30</u>	<u>9</u>	<u>270</u>	<u>7.46</u>	<u>23.1</u>	<u>386</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>TM-15</u>	<u>0645</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300.0</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: 23.7



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 8-7-18
 Well ID: TM-16 Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): <u>115</u> Casing Diameter (in): <u>4"</u> Static Water Level (ft bmp): <u>62.44</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: 7-25-18
 Well ID: TM-19A Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Sloman

WELL DATA			Casing Capacity	
Well Depth (ft bls): <u>700</u>	Nominal Size (inches)	Gallons per Linear Foot		
Casing Diameter (in): _____	2	0.16		
Static Water Level (ft bmp): <u>208.53</u>	4	0.65		
Casing Volume (gal): <u>319.4 x3 = 958.2</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>0545</u>	Pump On						
<u>0600</u>	<u>15</u>	<u>25</u>	<u>375</u>	<u>7.48</u>	<u>24.2</u>	<u>513</u>	
<u>0610</u>	<u>25</u>	<u>25</u>	<u>625</u>	<u>7.45</u>	<u>24.1</u>	<u>510</u>	
<u>0625</u>	<u>40</u>	<u>25</u>	<u>1000</u>	<u>7.49</u>	<u>24.3</u>	<u>511</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>TM-19A</u>	<u>0625</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Icu</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: 491.5

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 8-6-18
 Well ID: TM-42 Weather: Partly Cloudy
 ADWR No: _____ Sampler: Christopher L Skumron

WELL DATA

Well Depth (ft bls): <u>250</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>221.12</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/27/18
 Well ID: TVI 236 Weather: Partly cloudy, 90s
 ADWR No: FO 2236 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>222</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>12</u>	2	0.16
Static Water Level (ft bmp): <u>130.16</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
<u>12:40</u>	<u>Pump On</u>						
<u>12:51</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>7.22</u>	<u>19.3</u>	<u>535.8</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>TVI 236</u>	<u>12:53</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 type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>Ran for 10 mins to clear drop pipe, collected sample</u>

Additional Comments: Hand filtered sample.

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/12/18
 Well ID: TVI-723 Weather: mostly sunny, 70s
 ADWR No: 567713 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>200</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>134.83</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)
<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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/12/18
 Well ID: TVI-875 Weather: Partly cloudy, 80°
 ADWR No: 568875 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>330</u>	Casing Capacity	
Casing Diameter (in):	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>5500</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>09:02</u>	<u>Pump On</u>						
<u>09:05</u>	<u>3</u>	<u>500</u>	<u>1500</u>	<u>7.15</u>	<u>20.0</u>	<u>921.8</u>	
<u>09:08</u>	<u>6</u>	<u>500</u>	<u>3000</u>	<u>7.15</u>	<u>20.0</u>	<u>933.6</u>	
<u>09:11</u>	<u>9</u>	<u>500</u>	<u>4500</u>	<u>7.16</u>	<u>20.0</u>	<u>928.8</u>	
<u>09:13</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: <u>spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TVI-875</u>	<u>09:12</u>	<u>P017</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/16/18
 Well ID: WEED Weather: cloudy, 70s
 ADWR No: 544535 Sampler: JA

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):	<u>IWL</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
<u>14:31</u>	<u>Pump On</u>						
<u>14:38</u>	<u>7</u>	<u>3*</u>	<u>21</u>	<u>7.39</u>	<u>20.5</u>	<u>385.3</u>	
<u>14:41</u>	<u>10</u>	<u>3</u>	<u>30</u>	<u>7.47</u>	<u>20.4</u>	<u>385.1</u>	
<u>14:46</u>	<u>15</u>	<u>3</u>	<u>45</u>	<u>7.49</u>	<u>20.4</u>	<u>385.1</u>	
<u>14:52</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>14:50</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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: * Greater volume than 3pm discharge to water tank

Groundwater Sampling Form

Project No: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/16/18
 Well ID: WEISKOPF 802 Weather: Cloudy, 80s
 ADWR No: 64/802 Sampler: JA

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>152.74</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)
<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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/16/18
 Well ID: WEISKOPF 897 Weather: cloudy, 80s, rain
 ADWR No: 220897 Sampler: SA

WELL DATA		
Well Depth (ft bls):	<u>1030</u>	Casing Capacity
Casing Diameter (in):	<u>5</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>152.37</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>895</u> x3 = <u>2686</u>	2 4 <u>8</u> 6 8 10
Total Volume Purged (gal):		0.16 0.65 <u>1.02</u> 1.47 2.61 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>0940</u>	<u>Pump On</u>						
<u>09:55</u>	<u>15</u>	<u>12</u>	<u>180</u>	<u>7.50</u>	<u>21.2</u>	<u>384.2</u>	
<u>10:25</u>	<u>45</u>	<u>12</u>	<u>540</u>	<u>7.53</u>	<u>22.9</u>	<u>382.4</u>	
<u>10:55</u>	<u>75</u>	<u>12</u>	<u>900</u>	<u>7.63</u>	<u>23.1</u>	<u>379.6</u>	
<u>11:25</u>	<u>105</u>	<u>12</u>	<u>1260</u>	<u>7.54</u>	<u>23.0</u>	<u>383.1</u>	
<u>11:55</u>	<u>135</u>	<u>12</u>	<u>1620</u>	<u>7.57</u>	<u>22.9</u>	<u>383.7</u>	
<u>12:25</u>	<u>165</u>	<u>12</u>	<u>1980</u>	<u>7.60</u>	<u>22.9</u>	<u>384.2</u>	
<u>12:55</u>	<u>195</u>	<u>12</u>	<u>2340</u>	<u>7.59</u>	<u>22.8</u>	<u>383.9</u>	
<u>13:25</u>	<u>225</u>	<u>12</u>	<u>2700</u>	<u>7.60</u>	<u>22.9</u>	<u>383.3</u>	
<u>13:28</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>WEISKOPF 897</u>	<u>13:26</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>VP</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: CC13.2870.30 Client: Freeport Copper Queen Branch
 Task No: 0010 Date: 7/24/18
 Well ID: ZANDER Weather: Mostly Sunny, 100%
 ADWR No: 205126 Sampler: JA

WELL DATA		
Well Depth (ft bls): <u>280</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>153.67</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>186</u> x3 = <u>557</u>	6	1.42
	8	2.61
Total Volume Purged (gal): <u>652</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>13:30</u>	<u>Pump On</u>						
<u>13:45</u>	<u>15</u>	<u>11</u>	<u>165</u>	<u>7.27</u>	<u>20.7</u>	<u>426.6</u>	
<u>14:00</u>	<u>30</u>	<u>11</u>	<u>330</u>	<u>7.28</u>	<u>20.7</u>	<u>427.2</u>	
<u>14:15</u>	<u>45</u>	<u>11</u>	<u>495</u>	<u>7.28</u>	<u>20.7</u>	<u>426.8</u>	
<u>14:30</u>	<u>60</u>	<u>11</u>	<u>660</u>	<u>7.28</u>	<u>20.7</u>	<u>427.0</u>	
<u>14:32</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>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
<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: CC18.1080.00 Client: Freeport Copper Queen Branch
 Task No: 2 Date: 10/16/18
 Well ID: NWC-04 Weather: Overcast, 50s
 ADWR No: 551849 Sampler: JA

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):		2 0.16
Casing Volume (gal):	x3 =	4 0.65
Total Volume Purged (gal):	<u>270</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>0920</u>	<u>5</u>	<u>15</u>	<u>75</u>	<u>7.37</u>	<u>23.6</u>	<u>854.4</u>	
<u>0925</u>	<u>10</u>	<u>15</u>	<u>150</u>	<u>7.40</u>	<u>23.6</u>	<u>847.7</u>	
<u>0930</u>	<u>15</u>	<u>15</u>	<u>225</u>	<u>7.40</u>	<u>23.6</u>	<u>850.1</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-04</u>	<u>0933</u>	<u>poly</u>	<u>500 mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</u>	<u>Y</u>
<u>DUP 20181016</u>	<u>12:00</u>	<u>poly</u>	<u>500 mL</u>	<u>1</u>	<u>300.0</u>	<u>MP</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



APPENDIX B
ANALYTICAL REPORTS



February 15, 2018

Chris Sherman
Freeport McMoran - Copper Queen Branch
36 W Highway 92
Bisbee, AZ 85603-1047

TEL (520) 432-6206
FAX

Work Order No.: 18A0415
Order Name: CQB

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 25 sample(s) on 01/12/2018 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
Laboratory Director

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Date Received: 01/12/2018

Order: CQB**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18A0415-01	BMO-2010-3B	Ground Water	01/08/2018 0938
18A0415-02	BMO-2010-3M	Ground Water	01/08/2018 1244
18A0415-03	TM-10 USBP	Ground Water	01/08/2018 1409
18A0415-04	DUP20180108	Ground Water	01/08/2018 1200
18A0415-05	EQB20180108	Ground Water	01/08/2018 1100
18A0415-06	FB20180108	Ground Water	01/08/2018 1100
18A0415-07	BMO-2015-2B	Ground Water	01/09/2018 0846
18A0415-08	BMO-2015-2BL	Ground Water	01/09/2018 0936
18A0415-09	BMO-2014-4B	Ground Water	01/09/2018 1053
18A0415-10	BMO-2014-4BL	Ground Water	01/09/2018 1143
18A0415-11	BMO-2015-1B	Ground Water	01/09/2018 1305
18A0415-12	BMO-2015-1BL	Ground Water	01/09/2018 1357
18A0415-13	SCHWARTZ	Ground Water	01/09/2018 1548
18A0415-14	BMO-2014-2BL	Ground Water	01/10/2018 0851
18A0415-15	BMO-2014-2BU	Ground Water	01/10/2018 0940
18A0415-16	BMO-2014-1BU	Ground Water	01/10/2018 1102
18A0415-17	BMO-2014-1BL	Ground Water	01/10/2018 1228
18A0415-18	POWER 639	Ground Water	01/10/2018 1301
18A0415-19	COB MW-2	Ground Water	01/11/2018 0820
18A0415-20	EQB20180111	Ground Water	01/11/2018 1000
18A0415-21	FB20180111	Ground Water	01/11/2018 1000
18A0415-22	COB WL	Ground Water	01/11/2018 1250
18A0415-23	BMO-2014-3BL	Ground Water	01/12/2018 0916
18A0415-24	DUP20180112	Ground Water	01/12/2018 1200
18A0415-25	BMO-2014-3BU	Ground Water	01/12/2018 1021

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Date Received: 01/12/2018

Case Narrative

This report was originally generated on 1/17/2018. It is being revised on 2/6/2018 to report additional significant figures, which were not on the original report. It is being revised again on 2/15/2018 to report to only 3 significant figures.

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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: 18A0415
Lab Sample ID: 18A0415-01

Client Sample ID: BMO-2010-3B
Collection Date/Time: 01/08/2018 0938
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	21.8	0.127	5.00		mg/L	1	01/12/2018 1625	01/12/2018 1918	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-02

Client Sample ID: BMO-2010-3M
Collection Date/Time: 01/08/2018 1244
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	9.69	0.127	5.00		mg/L	1	01/12/2018 1625	01/12/2018 1937	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-03

Client Sample ID: TM-10 USBP
Collection Date/Time: 01/08/2018 1409
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	6.80	0.127	5.00		mg/L	1	01/12/2018 1625	01/12/2018 1955	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-04

Client Sample ID: DUP20180108
Collection Date/Time: 01/08/2018 1200
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	21.1	0.127	5.00		mg/L	1	01/12/2018 1625	01/12/2018 2014	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-05

Client Sample ID: EQB20180108
Collection Date/Time: 01/08/2018 1100
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	0.787	0.127	5.00	E4	mg/L	1	01/12/2018 1625	01/12/2018 2032	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-06

Client Sample ID: FB20180108
Collection Date/Time: 01/08/2018 1100
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	0.740	0.127	5.00	E4	mg/L	1	01/12/2018 1625	01/12/2018 2051	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-07

Client Sample ID: BMO-2015-2B
Collection Date/Time: 01/09/2018 0846
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	276	3.18	125		mg/L	25	01/15/2018 1130	01/15/2018 1556	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-08

Client Sample ID: BMO-2015-2BL
Collection Date/Time: 01/09/2018 0936
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	320	3.18	125		mg/L	25	01/15/2018 1130	01/15/2018 1709	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-09

Client Sample ID: BMO-2014-4B
Collection Date/Time: 01/09/2018 1053
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	64.7	0.635	25.0		mg/L	5	01/15/2018 1130	01/15/2018 1728	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-10

Client Sample ID: BMO-2014-4BL
Collection Date/Time: 01/09/2018 1143
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	183	2.54	100		mg/L	20	01/15/2018 1130	01/15/2018 1746	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-11

Client Sample ID: BMO-2015-1B
Collection Date/Time: 01/09/2018 1305
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	203	2.54	100		mg/L	20	01/15/2018 1130	01/15/2018 1805	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-12

Client Sample ID: BMO-2015-1BL
Collection Date/Time: 01/09/2018 1357
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	251	3.18	125		mg/L	25	01/15/2018 1130	01/15/2018 1823	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-13

Client Sample ID: SCHWARTZ
Collection Date/Time: 01/09/2018 1548
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	97.2	0.635	25.0		mg/L	5	01/15/2018 1130	01/15/2018 1842	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-14

Client Sample ID: BMO-2014-2BL
Collection Date/Time: 01/10/2018 0851
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	448	6.35	250		mg/L	50	01/16/2018 0940	01/16/2018 1332	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-15

Client Sample ID: BMO-2014-2BU
Collection Date/Time: 01/10/2018 0940
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	57.0	0.635	25.0		mg/L	5	01/16/2018 0940	01/16/2018 1351	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-16

Client Sample ID: BMO-2014-1BU
Collection Date/Time: 01/10/2018 1102
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	158	1.27	50.0		mg/L	10	01/16/2018 0940	01/16/2018 1409	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-17

Client Sample ID: BMO-2014-1BL
Collection Date/Time: 01/10/2018 1228
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	159	1.27	50.0		mg/L	10	01/15/2018 1130	01/15/2018 2051	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-18

Client Sample ID: POWER 639
Collection Date/Time: 01/10/2018 1301
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	191	2.54	100		mg/L	20	01/15/2018 1130	01/15/2018 2109	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-19

Client Sample ID: COB MW-2
Collection Date/Time: 01/11/2018 0820
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	36.1	0.127	5.00		mg/L	1	01/12/2018 1625	01/13/2018 0146	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-20

Client Sample ID: EQB20180111
Collection Date/Time: 01/11/2018 1000
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	0.668	0.127	5.00	E4	mg/L	1	01/12/2018 1625	01/13/2018 0204	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-21

Client Sample ID: FB20180111
Collection Date/Time: 01/11/2018 1000
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	ND	0.127	5.00	E8	mg/L	1	01/12/2018 1625	01/13/2018 0318	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-22

Client Sample ID: COB WL
Collection Date/Time: 01/11/2018 1250
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	77.3	0.635	25.0		mg/L	5	01/15/2018 1130	01/15/2018 2128	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-23

Client Sample ID: BMO-2014-3BL
Collection Date/Time: 01/12/2018 0916
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	8.25	0.127	5.00		mg/L	1	01/12/2018 1625	01/13/2018 0355	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-24

Client Sample ID: DUP20180112
Collection Date/Time: 01/12/2018 1200
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	8.25	0.127	5.00		mg/L	1	01/12/2018 1625	01/13/2018 0413	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0415
Lab Sample ID: 18A0415-25

Client Sample ID: BMO-2014-3BU
Collection Date/Time: 01/12/2018 1021
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	8.06	0.127	5.00		mg/L	1	01/12/2018 1625	01/13/2018 0432	AP

Client: Freeport McMoran - Copper Queen Branch
 Project: CQB
 Work Order: 18A0415
 Date Received: 01/12/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1801126 - IC PREP										
Blank (1801126-BLK1)				Prepared & Analyzed: 01/12/2018						
Sulfate	0.631	5.00	mg/L							
LCS (1801126-BS1)				Prepared & Analyzed: 01/12/2018						
Sulfate	12.3	5.00	mg/L	12.50		98	90-110			
LCS Dup (1801126-BSD1)				Prepared & Analyzed: 01/12/2018						
Sulfate	12.5	5.00	mg/L	12.50		100	90-110	1	10	
Matrix Spike (1801126-MS2)				Source: 18A0405-03RE1		Prepared & Analyzed: 01/12/2018				
Sulfate	18.3		mg/L	12.50	6.29	96	80-120			
Matrix Spike (1801126-MS3)				Source: 18A0405-01RE2		Prepared: 01/12/2018 Analyzed: 01/13/2018				
Sulfate	24.0		mg/L	12.50	11.5	100	80-120			
Matrix Spike (1801126-MS4)				Source: 18A0405-02RE2		Prepared: 01/12/2018 Analyzed: 01/13/2018				
Sulfate	29.7		mg/L	12.50	16.9	103	80-120			
Matrix Spike (1801126-MS5)				Source: 18A0415-05		Prepared & Analyzed: 01/15/2018				
Sulfate	12.9	5.00	mg/L	12.50	0.787	97	80-120			
Matrix Spike Dup (1801126-MSD2)				Source: 18A0405-03RE1		Prepared & Analyzed: 01/12/2018				
Sulfate	18.5		mg/L	12.50	6.29	98	80-120	1	10	
Matrix Spike Dup (1801126-MSD3)				Source: 18A0405-01RE2		Prepared: 01/12/2018 Analyzed: 01/13/2018				
Sulfate	24.3		mg/L	12.50	11.5	102	80-120	1	10	
Matrix Spike Dup (1801126-MSD4)				Source: 18A0405-02RE2		Prepared: 01/12/2018 Analyzed: 01/13/2018				
Sulfate	29.9		mg/L	12.50	16.9	104	80-120	0.6	10	
Matrix Spike Dup (1801126-MSD5)				Source: 18A0415-05		Prepared & Analyzed: 01/15/2018				
Sulfate	12.8	5.00	mg/L	12.50	0.787	96	80-120	0.4	10	



February 15, 2018

Chris Sherman
Freeport McMoran - Copper Queen Branch
36 W Highway 92
Bisbee, AZ 85603-1047

TEL (520) 432-6206
FAX

Work Order No.: 18A0521
Order Name: CQB

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 17 sample(s) on 01/19/2018 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
Laboratory Director

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Date Received: 01/19/2018

Order: CQB**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18A0521-01	NWC-04	Ground Water	01/16/2018 0726
18A0521-02	NWC-06	Ground Water	01/16/2018 0826
18A0521-03	NWC-02	Ground Water	01/16/2018 0904
18A0521-04	COOPER	Ground Water	01/16/2018 1123
18A0521-05	RUIZ	Ground Water	01/16/2018 1227
18A0521-06	WEED	Ground Water	01/16/2018 1403
18A0521-07	AWC-05	Ground Water	01/17/2018 0904
18A0521-08	AWC-03	Ground Water	01/17/2018 0933
18A0521-09	AWC-04	Ground Water	01/17/2018 1003
18A0521-10	AWC-02	Ground Water	01/17/2018 1212
18A0521-11	DODSON	Ground Water	01/17/2018 1340
18A0521-12	TVI 236	Ground Water	01/17/2018 1447
18A0521-13	PANAGAKOS	Ground Water	01/18/2018 1214
18A0521-14	ROGERS 596	Ground Water	01/18/2018 1549
18A0521-15	FB20180118	Ground Water	01/18/2018 1130
18A0521-16	EQB20180118	Ground Water	01/18/2018 1130
18A0521-17	DUP20180118	Ground Water	01/18/2018 1400

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Date Received: 01/19/2018

Case Narrative

This report was originally generated on 2/2/2018. It is being revised on 2/6/2018 to report additional significant figures, which were not on the original report. It is being revised again on 2/15/2018 to report to only 3 significant figures.

E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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: 18A0521
Lab Sample ID: 18A0521-01

Client Sample ID: NWC-04
Collection Date/Time: 01/16/2018 0726
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	181	1.27	50.0		mg/L	10	01/19/2018 1620	01/19/2018 2108	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-02

Client Sample ID: NWC-06
Collection Date/Time: 01/16/2018 0826
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	8.85	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1308	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-03

Client Sample ID: NWC-02
Collection Date/Time: 01/16/2018 0904
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	6.76	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1327	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-04

Client Sample ID: COOPER
Collection Date/Time: 01/16/2018 1123
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	26.1	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1345	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-05

Client Sample ID: RUIZ
Collection Date/Time: 01/16/2018 1227
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	185	1.27	50.0		mg/L	10	01/19/2018 1620	01/19/2018 2127	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-06

Client Sample ID: WEED
Collection Date/Time: 01/16/2018 1403
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	14.0	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1422	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-07

Client Sample ID: AWC-05
Collection Date/Time: 01/17/2018 0904
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	20.2	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1536	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-08

Client Sample ID: AWC-03
Collection Date/Time: 01/17/2018 0933
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	57.0	0.635	25.0		mg/L	5	01/19/2018 1620	01/19/2018 2145	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-09

Client Sample ID: AWC-04
Collection Date/Time: 01/17/2018 1003
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	38.6	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1613	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-10

Client Sample ID: AWC-02
Collection Date/Time: 01/17/2018 1212
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	13.0	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1631	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-11

Client Sample ID: DODSON
Collection Date/Time: 01/17/2018 1340
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	45.4	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1650	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-12

Client Sample ID: TVI 236
Collection Date/Time: 01/17/2018 1447
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	29.5	0.127	5.00		mg/L	1	01/19/2018 1111	01/19/2018 1708	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-13

Client Sample ID: PANAGAKOS
Collection Date/Time: 01/18/2018 1214
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	223	1.27	50.0		mg/L	10	01/22/2018 0930	01/22/2018 1440	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-14

Client Sample ID: ROGERS 596
Collection Date/Time: 01/18/2018 1549
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	655	3.18	125		mg/L	25	01/22/2018 0930	01/22/2018 1458	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-15

Client Sample ID: FB20180118
Collection Date/Time: 01/18/2018 1130
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	ND	0.127	5.00	E8	mg/L	1	01/19/2018 1111	01/19/2018 1804	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-16

Client Sample ID: EQB20180118
Collection Date/Time: 01/18/2018 1130
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	ND	0.127	5.00	E8	mg/L	1	01/19/2018 1111	01/19/2018 1822	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Lab Sample ID: 18A0521-17

Client Sample ID: DUP20180118
Collection Date/Time: 01/18/2018 1400
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	226	2.54	100		mg/L	20	01/22/2018 0930	01/22/2018 1517	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18A0521
Date Received: 01/19/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1801201 - IC PREP										
Blank (1801201-BLK1)				Prepared & Analyzed: 01/19/2018						
Sulfate	ND	5.00	mg/L							
LCS (1801201-BS1)				Prepared & Analyzed: 01/19/2018						
Sulfate	12.8	5.00	mg/L	12.50		102	90-110			
LCS Dup (1801201-BSD1)				Prepared & Analyzed: 01/19/2018						
Sulfate	12.0	5.00	mg/L	12.50		96	90-110	6	10	
Matrix Spike (1801201-MS1)				Source: 18A0520-01		Prepared & Analyzed: 01/19/2018				
Sulfate	30.7	5.00	mg/L	12.50	19.6	89	80-120			
Matrix Spike (1801201-MS2)				Source: 18A0521-06		Prepared & Analyzed: 01/19/2018				
Sulfate	25.7	5.00	mg/L	12.50	14.0	94	80-120			
Matrix Spike Dup (1801201-MSD1)				Source: 18A0520-01		Prepared & Analyzed: 01/19/2018				
Sulfate	30.9	5.00	mg/L	12.50	19.6	90	80-120	0.5	10	
Matrix Spike Dup (1801201-MSD2)				Source: 18A0521-06		Prepared & Analyzed: 01/19/2018				
Sulfate	25.6	5.00	mg/L	12.50	14.0	93	80-120	0.2	10	



March 09, 2018

Chris Sherman
Freeport McMoran - Copper Queen Branch
36 W Highway 92
Bisbee, AZ 85603-1047

TEL (520) 432-6206
FAX

Work Order No.: 18B0618
Order Name: CQB

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 2 sample(s) on 02/23/2018 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

Kevin Brim
Project Manager

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18B0618
Date Received: 02/23/2018

Order: CQB

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18B0618-01	Rogers E	Ground Water	02/23/2018 1147
18B0618-02	Keefer	Ground Water	02/23/2018 1259

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18B0618
Date Received: 02/23/2018

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: 18B0618
Lab Sample ID: 18B0618-01

Client Sample ID: Rogers E
Collection Date/Time: 02/23/2018 1147
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	6.2	0.13	5.0		mg/L	1	03/01/2018 0911	03/01/2018 1250	AP

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18B0618
Lab Sample ID: 18B0618-02

Client Sample ID: Keefer
Collection Date/Time: 02/23/2018 1259
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	6.6	0.13	5.0		mg/L	1	03/01/2018 0911	03/01/2018 1308	AP

Client: Freeport McMoran - Copper Queen Branch
 Project: CQB
 Work Order: 18B0618
 Date Received: 02/23/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803003 - E300.0 (2.1)										
Blank (1803003-BLK1)				Prepared & Analyzed: 03/01/2018						
Sulfate	0.50	5.0	mg/L							
LCS (1803003-BS1)				Prepared & Analyzed: 03/01/2018						
Sulfate	12	5.0	mg/L	12.50		95	90-110			
LCS Dup (1803003-BSD1)				Prepared & Analyzed: 03/01/2018						
Sulfate	12	5.0	mg/L	12.50		95	90-110	0.08	10	
Matrix Spike (1803003-MS1)				Source: 18B0664-01		Prepared & Analyzed: 03/01/2018				
Sulfate	15	5.0	mg/L	12.50	3.6	90	80-120			
Matrix Spike (1803003-MS2)				Source: 18C0053-02		Prepared & Analyzed: 03/01/2018				
Sulfate	12	5.0	mg/L	12.50	ND	96	80-120			
Matrix Spike Dup (1803003-MSD1)				Source: 18B0664-01		Prepared & Analyzed: 03/01/2018				
Sulfate	15	5.0	mg/L	12.50	3.6	90	80-120	0.3	10	
Matrix Spike Dup (1803003-MSD2)				Source: 18C0053-02		Prepared & Analyzed: 03/01/2018				
Sulfate	12	5.0	mg/L	12.50	ND	96	80-120	0.08	10	



Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2008-6M	X8B0254-01	Ground Water	08-Feb-18 08:50	CLS	15-Feb-2018	
BMO-2008-6B	X8B0254-02	Ground Water	08-Feb-18 10:00	CLS	15-Feb-2018	
BMO-2008-5M	X8B0254-03	Ground Water	08-Feb-18 11:30	CLS	15-Feb-2018	
BMO-2008-5B	X8B0254-04	Ground Water	08-Feb-18 12:00	CLS	15-Feb-2018	
BMO-2008-3B	X8B0254-05	Ground Water	08-Feb-18 13:20	CLS	15-Feb-2018	
BMO-2008-11G	X8B0254-06	Ground Water	12-Feb-18 09:20	CLS	15-Feb-2018	
TM-7	X8B0254-07	Ground Water	12-Feb-18 11:06	CLS	15-Feb-2018	
BMO-2012-1M	X8B0254-08	Ground Water	13-Feb-18 10:20	CLS	15-Feb-2018	
BMO-2008-1G	X8B0254-09	Ground Water	14-Feb-18 08:20	CLS	15-Feb-2018	
DUP-021418	X8B0254-10	Ground Water	14-Feb-18 08:20	CLS	15-Feb-2018	

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.



One Government Gulch - PO Box 929

Kellogg, ID 83837-0929

(208) 784-1258

www.svl.net

Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **BMO-2008-6M**

Sampled: 08-Feb-18 08:50

SVL Sample ID: **X8B0254-01 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	244	mg/L	3.00	1.10	10	X808056	SMB	03/05/18 18:33	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg, ID 83837-0929

(208) 784-1258

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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **BMO-2008-6B**

Sampled: 08-Feb-18 10:00

SVL Sample ID: **X8B0254-02 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	13.3	mg/L	0.30	0.11		X808056	SMB	03/05/18 18:48	
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **BMO-2008-5M**

Sampled: 08-Feb-18 11:30

SVL Sample ID: **X8B0254-03 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	168	mg/L	3.00	1.10	10	X808056	SMB	03/05/18 19:33	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **BMO-2008-5B**

Sampled: 08-Feb-18 12:00

SVL Sample ID: **X8B0254-04 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	267	mg/L	3.00	1.10	10	X808056	SMB	03/05/18 19:48	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg, ID 83837-0929

(208) 784-1258

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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **BMO-2008-3B**

Sampled: 08-Feb-18 13:20

SVL Sample ID: **X8B0254-05 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	150	mg/L	3.00	1.10	10	X808056	SMB	03/05/18 20:04	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **BMO-2008-11G**

Sampled: 12-Feb-18 09:20

SVL Sample ID: **X8B0254-06 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	13.1	mg/L	0.30	0.11		X808056	SMB	03/05/18 20:19	
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg, ID 83837-0929

(208) 784-1258

www.svl.net

Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **TM-7**

Sampled: 12-Feb-18 11:06

SVL Sample ID: **X8B0254-07 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	133	mg/L	3.00	1.10	10	X808056	SMB	03/05/18 21:04	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **BMO-2012-1M**

Sampled: 13-Feb-18 10:20

SVL Sample ID: **X8B0254-08 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	237	mg/L	3.00	1.10	10	X808056	SMB	03/05/18 21:19	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **BMO-2008-1G**

Sampled: 14-Feb-18 08:20

SVL Sample ID: **X8B0254-09 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	112	mg/L	3.00	1.10	10	X808056	SMB	03/06/18 08:32	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8B0254**

Reported: 06-Mar-18 16:25

Client Sample ID: **DUP-021418**

Sampled: 14-Feb-18 08:20

SVL Sample ID: **X8B0254-10 (Ground Water)**

Received: 15-Feb-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	115	mg/L	3.00	1.10	10	X808056	SMB	03/05/18 21:49	D2
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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: **X8B0254**
Reported: 06-Mar-18 16:25

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.11	0.30	X808056	05-Mar-18	
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Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.6	10.0	106	90 - 110	X808056	05-Mar-18	
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Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Recovery	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	24.3	13.3	10.0	110	90 - 110	X808056	05-Mar-18	
EPA 300.0	Sulfate as SO4	mg/L	31.9	21.0	10.0	109	90 - 110	X808056	05-Mar-18	

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	% Rec.	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	24.4	24.3	10.0	111	0.4	20	X808056	05-Mar-18	M1
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Notes and Definitions

- D2 Sample required dilution due to high concentration of target analyte.
- M1 Matrix spike recovery was high, but the LCS recovery was acceptable.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- 0.30R>S % recovery not applicable; spike level is less than 30% of the sample concentration
- <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: **X8C0163**

Reported: 14-Mar-18 14:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2008-5B	X8C0163-01	Ground Water	08-Mar-18 07:25	CLS	09-Mar-2018	
DUP-030818	X8C0163-02	Ground Water	08-Mar-18 07:25	CLS	09-Mar-2018	
FIELD BLANK	X8C0163-03	Ground Water	08-Mar-18 07:30	CLS	09-Mar-2018	
EQUIPMENT BLANK	X8C0163-04	Ground Water	08-Mar-18 07:35	CLS	09-Mar-2018	

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.



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8C0163**

Reported: 14-Mar-18 14:54

Client Sample ID: **BMO-2008-5B**

Sampled: 08-Mar-18 07:25

SVL Sample ID: **X8C0163-01 (Ground Water)**

Received: 09-Mar-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	246	mg/L	3.00	1.80	10	X811111	DJS	03/14/18 04:40	D2,M3
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8C0163**

Reported: 14-Mar-18 14:54

Client Sample ID: **DUP-030818**

Sampled: 08-Mar-18 07:25

SVL Sample ID: **X8C0163-02 (Ground Water)**

Received: 09-Mar-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	246	mg/L	3.00	1.80	10	X811111	DJS	03/14/18 05:26	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8C0163**

Reported: 14-Mar-18 14:54

Client Sample ID: **FIELD BLANK**

Sampled: 08-Mar-18 07:30

SVL Sample ID: **X8C0163-03 (Ground Water)**

Received: 09-Mar-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.18		X809152	DJS	03/14/18 02:10	
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8C0163**

Reported: 14-Mar-18 14:54

Client Sample ID: **EQUIPMENT BLANK**

Sampled: 08-Mar-18 07:35

SVL Sample ID: **X8C0163-04 (Ground Water)**

Received: 09-Mar-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.18		X811111	DJS	03/14/18 04:25	
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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: **X8C0163**
 Reported: 14-Mar-18 14:54

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X809152	13-Mar-18	
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X811111	14-Mar-18	
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Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	X809152	13-Mar-18	
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	90 - 110	X811111	14-Mar-18	
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Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Recovery	Acceptance Limits	Batch ID	Analyzed	Notes
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Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	33.3	22.3	10.0	110	90 - 110	X809152	14-Mar-18	
EPA 300.0	Sulfate as SO4	mg/L	170	158	10.0	0.30R>S	90 - 110	X809152	14-Mar-18	D2,M3

Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	252	246	10.0	0.30R>S	90 - 110	X811111	14-Mar-18	D2,M3
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Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	% Rec.	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	33.4	33.3	10.0	111	0.4	20	X809152	14-Mar-18	M1
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	254	252	10.0	0.30R>S	0.7	20	X811111	14-Mar-18	D2,M3
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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8C0163**

Reported: 14-Mar-18 14:54

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
M1	Matrix spike recovery was high, but the LCS recovery was acceptable.
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
0.30R>S	% recovery not applicable; spike level is less than 30% of the sample concentration
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable



May 08, 2018

Chris Sherman
Freeport McMoran - Copper Queen Branch
36 W Highway 92
Bisbee, AZ 85603-1047

TEL (520) 432-6206
FAX

Work Order No.: 18E0070
Order Name: CQB Quarterly #
CC13.2870.30

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 1 sample(s) on 05/02/2018 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
Laboratory Director

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18E0070
Date Received: 05/02/2018

Order: CQB Quarterly # CC13.2870.30

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18E0070-01	NWC-04	Ground Water	05/02/2018 0926

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18E0070
Date Received: 05/02/2018

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: 18E0070
Lab Sample ID: 18E0070-01

Client Sample ID: NWC-04
Collection Date/Time: 05/02/2018 0926
Matrix: Ground Water
Order Name: CQB Quarterly # CC13.2870.30

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	192	1.27	50.0		mg/L	10	05/02/2018 1425	05/02/2018 1700	AP

Client: Freeport McMoran - Copper Queen Branch
 Project: CQB
 Work Order: 18E0070
 Date Received: 05/02/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1805013 - E300.0 (2.1)										
Blank (1805013-BLK1)				Prepared & Analyzed: 05/02/2018						
Sulfate	1.19	5.00	mg/L							
LCS (1805013-BS1)				Prepared & Analyzed: 05/02/2018						
Sulfate	12.4	5.00	mg/L	12.50		99	90-110			
LCS Dup (1805013-BSD1)				Prepared & Analyzed: 05/02/2018						
Sulfate	12.4	5.00	mg/L	12.50		99	90-110	0.3	10	
Matrix Spike (1805013-MS1)				Source: 18E0073-01		Prepared & Analyzed: 05/02/2018				
Sulfate	12.9	5.00	mg/L	12.50	1.74	89	80-120			
Matrix Spike Dup (1805013-MSD1)				Source: 18E0073-01		Prepared & Analyzed: 05/02/2018				
Sulfate	13.1	5.00	mg/L	12.50	1.74	91	80-120	1	10	



Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8D0224**

Reported: 19-Apr-18 09:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2008-5B	X8D0224-01	Ground Water	11-Apr-18 06:55	CLS	12-Apr-2018	

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.

Analyses were performed in accordance with SVL standard operating procedures and calibrations were performed and met SVL internal QC criteria.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



One Government Gulch - PO Box 929

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(208) 784-1258

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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8D0224**

Reported: 19-Apr-18 09:51

Client Sample ID: **BMO-2008-5B**

Sampled: 11-Apr-18 06:55

SVL Sample ID: **X8D0224-01 (Ground Water)**

Received: 12-Apr-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	240	mg/L	3.00	1.80	10	X815258	SMB	04/16/18 08:14	D2
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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: **X8D0224**
Reported: 19-Apr-18 09:51

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X815258	16-Apr-18	
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Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	9.90	10.0	99.0	90 - 110	X815258	16-Apr-18	
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Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Recovery	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	251	240	10.0	110	90 - 110	X815258	16-Apr-18	D2
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Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	% Rec.	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	251	251	10.0	105	0.2	20	X815258	16-Apr-18	D2
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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
- 0.30R>S % recovery not applicable; spike level is less than 30% of the sample concentration
- <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: **X8E0696**

Reported: 12-Jun-18 09:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2008-5B	X8E0696-01	Ground Water	29-May-18 07:40	CLS	30-May-2018	

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.

Analyses were performed in accordance with SVL standard operating procedures and calibrations were performed and met SVL internal QC criteria.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



One Government Gulch - PO Box 929

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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8E0696**

Reported: 12-Jun-18 09:44

Client Sample ID: **BMO-2008-5B**

Sampled: 29-May-18 07:40

SVL Sample ID: **X8E0696-01 (Ground Water)**

Received: 30-May-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	262	mg/L	3.00	1.80	10	X822259	SMB	06/04/18 14:57	D2,M3
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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: **X8E0696**
Reported: 12-Jun-18 09:44

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X822259	04-Jun-18	
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Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	90 - 110	X822259	04-Jun-18	
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Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Recovery	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	267	262	10.0	0.30R>S	90 - 110	X822259	04-Jun-18	D2,M3
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Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	% Rec.	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	268	267	10.0	0.30R>S	0.5	20	X822259	04-Jun-18	D2,M3
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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
- 0.30R>S % recovery not applicable; spike level is less than 30% of the sample concentration
- <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: **X8F0580**

Reported: 11-Jul-18 14:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2008-5B	X8F0580-01	Ground Water	19-Jun-18 11:25	CLS	26-Jun-2018	

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.

Analyses were performed in accordance with SVL standard operating procedures and calibrations were performed and met SVL internal QC criteria.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative: X8F0580

Idaho only accredits for drinking water methods.



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(208) 784-1258

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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8F0580**

Reported: 11-Jul-18 14:56

Client Sample ID: **BMO-2008-5B**

Sampled: 19-Jun-18 11:25

SVL Sample ID: **X8F0580-01 (Ground Water)**

Received: 26-Jun-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	252	mg/L	3.00	1.80	10	X826155	SMB	06/29/18 13:34	D2,M4
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager



Freeport McMoRan - Bisbee
 36 West Hwy 92
 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8F0580**
 Reported: 11-Jul-18 14:56

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X826155	29-Jun-18	
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Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.1	10.0	101	90 - 110	X826155	29-Jun-18	
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Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Recovery	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	261	252	10.0	92.9	90 - 110	X826155	29-Jun-18	D2
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Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	% Rec.	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	263	261	10.0	0.30R>S	1.0	20	X826155	29-Jun-18	D2,M4
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Notes and Definitions

- D2 Sample required dilution due to high concentration of target analyte.
- M4 The analysis of the spiked sample required a dilution such that the spike recovery calculation does not provide useful information. The LCS recovery was acceptable.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- 0.30R>S % recovery not applicable; spike level is less than 30% of the sample concentration
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



September 05, 2018

Chris Sherman
Freeport McMoran - Copper Queen Branch
36 W Highway 92
Bisbee, AZ 85603-1047

TEL (520) 432-6206
FAX

Work Order No.: 18G0428
Order Name: CQB

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 27 sample(s) on 07/13/2018 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

Elizabeth Kasik
Laboratory Director

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Date Received: 07/13/2018

Order: CQB

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18G0428-01	COB WL	Ground Water	07/09/2018 1203
18G0428-02	FB20180709	Ground Water	07/09/2018 1105
18G0428-03	EQB20180709	Ground Water	07/09/2018 1106
18G0428-04	DUP20180709	Ground Water	07/09/2018 1200
18G0428-05	TM-10 USBP	Ground Water	07/09/2018 1358
18G0428-06	Keefers	Ground Water	07/09/2018 1530
18G0428-07	BMO-2010-3B	Ground Water	07/10/2018 1042
18G0428-08	BMO-2010-3M	Ground Water	07/10/2018 1410
18G0428-09	BMO-2015-2B	Ground Water	07/11/2018 0807
18G0428-10	BMO-2015-2BL	Ground Water	07/11/2018 0905
18G0428-11	BMO-2014-4BL	Ground Water	07/11/2018 1017
18G0428-12	BMO-2014-4B	Ground Water	07/11/2018 1059
18G0428-13	BMO-2015-1B	Ground Water	07/11/2018 1214
18G0428-14	BMO-2015-1BL	Ground Water	07/11/2018 1300
18G0428-15	SCHWARTZ	Ground Water	07/11/2018 1453
18G0428-16	BMO-2014-2BL	Ground Water	07/12/2018 0810
18G0428-17	BMO-2014-2BU	Ground Water	07/12/2018 0850
18G0428-18	TVI-875	Ground Water	07/12/2018 0912
18G0428-19	BMO-2014-1BU	Ground Water	07/12/2018 1016
18G0428-20	BMO-2014-1BL	Ground Water	07/12/2018 1139
18G0428-21	BMO-2014-3BL	Ground Water	07/12/2018 1338
18G0428-22	BMO-2014-3BU	Ground Water	07/12/2018 1421
18G0428-23	Rogers E	Ground Water	07/13/2018 1031
18G0428-24	Olmos	Ground Water	07/13/2018 1218
18G0428-25	DUP20180713	Ground Water	07/13/2018 1200
18G0428-26	FB20180713	Ground Water	07/13/2018 1200
18G0428-27	EQB20180713	Ground Water	07/13/2018 1200

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Date Received: 07/13/2018

Case Narrative

This report has been revised to report results in three significant figures.

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

Turner Laboratories, Inc.**Date: 09/05/2018**

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-01

Client Sample ID: COB WL
Collection Date/Time: 07/09/2018 1203
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	73.0	0.254	10.0		mg/L	2	07/23/2018 1730	07/23/2018 1928	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-02

Client Sample ID: FB20180709
Collection Date/Time: 07/09/2018 1105
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	0.638	0.127	5.00	E4	mg/L	1	07/16/2018 1700	07/16/2018 1907	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-03

Client Sample ID: EQB20180709
Collection Date/Time: 07/09/2018 1106
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	0.637	0.127	5.00	E4	mg/L	1	07/16/2018 1700	07/16/2018 1925	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-04

Client Sample ID: DUP20180709
Collection Date/Time: 07/09/2018 1200
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	74.5	0.254	10.0		mg/L	2	07/23/2018 1730	07/23/2018 1947	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-05

Client Sample ID: TM-10 USBP
Collection Date/Time: 07/09/2018 1358
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	8.65	0.127	5.00		mg/L	1	07/16/2018 1700	07/16/2018 2002	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-06

Client Sample ID: Keefer
Collection Date/Time: 07/09/2018 1530
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	6.25	0.127	5.00		mg/L	1	07/16/2018 1700	07/16/2018 2021	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-07

Client Sample ID: BMO-2010-3B
Collection Date/Time: 07/10/2018 1042
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	16.0	0.127	5.00		mg/L	1	07/16/2018 1700	07/16/2018 2039	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-08

Client Sample ID: BMO-2010-3M
Collection Date/Time: 07/10/2018 1410
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	9.17	0.127	5.00		mg/L	1	07/16/2018 1700	07/16/2018 2057	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-09

Client Sample ID: BMO-2015-2B
Collection Date/Time: 07/11/2018 0807
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	261	1.27	50.0		mg/L	10	07/23/2018 1730	07/23/2018 2005	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-10

Client Sample ID: BMO-2015-2BL
Collection Date/Time: 07/11/2018 0905
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	307	1.27	50.0		mg/L	10	07/23/2018 1730	07/23/2018 2024	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-11

Client Sample ID: BMO-2014-4BL
Collection Date/Time: 07/11/2018 1017
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	187	1.27	50.0		mg/L	10	07/16/2018 1700	07/27/2018 1951	MR

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-12

Client Sample ID: BMO-2014-4B
Collection Date/Time: 07/11/2018 1059
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	47.4	0.127	5.00		mg/L	1	07/19/2018 0840	07/19/2018 1858	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-13

Client Sample ID: BMO-2015-1B
Collection Date/Time: 07/11/2018 1214
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	194	1.27	50.0		mg/L	10	07/19/2018 0840	07/26/2018 0114	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-14

Client Sample ID: BMO-2015-1BL
Collection Date/Time: 07/11/2018 1300
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	253	1.27	50.0		mg/L	10	07/19/2018 0840	07/29/2018 2046	MH

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-15

Client Sample ID: SCHWARTZ
Collection Date/Time: 07/11/2018 1453
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	96.2	0.635	25.0		mg/L	5	07/19/2018 0840	07/29/2018 2104	MH

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-16

Client Sample ID: BMO-2014-2BL
Collection Date/Time: 07/12/2018 0810
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	445	2.54	100		mg/L	20	07/19/2018 0840	07/29/2018 2123	MH

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-17

Client Sample ID: BMO-2014-2BU
Collection Date/Time: 07/12/2018 0850
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	55.6	0.254	10.0		mg/L	2	07/19/2018 0840	07/29/2018 2141	MH

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-18

Client Sample ID: TVI-875
Collection Date/Time: 07/12/2018 0912
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	309	2.54	100		mg/L	20	07/19/2018 0840	07/29/2018 2159	MH

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-19

Client Sample ID: BMO-2014-1BU
Collection Date/Time: 07/12/2018 1016
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	181	1.27	50.0		mg/L	10	07/19/2018 0840	07/30/2018 2324	MH

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-20

Client Sample ID: BMO-2014-1BL
Collection Date/Time: 07/12/2018 1139
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	163	1.27	50.0		mg/L	10	07/19/2018 0840	07/30/2018 2343	MR

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-21

Client Sample ID: BMO-2014-3BL
Collection Date/Time: 07/12/2018 1338
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	7.71	0.127	5.00		mg/L	1	07/19/2018 0840	07/19/2018 2239	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-22

Client Sample ID: BMO-2014-3BU
Collection Date/Time: 07/12/2018 1421
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	7.95	0.127	5.00		mg/L	1	07/19/2018 0840	07/19/2018 2258	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-23

Client Sample ID: Rogers E
Collection Date/Time: 07/13/2018 1031
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	6.32	0.127	5.00		mg/L	1	07/19/2018 0840	07/19/2018 2316	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-24

Client Sample ID: Olmos
Collection Date/Time: 07/13/2018 1218
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	7.58	0.127	5.00		mg/L	1	07/19/2018 0840	07/19/2018 2334	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-25

Client Sample ID: DUP20180713
Collection Date/Time: 07/13/2018 1200
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	7.46	0.127	5.00		mg/L	1	07/19/2018 0840	07/19/2018 2353	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-26

Client Sample ID: FB20180713
Collection Date/Time: 07/13/2018 1200
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	0.527	0.127	5.00		mg/L	1	07/19/2018 0840	07/20/2018 0011	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Lab Sample ID: 18G0428-27

Client Sample ID: EQB20180713
Collection Date/Time: 07/13/2018 1200
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	0.534	0.127	5.00		mg/L	1	07/19/2018 0840	07/20/2018 0030	EJ

Client: Freeport McMoran - Copper Queen Branch
 Project: CQB
 Work Order: 18G0428
 Date Received: 07/13/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1807153 - E300.0 (2.1)										
Blank (1807153-BLK1)				Prepared & Analyzed: 07/16/2018						
Sulfate	ND	5.00	mg/L							
LCS (1807153-BS1)				Prepared & Analyzed: 07/16/2018						
Sulfate	12	5.00	mg/L	12.50		93	90-110			
LCS Dup (1807153-BSD1)				Prepared & Analyzed: 07/16/2018						
Sulfate	12	5.00	mg/L	12.50		93	90-110	0.03	10	
Matrix Spike (1807153-MS1)				Source: 18G0436-01		Prepared & Analyzed: 07/16/2018				
Sulfate	13	5.00	mg/L	12.50	1.6	89	80-120			
Matrix Spike (1807153-MS3)				Source: 18G0458-01		Prepared & Analyzed: 07/23/2018				
Sulfate	12	5.00	mg/L	12.50	ND	99	80-120			
Matrix Spike Dup (1807153-MSD1)				Source: 18G0436-01		Prepared: 07/16/2018 Analyzed: 07/17/2018				
Sulfate	13	5.00	mg/L	12.50	1.6	90	80-120	0.8	10	
Matrix Spike Dup (1807153-MSD3)				Source: 18G0458-01		Prepared & Analyzed: 07/23/2018				
Sulfate	12	5.00	mg/L	12.50	ND	99	80-120	0.3	10	
Batch 1807214 - E300.0 (2.1)										
Blank (1807214-BLK1)				Prepared & Analyzed: 07/19/2018						
Sulfate	ND	5.00	mg/L							
LCS (1807214-BS1)				Prepared & Analyzed: 07/19/2018						
Sulfate	12	5.00	mg/L	12.50		98	90-110			
LCS Dup (1807214-BSD1)				Prepared & Analyzed: 07/19/2018						
Sulfate	12	5.00	mg/L	12.50		98	90-110	0.3	10	
Matrix Spike (1807214-MS1)				Source: 18G0523-01		Prepared & Analyzed: 07/27/2018				
Sulfate	14	5.00	mg/L	12.50	1.5	97	80-120			
Matrix Spike (1807214-MS2)				Source: 18G0524-01		Prepared & Analyzed: 07/27/2018				
Sulfate	13	5.00	mg/L	12.50	0.96	98	80-120			
Matrix Spike (1807214-MS3)				Source: 18G0540-03		Prepared & Analyzed: 07/27/2018				
Sulfate	20	5.00	mg/L	12.50	6.2	109	80-120			
Matrix Spike (1807214-MS4)				Source: 18G0540-04		Prepared & Analyzed: 07/27/2018				
Sulfate	19	5.00	mg/L	12.50	6.1	106	80-120			
Matrix Spike Dup (1807214-MSD1)				Source: 18G0523-01		Prepared & Analyzed: 07/27/2018				
Sulfate	14	5.00	mg/L	12.50	1.5	97	80-120	0.2	10	
Matrix Spike Dup (1807214-MSD2)				Source: 18G0524-01		Prepared & Analyzed: 07/27/2018				
Sulfate	13	5.00	mg/L	12.50	0.96	98	80-120	0.2	10	
Matrix Spike Dup (1807214-MSD3)				Source: 18G0540-03		Prepared & Analyzed: 07/27/2018				
Sulfate	20	5.00	mg/L	12.50	6.2	108	80-120	0.9	10	

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0428
Date Received: 07/13/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1807214 - E300.0 (2.1)										
Matrix Spike Dup (1807214-MSD4)		Source: 18G0540-04			Prepared & Analyzed: 07/27/2018					
Sulfate	19	5.00	mg/L	12.50	6.1	107	80-120	0.3	10	



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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1860428 DATE 7/13/18 PAGE 1 OF 3

PROJECT NAME : CQB Quarterly # CC13.2870.30		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
CONTACT NAME : Chris Sherman			
COMPANY NAME : Freepport McMoRan CQB			
ADDRESS : 36 Highway 92			
CITY : Bisbee STATE : AZ ZIP CODE : 85603			
PHONE : 520-508-7063 FAX : 520-432-1395			
SAMPLER'S SIGNATURE : <i>[Signature]</i>			
NUMBER OF CONTAINERS			
TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard (approx. 10 days)* Next day <input type="checkbox"/> 2 Day <input type="checkbox"/> 5 Day*		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	
2. RECEIVED BY: Signature: <i>[Signature]</i> Printed Name: <i>Sok & Alder</i> Firm: <i>Clear Creek Associates</i> Date/Time: <i>7/13/18 15:55</i>		INVOICE INFORMATION: Account <input checked="" type="checkbox"/> Y <input type="checkbox"/> N P.O. # Bill to: CQB	
3. RELINQUISHED BY: Signature: <i>[Signature]</i> Printed Name: Firm: Date/Time:		SPECIAL INSTRUCTIONS/COMMENTS: Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seals <input type="checkbox"/> ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No Container Intact <input checked="" type="checkbox"/> Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No COC/Labels Agree <input checked="" type="checkbox"/> All samples filtered with a 0.45µm filter, unless noted. Copy results to Ben Daigneau & Fernando Alday.	
* LEGEND DW = DRINKING WATER GW = GROUNDWATER SD = SOLID SG = SLUDGE SL = SOIL ST = STORMWATER WW = WASTEWATER		SAMPLE RECEIPT: Total Containers <u>11</u> Temperature <u>3.3</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice	



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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1860428 DATE 7/13/18 PAGE 1 OF 3

PROJECT NAME <u>COB Quarry</u> # <u>CC13.2870.30</u>		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
CONTACT NAME : <u>Chris Sherman</u>			
COMPANY NAME : <u>Freight McMoran COB</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			
SAMPLE I.D.		DATE	TIME
COB WL	7/9/18	12:03	GW
FB-20180709	7/9/18	11:05	GW
EQB-20180709	7/9/18	11:06	GW
DUP-20180709	7/4/18	12:00	GW
TAM-20 USBP	7/9/18	13:58	GW
KEEFER	7/9/18	15:30	GW
BMU-2018-30	7/10/18	10:42	GW
BMU-2018-3M	7/10/18	14:10	GW
BMU-2015-2B	7/11/18	08:07	GW
BMU-2015-2BL	7/11/18	09:05	GW
BMU-2014-7BL	7/11/18	10:17	GW
1. RELINQUISHED BY: Signature <u>[Signature]</u> Printed Name <u>Chris Sherman</u> Firm <u>Freight McMoran</u> Date/Time <u>7/13/18 15:55</u>		2. RECEIVED BY: Signature <u>[Signature]</u> Printed Name <u>Matthew Howan</u> Firm <u>TURNER LABORATORIES, INC.</u> Date/Time <u>7/13/18 15:55</u>	
3. RELINQUISHED BY: Signature <u>[Signature]</u> Printed Name <u>Matthew Howan</u> Firm <u>TURNER LABORATORIES, INC.</u> Date/Time <u>7/13/18 15:55</u>		4. RECEIVED BY: Signature <u>[Signature]</u> Printed Name <u>Matthew Howan</u> Firm <u>TURNER LABORATORIES, INC.</u> Date/Time <u>7/13/18 15:55</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	
SPECIAL INSTRUCTIONS/COMMENTS: Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No All samples filtered with a 0.45µm filter, unless noted. Copy results to Ben Daigneau & Fernando Alday.		INVOICE INFORMATION: Account <input checked="" type="checkbox"/> Y <input type="checkbox"/> N P.O. # _____ Bill to: COB	
* LEGEND DW = DRINKING WATER GW = GROUNDWATER SD = SOLID SG = SLUDGE SL = SOIL ST = STORMWATER WW = WASTEWATER		SAMPLE RECEIPT: Total Containers <u>11</u> Temperature <u>3.3</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice	



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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1890428 #12 7/16/18

TURNER WORK ORDER # 7860429 DATE 7/18/18 PAGE 2 OF 3

PROJECT NAME <u>COB Quarry</u> # <u>CC13.2870.30</u>		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX			
CONTACT NAME : <u>Chris Sherman</u>					
COMPANY NAME : <u>Freeport McMoran COB</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>					
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS
BMO-2014-4B	7/11/18	10:59		GW	1
BMO-2015-1B	7/11/18	12:14		GW	1
BMO-2015-2BL	7/11/18	13:00		GW	1
SCHEARTZ	7/11/18	14:53		GW	1
BMO-2014-2BL	7/12/18	08:10		GW	1
BMO-2014-2BL	7/12/18	08:50		GW	1
TVE-875	7/12/18	09:12		GW	1
BMO-2014-1BL	7/12/18	10:16		GW	1
BMO-2014-1BL	7/12/18	11:39		GW	1
BMO-2014-3BL	7/12/18	13:38		GW	1
BMO-2014-3BL	7/12/18	14:21		GW	1
SOIL - 300.0					
1. RELINQUISHED BY:		2. RECEIVED BY:		TURNAROUND REQUIREMENTS:	
Signature: <u>[Signature]</u>		Signature: <u>[Signature]</u>		X Standard (approx. 10 days)*	
Printed Name: <u>Steve Hill</u>		Printed Name: <u>[Name]</u>		Next day <u>2</u> Day <u>5</u> Day*	
Firm: <u>Clear Creek Associates</u>		Firm: <u>[Firm]</u>		Email Preliminary Results To: _____	
Date/Time: <u>7/13/18 15:55</u>		Date/Time: _____		* Working Days	
3. RELINQUISHED BY:		4. RECEIVED BY:		* LEGEND	
Signature: _____		Signature: <u>[Signature]</u>		DW = DRINKING WATER	
Printed Name: _____		Printed Name: <u>[Name]</u>		GW = GROUNDWATER	
Firm: _____		Firm: <u>TURNER LABORATORIES, INC.</u>		SD = SOLID	
Date/Time: _____		Date/Time: <u>7/13/18 15:55</u>		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 <u>X</u> Y _____ N _____	
				P.O. # _____	
				Bill to: <u>COB</u>	
				SAMPLE RECEIPT:	
				Total Containers <u>11</u>	
				Temperature <u>3.3</u>	
				<input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice	
				SPECIAL INSTRUCTIONS/COMMENTS:	
				Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Custody Seals <input type="checkbox"/> Preservation Confirmation <input checked="" type="checkbox"/>	
				ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Container Intact <input checked="" type="checkbox"/> Appropriate Head Space <input type="checkbox"/>	
				Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> COC/Labels Agree <input checked="" type="checkbox"/> Received Within Hold Time <input checked="" type="checkbox"/>	
				All samples filtered with a 0.45µm filter, unless noted.	
				Copy results to Ben Daigneau & Fernando Alday.	



September 05, 2018

Chris Sherman
Freeport McMoran - Copper Queen Branch
36 W Highway 92
Bisbee, AZ 85603-1047

TEL (520) 432-6206
FAX

Work Order No.: 18G0529
Order Name: CQB

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 11 sample(s) on 07/18/2018 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

Elizabeth Kasik
Laboratory Director

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Date Received: 07/18/2018

Order: CQB

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18G0529-01	Weiskopf 897	Ground Water	07/16/2018 1326
18G0529-02	WEED	Ground Water	07/16/2018 1450
18G0529-03	Cooper	Ground Water	07/16/2018 1557
18G0529-04	COB MW-3	Ground Water	07/17/2018 0909
18G0529-05	COB MW-2	Ground Water	07/17/2018 0942
18G0529-06	Echave	Ground Water	07/17/2018 1040
18G0529-07	MC Connell 459	Ground Water	07/17/2018 1617
18G0529-08	NWC-04	Ground Water	07/18/2018 0645
18G0529-09	NWC-06	Ground Water	07/18/2018 0819
18G0529-10	NWC-02	Ground Water	07/18/2018 0853
18G0529-11	Anderson 458	Ground Water	07/18/2018 1243

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Date Received: 07/18/2018

Case Narrative

This report was originally generated on August 2, 2018. It is being revised on August 6, 2018 to include a revised sulfate result on sample 18G0529-08. The sample was re-analyzed to confirm the initial result and did not confirm. The newly reported 10X dilution is confirmed by the initial, undiluted result.

This report has been revised to report results in three significant figures.

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

ND Not Detected at or above the PQL

PQL Practical Quantitation Limit

DF Dilution Factor

Turner Laboratories, Inc.**Date: 09/05/2018**

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-01

Client Sample ID: Weiskopf 897
Collection Date/Time: 07/16/2018 1326
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	16.7	0.127	5.00		mg/L	1	07/19/2018 0840	07/20/2018 0752	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-02

Client Sample ID: WEED
Collection Date/Time: 07/16/2018 1450
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	13.3	0.127	5.00		mg/L	1	07/19/2018 0840	07/20/2018 0811	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-03

Client Sample ID: Cooper
Collection Date/Time: 07/16/2018 1557
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	25.5	0.127	5.00		mg/L	1	07/19/2018 0840	07/20/2018 0829	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-04

Client Sample ID: COB MW-3
Collection Date/Time: 07/17/2018 0909
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	92.7	0.635	25.0		mg/L	5	07/19/2018 0840	07/31/2018 0401	MH

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-05

Client Sample ID: COB MW-2
Collection Date/Time: 07/17/2018 0942
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	32.6	0.127	5.00		mg/L	1	07/20/2018 1049	07/20/2018 1541	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-06

Client Sample ID: Echave
Collection Date/Time: 07/17/2018 1040
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	24.1	0.127	5.00		mg/L	1	07/20/2018 1049	07/20/2018 1559	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-07

Client Sample ID: MC Connell 459
Collection Date/Time: 07/17/2018 1617
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	28.6	0.127	5.00		mg/L	1	07/20/2018 1049	07/20/2018 1618	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-08

Client Sample ID: NWC-04
Collection Date/Time: 07/18/2018 0645
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	195	1.27	50.0		mg/L	10	08/02/2018 1600	08/02/2018 2119	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-09

Client Sample ID: NWC-06
Collection Date/Time: 07/18/2018 0819
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	8.35	0.127	5.00		mg/L	1	07/20/2018 1049	07/20/2018 1654	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-10

Client Sample ID: NWC-02
Collection Date/Time: 07/18/2018 0853
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	6.50	0.127	5.00		mg/L	1	07/20/2018 1049	07/20/2018 1713	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18G0529
Lab Sample ID: 18G0529-11

Client Sample ID: Anderson 458
Collection Date/Time: 07/18/2018 1243
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	23.4	0.127	5.00		mg/L	1	07/20/2018 1049	07/20/2018 1904	EJ

Client: Freeport McMoran - Copper Queen Branch
 Project: CQB
 Work Order: 18G0529
 Date Received: 07/18/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1807214 - E300.0 (2.1)										
Blank (1807214-BLK1)				Prepared & Analyzed: 07/19/2018						
Sulfate	ND	5.00	mg/L							
LCS (1807214-BS1)				Prepared & Analyzed: 07/19/2018						
Sulfate	12	5.00	mg/L	12.50		98	90-110			
LCS Dup (1807214-BSD1)				Prepared & Analyzed: 07/19/2018						
Sulfate	12	5.00	mg/L	12.50		98	90-110	0.3	10	
Matrix Spike (1807214-MS1)				Source: 18G0523-01		Prepared & Analyzed: 07/27/2018				
Sulfate	14	5.00	mg/L	12.50	1.5	97	80-120			
Matrix Spike (1807214-MS2)				Source: 18G0524-01		Prepared & Analyzed: 07/27/2018				
Sulfate	13	5.00	mg/L	12.50	0.96	98	80-120			
Matrix Spike (1807214-MS3)				Source: 18G0540-03		Prepared & Analyzed: 07/27/2018				
Sulfate	20	5.00	mg/L	12.50	6.2	109	80-120			
Matrix Spike (1807214-MS4)				Source: 18G0540-04		Prepared & Analyzed: 07/27/2018				
Sulfate	19	5.00	mg/L	12.50	6.1	106	80-120			
Matrix Spike Dup (1807214-MSD1)				Source: 18G0523-01		Prepared & Analyzed: 07/27/2018				
Sulfate	14	5.00	mg/L	12.50	1.5	97	80-120	0.2	10	
Matrix Spike Dup (1807214-MSD2)				Source: 18G0524-01		Prepared & Analyzed: 07/27/2018				
Sulfate	13	5.00	mg/L	12.50	0.96	98	80-120	0.2	10	
Matrix Spike Dup (1807214-MSD3)				Source: 18G0540-03		Prepared & Analyzed: 07/27/2018				
Sulfate	20	5.00	mg/L	12.50	6.2	108	80-120	0.9	10	
Matrix Spike Dup (1807214-MSD4)				Source: 18G0540-04		Prepared & Analyzed: 07/27/2018				
Sulfate	19	5.00	mg/L	12.50	6.1	107	80-120	0.3	10	
Batch 1807236 - E300.0 (2.1)										
Blank (1807236-BLK1)				Prepared & Analyzed: 07/20/2018						
Sulfate	ND	5.00	mg/L							
LCS (1807236-BS1)				Prepared & Analyzed: 07/20/2018						
Sulfate	12	5.00	mg/L	12.50		98	90-110			
LCS Dup (1807236-BSD1)				Prepared & Analyzed: 07/20/2018						
Sulfate	12	5.00	mg/L	12.50		99	90-110	0.3	10	
Matrix Spike (1807236-MS1)				Source: 18G0529-05		Prepared & Analyzed: 07/20/2018				
Sulfate	44	5.00	mg/L	12.50	33	94	80-120			
Matrix Spike Dup (1807236-MSD1)				Source: 18G0529-05		Prepared & Analyzed: 07/20/2018				
Sulfate	44	5.00	mg/L	12.50	33	95	80-120	0.2	10	



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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1860529 DATE 7/18/13 PAGE 1 OF 1

PROJECT NAME : <u>COB Quarterly</u> # <u>CC13.2870.30</u>		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX		
CONTACT NAME : <u>Chris Sherman</u>				
COMPANY NAME : <u>Freeport McMoran COB</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				
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*
<u>WEISKOPF 877</u>	<u>7/16/13</u>	<u>13:26</u>		<u>GW</u>
<u>WEED</u>	<u>7/16/13</u>	<u>14:50</u>		<u>GW</u>
<u>COOPER</u>	<u>7/16/13</u>	<u>15:57</u>		<u>GW</u>
<u>COB MW-3</u>	<u>7/17/13</u>	<u>09:09</u>		<u>GW</u>
<u>COB MW-2</u>	<u>7/17/13</u>	<u>09:42</u>		<u>GW</u>
<u>ECHAVE</u>	<u>7/17/13</u>	<u>10:40</u>		<u>GW</u>
<u>MCCONNELL 459</u>	<u>7/17/13</u>	<u>16:17</u>		<u>GW</u>
<u>NWC-04</u>	<u>7/18/13</u>	<u>06:45</u>		<u>GW</u>
<u>NWC-06</u>	<u>7/18/13</u>	<u>08:19</u>		<u>GW</u>
<u>NWC-02</u>	<u>7/18/13</u>	<u>08:53</u>		<u>GW</u>
<u>ANDERSON 458</u>	<u>7/18/13</u>	<u>12:43</u>		<u>GW</u>

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 11
 Temperature 7.9
 Wet Ice Blue Ice

SPECIAL INSTRUCTIONS/COMMENTS:
 Compliance Analysis: Yes No Custody Seals Preservation Confirmation
 ADEQ Forms: Yes No Container Intact Appropriate Head Space
 Mail ADEQ Forms: Yes No COC/Labels Agree Received Within Hold Time
 All samples filtered with a 0.45µm filter, unless noted.
 Copy results to Ben Daigneau & Fernando Alday.

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

2. RECEIVED BY:
 Signature: [Signature]
 Printed Name: Gate Alday
 Firm: Clear Creek Associates
 Date/Time: 7-18-13 / 15:30

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

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



September 05, 2018

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.: 18G0722
Order Name: Well Expansion
sulfates 20+ samples

Dear Ben Daigneau,

Turner Laboratories, Inc. received 20 sample(s) on 07/27/2018 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

Elizabeth Kasik
Laboratory Director

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Date Received: 07/27/2018

Order: Well Expansion sulfates 20+ samples

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18G0722-01	HOWARD 312	Ground Water	07/23/2018 1555
18G0722-02	PIONKE 517	Ground Water	07/24/2018 1128
18G0722-03	RUIZ	Ground Water	07/24/2018 1224
18G0722-04	ZANDER	Ground Water	07/24/2018 1431
18G0722-05	GARNER 655	Ground Water	07/24/2018 1529
18G0722-06	AWC-05	Ground Water	07/25/2018 0901
18G0722-07	AWC-03	Ground Water	07/25/2018 0932
18G0722-08	AWC-04	Ground Water	07/25/2018 0959
18G0722-09	AWC-02	Ground Water	07/25/2018 1219
18G0722-10	FB20180725	Ground Water	07/25/2018 1015
18G0722-11	EQB20180725	Ground Water	07/25/2018 1215
18G0722-12	DUP20180725	Ground Water	07/25/2018 1000
18G0722-13	RAMIREZ	Ground Water	07/25/2018 1359
18G0722-14	POWER 639	Ground Water	07/25/2018 1635
18G0722-15	THOMPSON 341	Ground Water	07/26/2018 0953
18G0722-16	ROGERS 596	Ground Water	07/26/2018 1237
18G0722-17	BMO-2008-4B	Ground Water	07/26/2018 1518
18G0722-18	BURKE	Ground Water	07/26/2018 1631
18G0722-19	FRANCO 383	Ground Water	07/27/2018 1138
18G0722-20	TVI 236	Ground Water	07/27/2018 1253

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Date Received: 07/27/2018

Case Narrative

This report has been resvised to report results to three significant figures.

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

Turner Laboratories, Inc.

Date: 09/05/2018

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-01

Client Sample ID: HOWARD 312
Collection Date/Time: 07/23/2018 1555
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-E300.0 (2.1)									
Sulfate	70.7		25.0		mg/L	5	07/30/2018 1645	07/30/2018 1657	MR

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-02

Client Sample ID: PIONKE 517
Collection Date/Time: 07/24/2018 1128
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-E300.0 (2.1)									
Sulfate	13.4		5.00		mg/L	1	07/30/2018 1645	07/30/2018 1943	MR

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-03

Client Sample ID: RUIZ
Collection Date/Time: 07/24/2018 1224
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-E300.0 (2.1)									
Sulfate	180		50.0		mg/L	10	07/30/2018 1645	07/30/2018 2001	MR

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-04

Client Sample ID: ZANDER
Collection Date/Time: 07/24/2018 1431
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-E300.0 (2.1)									
Sulfate	7.12		5.00		mg/L	1	07/30/2018 1645	07/30/2018 2115	MR

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-05

Client Sample ID: GARNER 655
Collection Date/Time: 07/24/2018 1529
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-E300.0 (2.1)									
Sulfate	41.7		25.0		mg/L	5	07/30/2018 1645	07/30/2018 2133	MR

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-06

Client Sample ID: AWC-05
Collection Date/Time: 07/25/2018 0901
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-E300.0 (2.1)									
Sulfate	17.9		5.00		mg/L	1	07/31/2018 0909	07/31/2018 1059	MH

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-07

Client Sample ID: AWC-03
Collection Date/Time: 07/25/2018 0932
Matrix: Ground Water
Order Name: Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Anions by Ion Chromatography-E300.0 (2.1)

Sulfate	76.3		10.0		mg/L	2	07/31/2018 0909	07/31/2018 1726	MH
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Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-08

Client Sample ID: AWC-04
Collection Date/Time: 07/25/2018 0959
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-E300.0 (2.1)									
Sulfate	24.3		5.00		mg/L	1	07/31/2018 0909	07/31/2018 1249	MH

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-09

Client Sample ID: AWC-02
Collection Date/Time: 07/25/2018 1219
Matrix: Ground Water
Order Name: Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Anions by Ion Chromatography-E300.0 (2.1)

Sulfate	16.7		5.00		mg/L	1	07/31/2018 0909	07/31/2018 1308	MH
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Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-10

Client Sample ID: FB20180725
Collection Date/Time: 07/25/2018 1015
Matrix: Ground Water
Order Name: Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Anions by Ion Chromatography-E300.0 (2.1)

Sulfate	1.39	0.127	5.00	E4	mg/L	1	07/31/2018 0909	07/31/2018 1326	MH
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Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-11

Client Sample ID: EQB20180725
Collection Date/Time: 07/25/2018 1215
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-E300.0 (2.1)									
Sulfate	1.45	0.127	5.00	E4	mg/L	1	07/31/2018 0909	07/31/2018 1345	MH

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-12

Client Sample ID: DUP20180725
Collection Date/Time: 07/25/2018 1000
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-E300.0 (2.1)									
Sulfate	16.9		5.00		mg/L	1	07/31/2018 0909	07/31/2018 1403	MH

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-13

Client Sample ID: RAMIREZ
Collection Date/Time: 07/25/2018 1359
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-E300.0 (2.1)									
Sulfate	8.35		5.00		mg/L	1	07/31/2018 1430	07/31/2018 1554	MH

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-14

Client Sample ID: POWER 639
Collection Date/Time: 07/25/2018 1635
Matrix: Ground Water
Order Name: Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Anions by Ion Chromatography-E300.0 (2.1)

Sulfate	205		50.0		mg/L	10	08/01/2018 1047	08/01/2018 1634	MH
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Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-15

Client Sample ID: THOMPSON 341
Collection Date/Time: 07/26/2018 0953
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-E300.0 (2.1)									
Sulfate	8.27		5.00		mg/L	1	08/01/2018 1330	08/01/2018 1938	MH

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-16

Client Sample ID: ROGERS 596
Collection Date/Time: 07/26/2018 1237
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-E300.0 (2.1)									
Sulfate	735		250		mg/L	50	08/03/2018 1200	08/03/2018 1236	EJ

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-17

Client Sample ID: BMO-2008-4B
Collection Date/Time: 07/26/2018 1518
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-E300.0 (2.1)									
Sulfate	10.9		5.00		mg/L	1	08/02/2018 1100	08/02/2018 1205	EJ

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-18

Client Sample ID: BURKE
Collection Date/Time: 07/26/2018 1631
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-E300.0 (2.1)									
Sulfate	30.5		5.00		mg/L	1	08/02/2018 1100	08/02/2018 1301	EJ

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-19

Client Sample ID: FRANCO 383
Collection Date/Time: 07/27/2018 1138
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-E300.0 (2.1)									
Sulfate	371		100		mg/L	20	08/02/2018 1100	08/02/2018 2024	EJ

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Lab Sample ID: 18G0722-20

Client Sample ID: TVI 236
Collection Date/Time: 07/27/2018 1253
Matrix: Ground Water
Order Name: Well Expansion sulfates 20+ sample

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Anions by Ion Chromatography-E300.0 (2.1)

Sulfate	17.5		5.00		mg/L	1	08/02/2018 1100	08/02/2018 1338	EJ
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Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Date Received: 07/27/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1807308 - E300.0 (2.1)										
Blank (1807308-BLK1)				Prepared & Analyzed: 07/30/2018						
Sulfate	1.3	5.00	mg/L							
LCS (1807308-BS1)				Prepared & Analyzed: 07/30/2018						
Sulfate	13	5.00	mg/L	12.50		102	90-110			
LCS Dup (1807308-BSD1)				Prepared & Analyzed: 07/30/2018						
Sulfate	13	5.00	mg/L	12.50		103	90-110	0.05	10	
Matrix Spike (1807308-MS1)				Source: 18G0755-01		Prepared & Analyzed: 07/30/2018				
Sulfate	18	5.00	mg/L	12.50	6.7	93	80-120			
Matrix Spike Dup (1807308-MSD1)				Source: 18G0755-01		Prepared & Analyzed: 07/30/2018				
Sulfate	18	5.00	mg/L	12.50	6.7	93	80-120	0.1	10	
Batch 1807329 - E300.0 (2.1)										
Blank (1807329-BLK1)				Prepared & Analyzed: 07/31/2018						
Sulfate	1.3	5.00	mg/L							
LCS (1807329-BS1)				Prepared & Analyzed: 07/31/2018						
Sulfate	13	5.00	mg/L	12.50		106	90-110			
LCS Dup (1807329-BSD1)				Prepared & Analyzed: 07/31/2018						
Sulfate	13	5.00	mg/L	12.50		105	90-110	1	10	
Matrix Spike (1807329-MS1)				Source: 18G0722-06		Prepared & Analyzed: 07/31/2018				
Sulfate	29	5.00	mg/L	12.50	18	92	80-120			
Matrix Spike Dup (1807329-MSD1)				Source: 18G0722-06		Prepared & Analyzed: 07/31/2018				
Sulfate	29	5.00	mg/L	12.50	18	92	80-120	0.04	10	
Batch 1808003 - E300.0 (2.1)										
Blank (1808003-BLK1)				Prepared & Analyzed: 08/01/2018						
Sulfate	1.4	5.00	mg/L							
LCS (1808003-BS1)				Prepared & Analyzed: 08/01/2018						
Sulfate	13	5.00	mg/L	12.50		103	90-110			
LCS Dup (1808003-BSD1)				Prepared & Analyzed: 08/01/2018						
Sulfate	13	5.00	mg/L	12.50		103	90-110	0.07	10	
Matrix Spike (1808003-MS1)				Source: 18H0025-01		Prepared & Analyzed: 08/01/2018				
Sulfate	14	5.00	mg/L	12.50	2.5	89	80-120			
Matrix Spike Dup (1808003-MSD1)				Source: 18H0025-01		Prepared & Analyzed: 08/01/2018				
Sulfate	14	5.00	mg/L	12.50	2.5	89	80-120	0.05	10	
Batch 1808022 - E300.0 (2.1)										
Blank (1808022-BLK1)				Prepared & Analyzed: 08/02/2018						
Sulfate	1.3	5.00	mg/L							

Client: Clear Creek Associates
Project: CQB Quarterly Monitoring
Work Order: 18G0722
Date Received: 07/27/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1808022 - E300.0 (2.1)										
LCS (1808022-BS1)				Prepared & Analyzed: 08/02/2018						
Sulfate	13	5.00	mg/L	12.50		102	90-110			
LCS Dup (1808022-BSD1)				Prepared & Analyzed: 08/02/2018						
Sulfate	13	5.00	mg/L	12.50		102	90-110	0.5	10	
Matrix Spike (1808022-MS1)		Source: 18G0722-17		Prepared & Analyzed: 08/02/2018						
Sulfate	22	5.00	mg/L	12.50	11	91	80-120			
Matrix Spike Dup (1808022-MSD1)		Source: 18G0722-17		Prepared & Analyzed: 08/02/2018						
Sulfate	22	5.00	mg/L	12.50	11	91	80-120	0.05	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 # 1860772 DATE 7/21/18 PAGE 2 OF 2

PROJECT NAME COB Quarterly # CC13.2870.30
 CONTACT NAME : Chris Sherman
 COMPANY NAME : Freeport McMoRan COB
 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*	TURNAROUND REQUIREMENTS:	REPORT REQUIREMENTS:	INVOICE INFORMATION:	SPECIAL INSTRUCTIONS/COMMENTS:	CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
									NUMBER OF CONTAINERS	
DUP20180725	7/25/18	10:00		GW	X Standard (approx. 10 days)* Next day 2 Day 5 Day*	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	Account X Y N P.O. # Bill to: CQB			
RAMIREZ	7/25/18	13:59		GW						
POWER G39	7/25/18	16:55		GW						
THOMPSON 341	7/26/18	09:53		GW						
ROGERS 596	7/26/18	12:37		GW						
BMO-2008-4B	7/26/18	15:18		GW						
BURKE	7/26/18	16:31		GW						
FRANCO 583	7/27/18	11:38		GW						
TVE 236	7/27/18	12:53		GW						

1. RELINQUISHED BY: [Signature]
 Signature: Chris Sherman
 Printed Name: Chris Sherman
 Firm: Freeport McMoRan
 Date/Time: 7/27/18 / 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: [Signature]
 Printed Name: TURNER LABORATORIES, INC.
 Firm: TURNER LABORATORIES, INC.
 Date/Time: 7/27/18 16:00

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

SPECIAL INSTRUCTIONS/COMMENTS:
 Compliance Analysis: Yes No Custody Seals Preservation Confirmation
 ADEQ Forms: Yes No Container Intact Appropriate Head Space
 Mail ADEQ Forms: Yes No COC/Labels Agree Received Within Hold Time
 All samples filtered with a 0.45µm filter, unless noted.
 Copy results to Ben Daigneau & Fernando Alday.

SAMPLE RECEIPT:
 Total Containers 20
 Temperature 1.9
 Wet Ice Blue Ice



September 05, 2018

Chris Sherman
Freeport McMoran - Copper Queen Branch
36 W Highway 92
Bisbee, AZ 85603-1047

TEL (520) 432-6206
FAX

Work Order No.: 18H0060
Order Name: CQB

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 14 sample(s) on 08/01/2018 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

Elizabeth Kasik
Laboratory Director

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Date Received: 08/01/2018

Order: CQB

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18H0060-01	DODSON	Ground Water	07/30/2018 0454
18H0060-02	PANAGAKOS	Ground Water	07/30/2018 1145
18H0060-03	BANKS 986	Ground Water	07/30/2018 1506
18H0060-04	EAST	Ground Water	07/30/2018 1015
18H0060-05	EPPELE 641	Ground Water	07/31/2018 1153
18H0060-06	DUP20180731	Drinking Water	07/31/2018 1200
18H0060-07	FB20180731	Ground Water	07/31/2018 1220
18H0060-08	EQB20180731	Ground Water	07/31/2018 1230
18H0060-09	RAY	Ground Water	07/31/2018 1315
18H0060-10	SWAN	Ground Water	07/31/2018 1408
18H0060-11	NESS	Ground Water	07/31/2018 1457
18H0060-12	PALMER	Ground Water	07/31/2018 1522
18H0060-13	MOORE	Ground Water	08/01/2018 1103
18H0060-14	POOL	Ground Water	08/01/2018 1138

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Date Received: 08/01/2018

Case Narrative

This report has been revised to report results to three significant figures.

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

ND Not Detected at or above the PQL

PQL Practical Quantitation Limit

DF Dilution Factor

Turner Laboratories, Inc.

Date: 09/05/2018

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-01

Client Sample ID: DODSON
Collection Date/Time: 07/30/2018 0454
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	39.1	0.127	5.00		mg/L	1	08/02/2018 1245	08/02/2018 1433	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-02

Client Sample ID: PANAGAKOS
Collection Date/Time: 07/30/2018 1145
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	384	2.54	100		mg/L	20	08/02/2018 1500	08/02/2018 2042	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-03

Client Sample ID: BANKS 986
Collection Date/Time: 07/30/2018 1506
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	66.6	0.254	10.0		mg/L	2	08/02/2018 1500	08/02/2018 2101	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-04

Client Sample ID: EAST
Collection Date/Time: 07/30/2018 1015
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	12.4	0.127	5.00		mg/L	1	08/02/2018 1500	08/02/2018 1642	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-05

Client Sample ID: EPPELE 641
Collection Date/Time: 07/31/2018 1153
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	17.8	0.127	5.00		mg/L	1	08/03/2018 1130	08/03/2018 1254	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-06

Client Sample ID: DUP20180731
Collection Date/Time: 07/31/2018 1200
Matrix: Drinking Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Anions by Ion Chromatography-E300.0 (2.1)

Sulfate	139	0.635	25.0		mg/L	5	08/03/2018 1510	08/03/2018 1731	EJ
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Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-07

Client Sample ID: FB20180731
Collection Date/Time: 07/31/2018 1220
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	1.42	0.127	5.00		mg/L	1	08/03/2018 1130	08/03/2018 1331	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-08

Client Sample ID: EQB20180731
Collection Date/Time: 07/31/2018 1230
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	1.38	0.127	5.00		mg/L	1	08/03/2018 1130	08/03/2018 1350	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-09

Client Sample ID: RAY
Collection Date/Time: 07/31/2018 1315
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	138	0.635	25.0		mg/L	5	08/03/2018 1510	08/03/2018 1749	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-10

Client Sample ID: SWAN
Collection Date/Time: 07/31/2018 1408
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	20.1	0.127	5.00		mg/L	1	08/03/2018 1130	08/03/2018 1427	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-11

Client Sample ID: NESS
Collection Date/Time: 07/31/2018 1457
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	54.1	0.254	10.0		mg/L	2	08/03/2018 1510	08/03/2018 1808	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-12

Client Sample ID: PALMER
Collection Date/Time: 07/31/2018 1522
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	17.1	0.127	5.00		mg/L	1	08/03/2018 1130	08/03/2018 1503	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-13

Client Sample ID: MOORE
Collection Date/Time: 08/01/2018 1103
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	8.10	0.127	5.00		mg/L	1	08/03/2018 1130	08/03/2018 1522	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18H0060
Lab Sample ID: 18H0060-14

Client Sample ID: POOL
Collection Date/Time: 08/01/2018 1138
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	113	0.635	25.0		mg/L	5	08/03/2018 1720	08/03/2018 1903	EJ

Client: Freeport McMoran - Copper Queen Branch
 Project: CQB
 Work Order: 18H0060
 Date Received: 08/01/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1808022 - E300.0 (2.1)										
Blank (1808022-BLK1)				Prepared & Analyzed: 08/02/2018						
Sulfate	1.3	5.00	mg/L							
LCS (1808022-BS1)				Prepared & Analyzed: 08/02/2018						
Sulfate	13	5.00	mg/L	12.50		102	90-110			
LCS Dup (1808022-BSD1)				Prepared & Analyzed: 08/02/2018						
Sulfate	13	5.00	mg/L	12.50		102	90-110	0.5	10	
Matrix Spike (1808022-MS1)				Source: 18G0722-17		Prepared & Analyzed: 08/02/2018				
Sulfate	22	5.00	mg/L	12.50	11	91	80-120			
Matrix Spike Dup (1808022-MSD1)				Source: 18G0722-17		Prepared & Analyzed: 08/02/2018				
Sulfate	22	5.00	mg/L	12.50	11	91	80-120	0.05	10	
Batch 1808038 - E300.0 (2.1)										
Blank (1808038-BLK1)				Prepared & Analyzed: 08/03/2018						
Sulfate	1.4	5.00	mg/L							
LCS (1808038-BS1)				Prepared & Analyzed: 08/03/2018						
Sulfate	13	5.00	mg/L	12.50		102	90-110			
LCS Dup (1808038-BSD1)				Prepared & Analyzed: 08/03/2018						
Sulfate	13	5.00	mg/L	12.50		102	90-110	0.6	10	
Matrix Spike (1808038-MS1)				Source: 18H0060-07		Prepared & Analyzed: 08/03/2018				
Sulfate	13	5.00	mg/L	12.50	1.4	91	80-120			
Matrix Spike (1808038-MS2)				Source: 18H0141-01		Prepared: 08/03/2018 Analyzed: 08/06/2018				
Sulfate	14	5.00	mg/L	12.50	3.7	84	80-120			
Matrix Spike Dup (1808038-MSD1)				Source: 18H0060-07		Prepared & Analyzed: 08/03/2018				
Sulfate	13	5.00	mg/L	12.50	1.4	91	80-120	0.1	10	
Matrix Spike Dup (1808038-MSD2)				Source: 18H0141-01		Prepared: 08/03/2018 Analyzed: 08/06/2018				
Sulfate	14	5.00	mg/L	12.50	3.7	84	80-120	0.3	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 # 18H0060 DATE 8/1/18 PAGE 1 OF 2

PROJECT NAME <u>COB Quarry</u> # <u>CC13.2870.30</u> CONTACT NAME <u>Chris Sherman</u> COMPANY NAME <u>Freport McMoran COB</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>	CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	NUMBER OF CONTAINERS	SAMPLE MATRIX*																																																												
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE I.D.</th> <th>DATE</th> <th>TIME</th> <th>LAB I.D.</th> <th>SAMPLE MATRIX*</th> </tr> </thead> <tbody> <tr><td>DODSON</td><td>7/30/18</td><td>04:54</td><td></td><td>GW</td></tr> <tr><td>PANAGAKOS</td><td>7/30/18</td><td>11:45</td><td></td><td>GW</td></tr> <tr><td>BANKS 9PG</td><td>7/30/18</td><td>15:06</td><td></td><td>GW</td></tr> <tr><td>EAST</td><td>7/30/18</td><td>16:15</td><td></td><td>GW</td></tr> <tr><td>ERPELE 641</td><td>7/31/18</td><td>11:53</td><td></td><td>GW</td></tr> <tr><td>DLP20150731</td><td>7/31/18</td><td>12:00</td><td></td><td>GW</td></tr> <tr><td>FR20180731</td><td>7/31/18</td><td>12:20</td><td></td><td>GW</td></tr> <tr><td>EQ20180731</td><td>7/31/18</td><td>12:50</td><td></td><td>GW</td></tr> <tr><td>RAY</td><td>7/31/18</td><td>13:15</td><td></td><td>GW</td></tr> <tr><td>SWAN</td><td>7/31/18</td><td>14:08</td><td></td><td>GW</td></tr> <tr><td>NESS</td><td>7/31/18</td><td>14:57</td><td></td><td>GW</td></tr> </tbody> </table>	SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	DODSON	7/30/18	04:54		GW	PANAGAKOS	7/30/18	11:45		GW	BANKS 9PG	7/30/18	15:06		GW	EAST	7/30/18	16:15		GW	ERPELE 641	7/31/18	11:53		GW	DLP20150731	7/31/18	12:00		GW	FR20180731	7/31/18	12:20		GW	EQ20180731	7/31/18	12:50		GW	RAY	7/31/18	13:15		GW	SWAN	7/31/18	14:08		GW	NESS	7/31/18	14:57		GW	REPORT REQUIREMENTS: <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	INVOICE INFORMATION: Account <u>X</u> Y <u> </u> N P.O. # <u> </u> Bill to: <u>COB</u>	SAMPLE RECEIPT: Total Containers <u>11</u> Temperature <u>0.9</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*																																																											
DODSON	7/30/18	04:54		GW																																																											
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1. RELINQUISHED BY: Signature <u>[Signature]</u> Printed Name <u>Syke Allen</u> Firm <u>Clear Creek Associates</u> Date/Time <u>8-1-18 15:30</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>[Firm]</u> Date/Time <u>[Date/Time]</u>		4. RECEIVED BY: Signature <u>[Signature]</u> Printed Name <u>[Name]</u> Firm <u>TURNER LABORATORIES, INC.</u> Date/Time <u>8/1/18 15:30</u>																																																													
SPECIAL INSTRUCTIONS/COMMENTS: Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seals <input type="checkbox"/> Preservation Confirmation <input checked="" type="checkbox"/> ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No Container Intact <input checked="" type="checkbox"/> Appropriate Head Space <input checked="" type="checkbox"/> Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No COC/Labels Agree <input checked="" type="checkbox"/> Received Within Hold Time <input type="checkbox"/> All samples filtered with a 0.45um filter, unless noted. Copy results to Ben Daigneau & Fernando Alday.																																																															



Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**

Reported: 01-Aug-18 18:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2008-6M	X8G0465-01	Ground Water	10-Jul-18 06:40	CLS	19-Jul-2018	Q6
BMO-2008-6B	X8G0465-02	Ground Water	10-Jul-18 07:35	CLS	19-Jul-2018	Q6
BMO-2008-3B	X8G0465-03	Ground Water	10-Jul-18 09:20	CLS	19-Jul-2018	Q6
BMO-2008-1G	X8G0465-04	Ground Water	10-Jul-18 11:45	CLS	19-Jul-2018	Q6
BMO-2008-11G	X8G0465-05	Ground Water	12-Jul-18 07:05	CLS	19-Jul-2018	Q6
BMO-2012-1M	X8G0465-06	Ground Water	16-Jul-18 07:25	CLS	19-Jul-2018	Q6

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.

Analyses were performed in accordance with SVL standard operating procedures and calibrations were performed and met SVL internal QC criteria.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

(Q6) SVL received the following containers outside of published EPA guidelines for preservation temperatures (0-6°C).

The guidelines do not pertain to nitric-preserved metals.

Default Cooler (Received Temperature: 9.4°C)

<u>Labnumber</u>	<u>Container</u>	<u>Client ID</u>	<u>Labnumber</u>	<u>Container</u>	<u>Client ID</u>
X8G0465-01 A	Filtered Raw HDPE	BMO-2008-6M	X8G0465-02 A	Filtered Raw HDPE	BMO-2008-6B
X8G0465-03 A	Filtered Raw HDPE	BMO-2008-3B	X8G0465-04 A	Filtered Raw HDPE	BMO-2008-1G
X8G0465-05 A	Filtered Raw HDPE	BMO-2008-11G	X8G0465-06 A	Filtered Raw HDPE	BMO-2012-1M



One Government Gulch - PO Box 929

Kellogg, ID 83837-0929

(208) 784-1258

www.svl.net

Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**

Reported: 01-Aug-18 18:06

Client Sample ID: **BMO-2008-6M**

Sampled: 10-Jul-18 06:40

SVL Sample ID: **X8G0465-01 (Ground Water)**

Received: 19-Jul-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	234	mg/L	3.00	1.80	10	X830300	SMB	07/30/18 09:22	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



One Government Gulch - PO Box 929

Kellogg, ID 83837-0929

(208) 784-1258

www.svl.net

Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**

Reported: 01-Aug-18 18:06

Client Sample ID: **BMO-2008-6B**

Sampled: 10-Jul-18 07:35

SVL Sample ID: **X8G0465-02 (Ground Water)**

Received: 19-Jul-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	18.2	mg/L	3.00	1.80	10	X830300	SMB	07/30/18 09:38	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



One Government Gulch - PO Box 929

Kellogg, ID 83837-0929

(208) 784-1258

www.svl.net

Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**

Reported: 01-Aug-18 18:06

Client Sample ID: **BMO-2008-3B**

Sampled: 10-Jul-18 09:20

SVL Sample ID: **X8G0465-03 (Ground Water)**

Received: 19-Jul-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	154	mg/L	3.00	1.80	10	X830300	SMB	07/30/18 09:54	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**

Reported: 01-Aug-18 18:06

Client Sample ID: **BMO-2008-1G**

Sampled: 10-Jul-18 11:45

SVL Sample ID: **X8G0465-04 (Ground Water)**

Received: 19-Jul-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	115	mg/L	3.00	1.80	10	X830300	SMB	07/30/18 10:10	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**

Reported: 01-Aug-18 18:06

Client Sample ID: **BMO-2008-11G**

Sampled: 12-Jul-18 07:05

SVL Sample ID: **X8G0465-05 (Ground Water)**

Received: 19-Jul-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	13.3	mg/L	0.30	0.18		X830300	SMB	07/30/18 10:26	
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**

Reported: 01-Aug-18 18:06

Client Sample ID: **BMO-2012-1M**

Sampled: 16-Jul-18 07:25

SVL Sample ID: **X8G0465-06 (Ground Water)**

Received: 19-Jul-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	236	mg/L	3.00	1.80	10	X830300	SMB	07/30/18 10:42	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



Freeport McMoRan - Bisbee
 36 West Hwy 92
 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**
 Reported: 01-Aug-18 18:06

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X830300	30-Jul-18	
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Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.7	10.0	107	90 - 110	X830300	30-Jul-18	
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Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Recovery	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	1980	1990	10.0	0.30R>S	90 - 110	X830300	30-Jul-18	D2,M4
EPA 300.0	Sulfate as SO4	mg/L	33.9	23.2	10.0	106	90 - 110	X830300	30-Jul-18	

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	% Rec.	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	1990	1980	10.0	0.30R>S	0.4	20	X830300	30-Jul-18	D2,M4
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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8G0465**

Reported: 01-Aug-18 18:06

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
M4	The analysis of the spiked sample required a dilution such that the spike recovery calculation does not provide useful information. The LCS recovery was acceptable.
Q6	Sample was received outside of recommended temperature range.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
0.30R>S	% recovery not applicable; spike level is less than 30% of the sample concentration
<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: **X8H0029**

Reported: 14-Aug-18 17:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
TM-15	X8H0029-01	Ground Water	18-Jul-18 06:45	CLS	01-Aug-2018	
BMO-2008-8M	X8H0029-02	Ground Water	23-Jul-18 08:40	CLS	01-Aug-2018	
DUP-072318	X8H0029-03	Ground Water	23-Jul-18 08:40	CLS	01-Aug-2018	
BMO-2008-7M	X8H0029-04	Ground Water	23-Jul-18 10:50	CLS	01-Aug-2018	
TM-19A	X8H0029-05	Ground Water	25-Jul-18 06:25	CLS	01-Aug-2018	
HOBAN	X8H0029-06	Ground Water	25-Jul-18 07:50	CLS	01-Aug-2018	
COOPER C	X8H0029-07	Ground Water	25-Jul-18 10:00	CLS	01-Aug-2018	
BMO-2008-5M	X8H0029-08	Ground Water	25-Jul-18 11:40	CLS	01-Aug-2018	
BMO-2008-5B	X8H0029-09	Ground Water	25-Jul-18 12:10	CLS	01-Aug-2018	
BMO-2008-9M	X8H0029-10	Ground Water	26-Jul-18 06:50	CLS	01-Aug-2018	

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.

Analyses were performed in accordance with SVL standard operating procedures and calibrations were performed and met SVL internal QC criteria.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **TM-15**

Sampled: 18-Jul-18 06:45

SVL Sample ID: **X8H0029-01 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	14.8	mg/L	0.30	0.18		X831282	SMB	08/06/18 13:42	
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **BMO-2008-8M**

Sampled: 23-Jul-18 08:40

SVL Sample ID: **X8H0029-02 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	76.9	mg/L	3.00	1.80	10	X831282	SMB	08/06/18 14:30	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **DUP-072318**

Sampled: 23-Jul-18 08:40

SVL Sample ID: **X8H0029-03 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	74.5	mg/L	3.00	1.80	10	X831282	SMB	08/06/18 14:46	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **BMO-2008-7M**

Sampled: 23-Jul-18 10:50

SVL Sample ID: **X8H0029-04 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	34.7	mg/L	0.30	0.18		X831282	SMB	08/06/18 15:02	
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **TM-19A**

Sampled: 25-Jul-18 06:25

SVL Sample ID: **X8H0029-05 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	71.4	mg/L	3.00	1.80	10	X831282	SMB	08/06/18 15:18	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **HOBAN**

Sampled: 25-Jul-18 07:50

SVL Sample ID: **X8H0029-06 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	998	mg/L	15.0	9.00	50	X831282	SMB	08/06/18 15:34	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **COOPER C**

Sampled: 25-Jul-18 10:00

SVL Sample ID: **X8H0029-07 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	661	mg/L	7.50	4.50	25	X831282	SMB	08/06/18 16:23	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **BMO-2008-5M**

Sampled: 25-Jul-18 11:40

SVL Sample ID: **X8H0029-08 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	161	mg/L	3.00	1.80	10	X831282	SMB	08/06/18 16:39	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **BMO-2008-5B**

Sampled: 25-Jul-18 12:10

SVL Sample ID: **X8H0029-09 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	250	mg/L	3.00	1.80	10	X831282	SMB	08/06/18 16:55	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**

Reported: 14-Aug-18 17:42

Client Sample ID: **BMO-2008-9M**

Sampled: 26-Jul-18 06:50

SVL Sample ID: **X8H0029-10 (Ground Water)**

Received: 01-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	97.2	mg/L	3.00	1.80	10	X831282	SMB	08/06/18 17:11	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Dianne Gardner
Project Manager



Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0029**
Reported: 14-Aug-18 17:42

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.18	0.30	X831282	06-Aug-18	
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Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.1	10.0	101	90 - 110	X831282	06-Aug-18	
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Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Recovery	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	25.4	14.8	10.0	106	90 - 110	X831282	06-Aug-18	
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Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	% Rec.	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	25.5	25.4	10.0	108	0.6	20	X831282	06-Aug-18	
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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
- 0.30R>S % recovery not applicable; spike level is less than 30% of the sample concentration
- <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: **X8H0342**

Reported: 31-Aug-18 16:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
TM-7	X8H0342-01	Ground Water	06-Aug-18 07:38	CLS	14-Aug-2018	
BM0-2010-1M	X8H0342-02	Ground Water	07-Aug-18 10:10	CLS	14-Aug-2018	

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.

Analyses were performed in accordance with SVL standard operating procedures and calibrations were performed and met SVL internal QC criteria.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0342**

Reported: 31-Aug-18 16:12

Client Sample ID: **TM-7**

Sampled: 06-Aug-18 07:38

SVL Sample ID: **X8H0342-01 (Ground Water)**

Received: 14-Aug-18

Sample Report Page 1 of 1

Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	116	mg/L	3.00	1.80	10	X835152	DJS	08/31/18 12:39	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager



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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0342**

Reported: 31-Aug-18 16:12

Client Sample ID: **BM0-2010-1M**

Sampled: 07-Aug-18 10:10

SVL Sample ID: **X8H0342-02 (Ground Water)**

Received: 14-Aug-18

Sample Report Page 1 of 1

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	1.80	10	X835152	DJS	08/31/18 12:53	D2
-----------	----------------	-----	------	------	------	----	---------	-----	----------------	----

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Sophie Milam
Project Manager



Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **X8H0342**
Reported: 31-Aug-18 16:12

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	0.18	0.30	X835152	31-Aug-18	
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Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.2	10.0	102	90 - 110	X835152	31-Aug-18	
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Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Recovery	Acceptance Limits	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	126	116	10.0	100	90 - 110	X835152	31-Aug-18	D2
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Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	% Rec.	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Filtered Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	127	126	10.0	105	0.4	20	X835152	31-Aug-18	D2
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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
- 0.30R>S % recovery not applicable; spike level is less than 30% of the sample concentration
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



October 19, 2018

Chris Sherman
Freeport McMoran - Copper Queen Branch
36 W Highway 92
Bisbee, AZ 85603-1047

TEL (520) 432-6206
FAX

Work Order No.: 18J0479
Order Name: CQB

RE: CQB

Dear Chris Sherman,

Turner Laboratories, Inc. received 2 sample(s) on 10/16/2018 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

Elizabeth Kasik
Laboratory Director

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18J0479
Date Received: 10/16/2018

Order: CQB

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18J0479-01	NWC-04	Ground Water	10/16/2018 0933
18J0479-02	DUP20181016	Ground Water	10/16/2018 1200

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18J0479
Date Received: 10/16/2018

Case Narrative

M2 Matrix spike recovery was low; the associated LCS/LCSD was acceptable.

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

ND Not Detected at or above the PQL

PQL Practical Quantitation Limit

DF Dilution Factor

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18J0479
Lab Sample ID: 18J0479-01

Client Sample ID: NWC-04
Collection Date/Time: 10/16/2018 0933
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	210	1.3	50		mg/L	10	10/17/2018 1145	10/17/2018 1249	EJ

Client: Freeport McMoran - Copper Queen Branch
Project: CQB
Work Order: 18J0479
Lab Sample ID: 18J0479-02

Client Sample ID: DUP20181016
Collection Date/Time: 10/16/2018 1200
Matrix: Ground Water
Order Name: CQB

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Sulfate	210	1.3	50		mg/L	10	10/17/2018 1145	10/17/2018 1307	EJ

Client: Freeport McMoran - Copper Queen Branch
 Project: CQB
 Work Order: 18J0479
 Date Received: 10/16/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1810176 - E300.0 (2.1)										
Blank (1810176-BLK1)				Prepared & Analyzed: 10/16/2018						
Sulfate	0.92	5.0	mg/L							
LCS (1810176-BS1)				Prepared & Analyzed: 10/16/2018						
Sulfate	12	5.0	mg/L	12.50		98	90-110			
LCS Dup (1810176-BSD1)				Prepared & Analyzed: 10/16/2018						
Sulfate	12	5.0	mg/L	12.50		98	90-110	0.1	10	
Matrix Spike (1810176-MS2)				Source: 18J0483-01		Prepared & Analyzed: 10/16/2018				
Sulfate	140	25	mg/L	62.50	95	74	80-120			M2
Matrix Spike Dup (1810176-MSD2)				Source: 18J0483-01		Prepared & Analyzed: 10/16/2018				
Sulfate	140	25	mg/L	62.50	95	72	80-120	0.6	10	M2

APPENDIX C
DATA VERIFICATION REPORT

APPENDIX C
DATA VERIFICATION REPORT
ANNUAL GROUNDWATER MONITORING REPORT
FOR 2018

Prepared for:

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

Prepared by:

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

March 6, 2019

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	OPERATIONS	3
2.1	Water Level Monitoring	3
2.2	Groundwater Sampling	3
2.2.1	Pre-Sampling Field Activities.....	4
2.2.2	Well Purging, Field Measurements, and Sample Collection	4
2.2.3	Post-Sampling Field Activities	5
3.	SAMPLE HANDLING.....	6
4.	LABORATORY QUALITY CONTROL.....	7
4.1	Licensure.....	7
4.2	Analytical Method	7
4.3	Method Detection Limit (MDL), Reporting Limit (RL) and Practical Quantitation Limit (PQL)	7
4.4	Timeliness	8
4.5	Quality Control Measurements.....	8
4.5.1	Calibration Blanks and Calibration Verification Standards.....	8
4.5.2	Analytical Spike.....	8
4.5.3	Laboratory Duplicate Samples.....	9
4.5.4	Sample Re-Analysis.....	9
4.5.5	Blank Samples	9
5.	DATA QUALITY INDICATORS	11
5.1	Precision.....	11
5.2	Bias	12
5.3	Accuracy	12
5.4	Representativeness.....	13
5.5	Comparability	13
5.6	Completeness	13
5.7	Sensitivity	13
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 2018 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) and subsequent modifications recommended by annual performance review (e.g. Clear Creek Associates, 2018). Analytical results for groundwater samples collected for this project during 2018 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 Hydro Geo Chem, Inc., 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 2018 groundwater samples are in Appendix B of this 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 154 samples collected by Clear Creek Associates and CQB in 2018 are contained in 17 reports with the SVL and Turner laboratory identification numbers listed in the following tables.

LAB ID	Q1 WELLS REPORTED
Number of wells sampled: 44 Number of well samples collected (including duplicates and multiple samples from one well): 50 Number of duplicate samples collected: 5 Number of field and equipment blanks collected: 8 Total number of samples collected: 58	
<u>18A0415</u>	BMO-2010-3B, BMO-2010-3M, TM-10 USBP, DUP20180108, EQB20180108, FB20180108, BMO-2015-2B, BMO-2015-2BL, BMO-2014-4B, BMO-2014-4BL, BMO-2015-1B, BMO-2015-1BL, SCHWARTZ, BMO-2014-2BL, BMO-2014-2BU, BMO-2014-1BU, BMO-2014-1BL, POWER 639, COB MW-2, EQB20180111, FB20180111, COB WL, BMO-2014-3BL, DUP20180112, BMO-2014-3BU
<u>18A0521</u>	NWC-04, NWC-06, NWC-02, COOPER, RUIZ, WEED, AWC-05, AWC-03, AWC-04, AWC-02, DODSON, TVI 236, PANAGAKOS, ROGERS 596, FB20180118, EQB20180118, DUP20180118
<u>18B0618</u>	ROGERS E, KEEFER
<u>X8B0254</u>	BMO-2008-6M, BMO-2008-6B, BMO-2008-5M, BMO-2008-5B, BMO-2008-3B, BMO-2008-11G, TM-7, BMO-2012-1M, BMO-2008-1G, DUP-021418
<u>X8C0163</u>	BMO-2008-5B, DUP-030818, FIELD BLANK, EQUIPMENT BLANK
LAB ID	Q2 WELLS REPORTED
Number of wells sampled: 2 Number of well samples collected (including duplicates and multiple samples from one well): 4 Number of duplicate samples collected: 0 Number of field and equipment blanks collected: 0 Total number of samples collected: 4	
<u>18E0070</u>	NWC-04
<u>X8D0224</u>	BMO-2008-5B
<u>X8E0696</u>	BMO-2008-5B
<u>X8F0580</u>	BMO-2008-5B
LAB ID	Q3 WELLS REPORTED
Number of wells sampled: 77 Number of well samples collected (including duplicates and multiple samples from one well): 82 Number of duplicate samples collected: 5 Number of field and equipment blanks collected: 8 Total number of samples collected: 90	
<u>18G0428</u>	COB WL, FB20180709, EQB20180709, DUP20180709, TM-10 USBP, KEEFER, BMO-2010-3B, BMO-2010-3M, BMO-2015-2B, BMO-2015-2BL, BMO-2014-4BL, BMO-2014-4B, BMO-2015-1B, BMO-2015-1BL, SCHWARTZ, BMO-2014-2BL, BMO-2014-2BU, TVI-875, BMO-2014-1BU, BMO-2014-1BL, BMO-2014-3BL, BMO-2014-3BU, ROGERS E, OLMOS, DUP20180713, FB20180713, EQB20180713
<u>18G0529</u>	WEISKOPF 897, WEED, COOPER, COB MW-3, COB MW-2, ECHAVE, MCCONNELL 459, NWC-04, NWC-06, NWC-02, ANDERSON 458
<u>18G0722</u>	HOWARD 312, PIONKE 517, RUIZ, ZANDER, GARNER 655, AWC-05, AWC-03, AWC-04, AWC-02, FB20180725, EQB20180725, DUP20180725, RAMIREZ, POWER 639, THOMPSON 341, ROGERS 596, BMO-2008-4B, BURKE, FRANCO 383, TVI 236
<u>18H0060</u>	DODSON, PANAGAKOS, BANKS 986, EAST, EPPELE 641, DUP20180731, FB20180731, EQB20180731, RAY, SWAN, NESS, PALMER, MOORE, POOL
<u>X8G0465</u>	BMO-2008-6M, BMO-2008-6B, BMO-2008-3B, BMO-2008-1G, BMO-2008-11G, BMO-2012-1M
<u>X8H0029</u>	TM-15, BMO-2008-8M, DUP-072318, BMO-2008-7M, TM-19A, HOBAN, COOPER C, BMO-2008-5M, BMO-2008-5B, BMO-2008-9M
<u>X8H0342</u>	TM-7, BMO-2010-1M
LAB ID	Q4 WELLS REPORTED
Number of wells sampled: 1 Number of well samples collected (including duplicates and multiple samples from one well): 2 Number of duplicate samples collected: 1 Number of field and equipment blanks collected: 0 Total number of samples collected: 2	
<u>18J0479</u>	NWC-04, DUP20181016

2. 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 [μ S/cm], and temperature in degrees Celsius [$^{\circ}$ 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 water quality sampling 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 pH¹ and SC² 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 A 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 2018, 154 groundwater samples (duplicate and multiple samples included) were collected for analysis from 77 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.

¹ Field pH meters were calibrated using a three point calibration.

² 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[®] 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 was 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 2018 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 1 to 14 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.

Samples were received at or below the proper holding temperature of 6 degrees Celsius for all samples except six samples on report X8G0465. The samples were measured at 9.4 degrees Celsius. The results for the samples were compared to historical data and found to be within normal ranges for each sample. Therefore the samples are included in this report with no further qualifications. No corrective action will be taken.

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 ¹ (mg/L)
SVL	EPA 300.0	0.11-0.18	0.30	10
Turner	EPA 300.0	0.127-0.13	5.0	10

mg/L = milligrams per liter
¹ Target MDL from Table F.2 of QAPP

The SVL and Turner-reported MDLs are equal to or less than the target MDL identified in the QAPP. The laboratories have a range of MDL values because they 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. 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

All samples submitted for sulfate analysis were analyzed within the twenty-eight day holding time specified by EPA Method 300.0.

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. Flag are used in instances in which analytical spike recoveries were high (“M1”), low (“M2”), or unusable (“M3” and “M4”). The “M1” flag was used on SVL reports X8B0254 and X8C0163. The “M2” flag was not used in an SVL report in 2018. The “M3” flag was used on SVL reports X8C0163 and X8E0696. The “M4” flag was used on SVL reports X8F0580 and X8G0465. 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 most samples analyzed by Turner were between 80 and 120 percent. There were no “M1”, “M3”, or “M4” flags reported by Turner in 2018. The “M2” flag was used in Turner report 18J0479. In the case of report 18J0479, the sample recovery was checked by Turner to ensure that it was acceptable within the criteria specified by their QA plan.

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 2018, the third quarter sample for NWC-04, was re-analyzed by Turner at the request of Clear Creek based on comparison with historical results. The July 18, 2018 sample sulfate concentration was reported as 380 mg/L, which was higher than historical samples from the well. The result of the re-analysis was 195 mg/L. The original result was not confirmed. The re-analysis is in-line with historical results and is used in Table 3 and Figures 6 and 9 of the main report.

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. Section 4.2.1.5 of the QAPP requires the collection of a minimum of one field blank and one equipment blank sample for every twenty samples.

During 2018, 16 blank samples were collected, including eight field blanks (FB20180108, FB20180111, FB20180118, FIELD BLANK, FB20180709, FB20180713, FB20180725, and FB20180731) and eight field equipment blanks (EQB20180108, EQB20180111, EQB20180118, EQUIPMENT BLANK, EQB20180709, EQB20180713, EQB20180725, and EQB20180731). None of the blank samples collected in 2018 had sulfate concentrations above the SVL RL of 0.30 mg/L, or the Turner PQL of 5.0 mg/L. The results demonstrate that the sulfate concentrations reported in 2018 were not affected by sample collection and sample handling procedures. The collection of eight field blanks and eight equipment blanks meets the requirement for the collection of one of each type of blank for every 20 samples for 2018.

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 2018.

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, 11 field-filtered duplicate samples (DUP20180108, DUP20180112, DUP20180118, DUP-021418, DUP-030818, DUP20180709, DUP20180713, DUP-072318, DUPE20180725, DUP20180731, and DUP20181016) were collected for analysis. The collection of 11 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 0.0 and 3.26 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
<u>18A0415</u>	BMO-2010-3B	DUP20180108	21.8	21.1	3.26%
<u>18A0415</u>	BMO-2014-3BL	DUP20180112	8.25	8.25	0.00%
<u>18A0521</u>	PANAGAKOS	DUP20180118	223	226	1.34%
<u>X8B0254</u>	BMO-2008-1G	DUP-021418	112	115	2.64%
<u>X8C0163</u>	BMO-2008-5B	DUP-030818	246	246	0.00%
<u>18G0428</u>	COB WL	DUP20180709	73.0	74.5	2.03%
<u>18G0428</u>	OLMOS	DUP20180713	7.58	7.46	1.60%
<u>18G0722</u>	AWC-02	DUP20180725	16.7	16.9	1.19%
<u>18H0060</u>	RAY	DUP20180731	138	139	0.72%
<u>X8H0029</u>	BMO-2008-8M	DUP-072318	76.9	74.5	3.17%
<u>18J0479</u>	NWC-04	DUP20181016	210	210	0.00%

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 DQI 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 reported here are judged to provide a reliable representation of groundwater conditions at the sampled locations for 2018.

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.
- Clear Creek Associates. 2018. Mitigation Performance Review for 2017, Mitigation Order on Consent No. P-121-07. April 17, 2018.
- 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 2018

Prepared for:

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

Prepared by:

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

March 6, 2019

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
3.	RESULTS	4
3.1	New Records Identified	4
4.	REFERENCES	6

TABLE

D.1. Well Records Review Summary

FIGURES

D.1. Project Location Map

D.2. Well Search Area and New Well Registrations

APPENDIX

D.1. Imaged Records

1. INTRODUCTION

1.1 Scope and Objectives

This report describes a review of the Arizona Department of Water Resources (ADWR) 55 Well Registry Database (WRD) review to identify new registered wells installed since January 2018 within one mile of the groundwater sulfate plume near the Freeport Minerals Corporation, Copper Queen Branch (CQB) Concentrator Tailing Storage Area (CTSA) (Figure D.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 (MO) on Consent Docket No. P-121-07 (MO) between CQB and ADEQ.

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.”

An initial inventory of wells within one 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). Annual well records reviews were submitted as part of the Annual Groundwater Reports for 2015, 2016, and 2017 (Clear Creek, 2016, 2017, 2018). The last well records review (Clear Creek, 2018) used WRD information available as of January 2018.

The well records review reported herein discusses only new WRD records added between January 2018 and January 2019, using a the WRD to identify wells registered since January 2018 within a mile of the plume. The WRD was provided in an email by ADWR GIS analyst David Waltz on January 4, 2019 as a shapefile for use with ESRI ArcMap software. ADWR (2018) reports that the WRD is updated as new NOIs are received, making the WRD used for this review current as of the January 4, 2019.

1.2 Monitoring of Drinking Water Supplies

The MO set the action level for the 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 D.1 and D.2 show the sulfate plume based on groundwater monitoring data for the third quarter of 2018. The January 2019 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 D.2 shows the outline of the search area 1.1 miles from the sulfate plume. The list of wells within the January 2019 search area was compared to the list of wells reported in the Well Records Review for 2017 to identify new records. Table D.1 lists the three new records added to the WRD between January 2018 and January 2019. The locations for the new well records are shown on Figure D.2.

3. RESULTS

3.1 New Records Identified

The well records review identified three new records for wells within a mile of the plume (Table D.1 and Figure D.2). The well registry numbers are 55-229470, 55-482692 and 55-810034. The ADWR imaged records for these wells are attached as Appendix D.1.

The record for well 55-229470 (Figure D.2) is a notice of intent (NOI) to drill a well submitted to and approved by ADWR on September 28, 2018. The NOI is for an exempt water production well. The drilling contractor is required to submit a Well Driller Report and Well Log, within 30 days of the completing the well. There is no Well Driller Report on file with ADWR so it is unknown if the well has been installed.

The record for well 55-482692 (Figure D.2) is a Well Abandonment Completion Report. The NOI was submitted in 2016 and the completion report was submitted in February 2017. A letter from the well owner, Arizona Public Service, included in the well record indicates that several substations constructed prior to 1980 used grounding wells to ground the substation (Appendix D.1). The well record does not include any construction or registration information prior to the NOI to abandon. Therefore, it is assumed that the well was not registered prior to the abandonment activities. Well 55-482692 was not a drinking water supply and has been abandoned. No action will be taken regarding this well record.

The well record for 55-810034 (Figure D.2) is a Late Registration of a Well. The well owners are listed as Molly Williams and John Morton. The well registration lists the Swan family as the owner of the property when the well was installed. Deed information included in the well record shows that Molly Williams and John Morton purchased Cochise County Tax Parcel Number 101-41-003B. The SWAN well, which has been monitored under the MO since 2008, is on the property shown in the documentation. The SWAN well was not previously registered with ADWR. Well 55-810034 is assumed to be the SWAN well.

The owners of proposed well 55-229470 and well 55-810034 will be contacted during MO sampling in the first quarter 2019. For proposed well 55-229470, the owner will be contacted to determine if the well has been installed, its operational status, and the water use. The well will be sampled contingent on owner approval, if it is an operational well used for drinking water supply. For well 55-810034, the owner will be queried to determine if well 55-810034 is the

previously sampled SWAN well. If 55-810034 is the SWAN well, an updated access agreement will be requested and sampling will be conducted annually.

4. REFERENCES

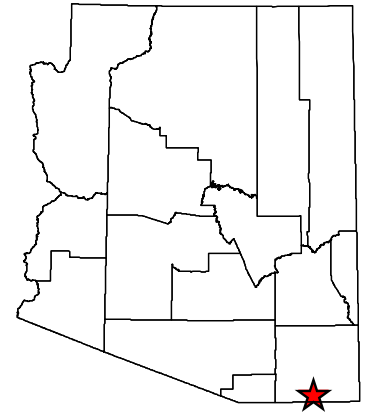
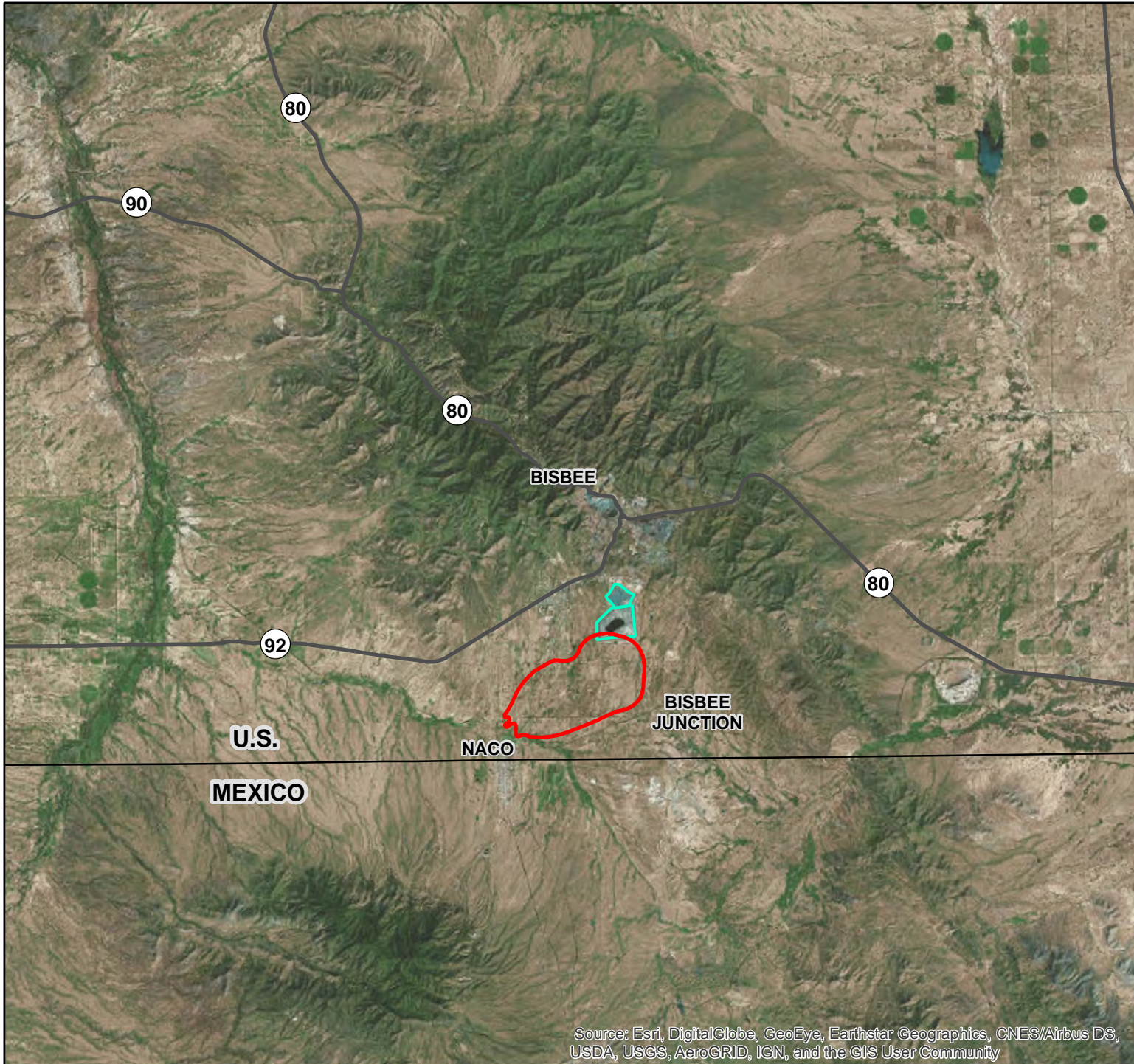
- Arizona Department of Water Resources (ADWR). 2018. Email correspondence from Karen Fisher, ADWR, to Ben Daigneau, Clear Creek Associates. RE: Wells 55. January 18, 2018.
- Clear Creek Associates. 2014. Well Inventory Update, Task 1 of Aquifer Characterization Plan for Mitigation Order on Consent Docket 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.
- Clear Creek Associates. 2017. Annual Groundwater Monitoring Report for 2016, Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. March 1, 2017.
- Clear Creek Associates. 2018. Annual Groundwater Monitoring Report for 2017, Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. February 23, 2018.
- Hydro Geo Chem. 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 Record Review Summary**

Well Registry Number	Owner Name	Well Name	Category	MO Groundwater Monitoring Frequency	Operational	Usage
Domestic Water Supply Well						
229470	James Terry	TERRY	Domestic	Annual if Installed	Unknown	Unknown
810034	Molly Williams and John Morton	SWAN	Domestic	Annual	Yes	Domestic drinking water
Abandoned						
482692	Arizona Public Service	None	Abandoned	Abandoned	Abandoned	Abandoned

FIGURES



Legend

- Third Quarter 2018 250 mg/L Sulfate Plume
- CTSA
- Highway
- International Border

Notes:

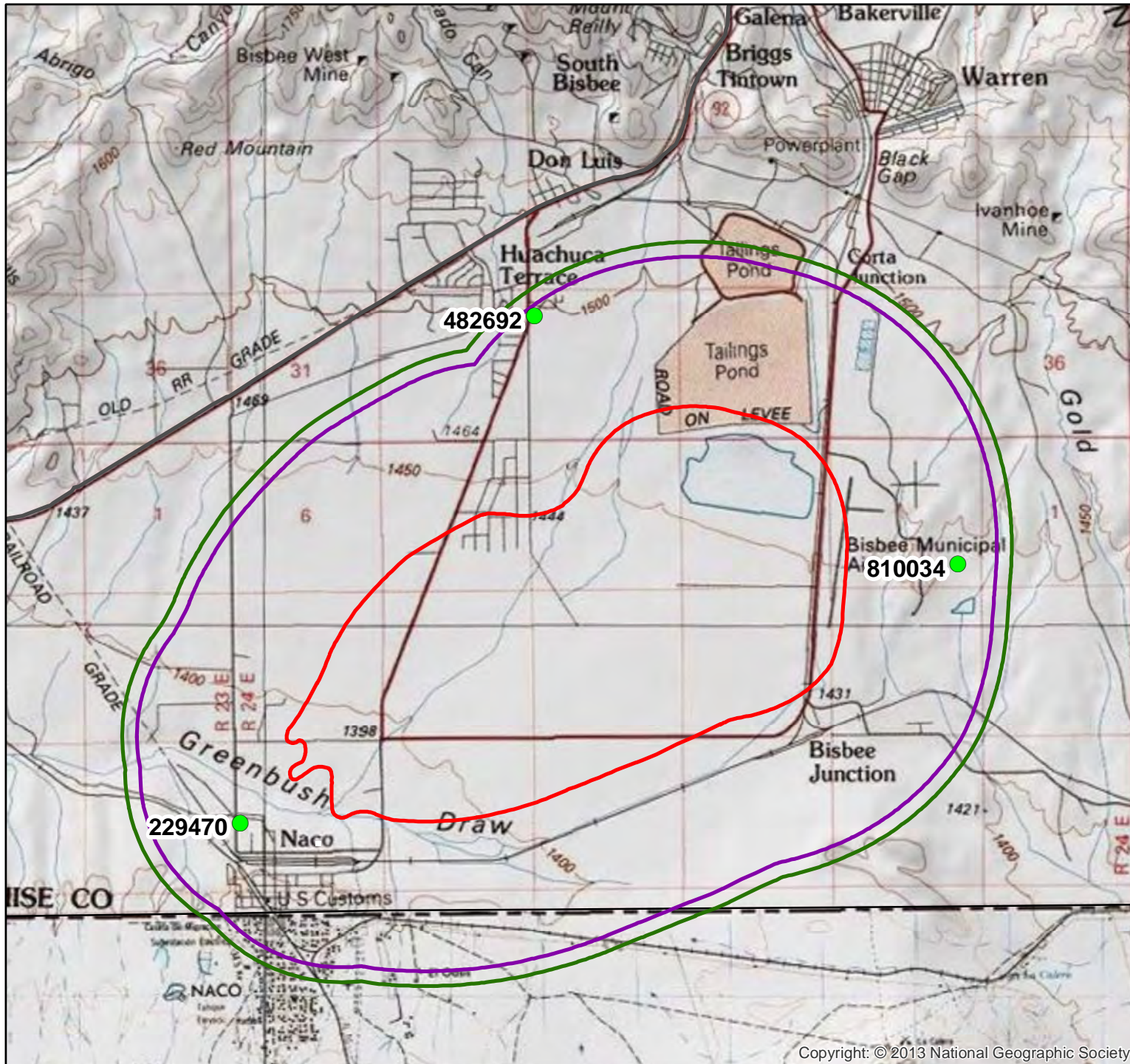
Projection: UTM Zone
12N NAD83

Date	12/26/18	File ID	055038-525
------	----------	---------	------------



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FIGURE D.1.
Project Location Map



Legend

- Third Quarter 2018 250 mg/L Sulfate Plume
- 1 Mile from Sulfate Plume
- 1.1 Mile Search Area
- New Well Record

Notes:

Projection: UTM Zone
12N NAD83

Date 12/10/18

File ID 055038-524



FIGURE D.2
Well Search Area
and New Well Registrations

APPENDIX D.1

IMAGED RECORDS

Run Date: 10/02/2018

AZ DEPARTMENT OF WATER RESOURCES

WELL REGISTRY REPORT - WELLS55

Location D 24.0 24.0 18 C B B Well Reg.No 55 - 229470 AMA NOT WITHIN ANY AMA OR INA

Registered Name JAMES TERRY
 2125 W. ZEPEDA ST.
 NACO AZ 85620
 File Type NEW WELLS (INTENTS OR APPLICATIONS)
 Application/Issue Date 09/28/2018

Owner OWNER Well Type EXEMPT
 Driller No. 25 SubBasin SIERRA VISTA
 Driller Name B-J DRILLING COMPANY, INC. Watershed SAN PEDRO RIVER
 Driller Phone 520-586-3282 Registered Water Uses DOMESTIC
 County COCHISE Registered Well Uses WATER PRODUCTION
 Parcel No. 102-57-306 Discharge Method NO DISCHARGE METHOD LISTED
 Intended Capacity GPM 7.00 Power NO POWER CODE LISTED

Well Depth 0.00 Case Diam 0.00 Tested Cap 0.00
 Pump Cap. 0.00 Case Depth 0.00 CRT
 Draw Down 0.00 Water Level 0.00 Log
 Acres Irrig 0.00 Finish NO CASING CODE LISTED

Contamination Site: NO - NOT IN ANY REMEDIAL ACTION SITE

Tribe: GRIC Maintenance area

Comments

Places Of Use

D 24.0 24.0 18 C B B

Current Action

10/1/2018 415 LEGAL APPLICATION REVIEW COMPLETE
 Action Comment: jw

Action History

9/28/2018 880 CHANGE IN REMEDIAL ACTION SITE CODE
 Action Comment: OLD WQARF code: VVV WITHIN 1/2 MI OF VRP
 9/28/2018 150 NOI RECEIVED FOR A NEW PRODUCTION WELL
 Action Comment: pcw
 9/28/2018 360 APP SENT TO LEGAL FOR REVIEW
 Action Comment: jw
 9/28/2018 550 DRILLING AUTHORITY ISSUED
 Action Comment: jw
 9/28/2018 555 DRILLER & OWNER PACKETS MAILED
 Action Comment: jw
 9/24/2018 210 COUNTY HEALTH AUTHORITY ENDORSED
 Action Comment: jw

ARIZONA DEPARTMENT of WATER RESOURCES

1110 W. Washington St. Suite 310
Phoenix, AZ 85007
602-771-8500
azwater.gov



September 28, 2018

JAMES TERRY
2125 W. ZEPEDA ST.
NACO, AZ 85620

DOUGLAS A. DUCEY
Governor

THOMAS BUSCHATZKE
Director

Registration No. 55- 229470
File Number: D(24-24) 18 CBB

Dear Well Applicant:

Enclosed is a copy of the Notice of Intention to Drill (NOI) a well which you or your driller recently filed with the Department of Water Resources. This letter is to inform you that the Department has approved the NOI and has mailed, or made available for download, a drilling authorization card to your designated well drilling contractor. The driller may not begin drilling until he/she has received the authorization, and must keep it in their possession at the well site during drilling. Although the issuance of this drill card authorizes you to drill the proposed well under state law, the drilling of the well may be subject to restrictions or regulations imposed by other entities.

Well drilling activities must be completed within one year after the date the NOI was filed with the Department. If drilling is not completed within one year, a new NOI must be filed and authorization from this Department received before proceeding with drilling. If the well cannot be successfully completed as initially intended (dry hole, cave in, lost tools, etc.), the well must be properly abandoned and a Well Abandonment Completion Report must be filed by your driller [as required by A.A.C. R12-15-816(F)].

If you change drillers, you must notify the Department of the new driller's identity on a Request to Change Well Information (form 55-71A). Please ensure that the new driller is licensed by the Department to drill the type of well you require. A new driller may not begin drilling until he/she receives a new drilling authorization card from the Department.

If you find it necessary to change the location of the proposed well(s), you may not proceed with drilling until you file an amended NOI with the Department. An amended drilling authorization card will then be issued to the well drilling contractor, which must be in their possession before drilling begins.

Arizona statute [A.R.S. § 45-600] requires registered well owners to file a Pump Installation Completion Report (form 55-56) with the Department within 30 days after the installation of pumping equipment, if authorized. A blank report is enclosed for your convenience. State statute also requires the driller to file a complete and accurate Well Drillers Report and Well Log (form 55-55) within 30 days after completion of drilling. A blank report form was provided to your driller with the drilling authorization card. You should insist and ensure that all of the required reports are accurately completed and timely filed with the Department.

Please be advised that Arizona statute [A.R.S. § 45-593(C)] requires a registered well owner to notify the Department of a change in ownership of the well and/or information pertaining to the physical characteristics of the well in order to keep this well registration file current and accurate. Any change in well information or a request to change well driller must be filed on a Request to Change Well Information form (form 55-71A) that may be downloaded from the ADWR Internet website at www.azwater.gov.

Sincerely,

A handwritten signature in blue ink, appearing to be "Tom Buschatzke", is written over a horizontal line. The signature is fluid and cursive.

Groundwater Permitting and Wells Section

ARIZONA DEPARTMENT OF WATER RESOURCES
1110 W. Washington St. Suite 310
Phoenix, Arizona 85007

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILLING OPERATIONS

WELL REGISTRATION NO: 55-229470

AUTHORIZED DRILLER: B-J DRILLING COMPANY, INC.

LICENSE NO: 25

NOTICE OF INTENTION TO DRILL EXEMPT WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: JAMES TERRY 2125 W. ZEPEDA ST. NACO, AZ, 85620

THE WELL(S) IS/ARE TO BE LOCATED IN THE:

NW 1/4 of the NW 1/4 of the SW 1/4 Section 18 Township 24.0 SOUTH Range 24.0 EAST

NO. OF WELLS IN THIS PROJECT: 1

ASSESSOR'S PARCEL NO: 102-57-306

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE DAY OF September 29, 2019

Sally Muriello

GROUNDWATER PERMITTING AND WELLS

THE DRILLER MUST FILE A LOG OF THE WELL WITHIN 30 DAYS OF COMPLETION OF DRILLING.

NOTICE! The Authorization to drill this well DOES NOT constitute or guarantee an approval to use the well for the purpose of withdrawing groundwater for transportation to an Active Management Area (AMA) pursuant to A.R.S. § 45-552, 45-553, 45-554 or 45-555(A) without official prior approval from the Department.



RECEIVED G.R.I.C



Arizona Department of Water Resources
 Groundwater Permits and Wells Section
 P.O. Box 36020 Phoenix, Arizona 85067-0020
 (602) 771-8500 • (602) 771-8690 fax
 • www.azwater.gov

\$150 or \$100 FEE

Notice of Intention to Drill, Deepen, Replace or Modify a Well
 (except a Non-Exempt Well in an Active Management Area)

- ❖ Review instructions prior to completing form in black or blue ink.
- ❖ You must include with your Notice:
 - Check or money order in the amount of the appropriate filing fee.
 - For a well located within an AMA or INA, the fee is \$150.00.
 - For a well not located within an AMA or INA, the fee is \$100.00 if the well will be used solely for domestic purposes (see page 2 and instructions) and will have a pump with a maximum capacity of not more than 35 gallons per minute. Otherwise, the fee is \$150.00.
- ❖ Shared wells: While Arizona water law governs how a well subject to a well sharing agreement is to be drilled and located, it DOES NOT govern the operation or management of a well sharing agreement.
- ❖ Authority for fee: A.R.S. § 45-596 and A.A.C. R12-15-104.

TO BE COMPLETED BY ADWR

AM/INA	B USP	SB 76	FILE NUMBER D(24-24)18CBE
RECEIVED DATE 9/28/19	WS 11	WELL REGISTRATION NUMBER 55-229470	
ISSUED DATE 10/2/19	REMEDIAL ACTION SITE		
LEGAL REVIEW IF APP App KB	REASONING Not in I.Z.		

FILING MANUALLY
 FILING ELECTRONICALLY (drillers email required)

SECTION 1. COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL (if applicable)

If water from the proposed well will be used for domestic purposes on a parcel of land of 5 or fewer acres, the applicable county or local health authority must endorse all items in Section 1 within one year before submission to the Department of Water Resources. You must also attach a site plan (pg. 3).

CHECK ONE

County or Local Health Authority Recommends Approval (pursuant to A.R.S. § 45-596 (G) and (F))

Field Inspection Performed
 Site Plan Review Only

Insufficient Information to Make a Determination – If checked, please submit supplemental form A.R.S. § 45-596 (G) and (F).

COUNTY OR LOCAL AUTHORITY NAME AND TITLE
 COCHISE COUNTY Planning Tech

TELEPHONE NUMBER: 432-9300 DATE: 9-24-18

Official County or Local Seal or Stamp

COUNTY OR LOCAL AUTHORITY SIGNATURE
 Deborah Kell

SECTION 2. REGISTRY INFORMATION

To determine the place of water use and location of well, please refer to the Well Registry Maps and Google Earth at: (<https://gisweb.azwater.gov/WellRegistry/Default.aspx>) and (<http://www.earthpoint.us/townships.aspx>)

Well Type

CHECK ONE

Exempt
 (Pump has a maximum capacity of not more than 35 gpm and water is not used for irrigation purposes inside an AMA.)
(See instructions)

Non-Exempt
 (Pump has a maximum capacity of more than 35 gpm and the well is located outside an AMA.)
(See instructions)

DESIGN PUMP CAPACITY
 7
 Gallons Per Minute

Proposed Action

CHECK ONE

Drill New Well
 Deepen
 Replace
 Modify

If Deepening, Replacing or Modifying:
 ORIGINAL WELL REGISTRATION NUMBER: 55 -
 MAXIMUM CAPACITY OF ORIGINAL WELL: _____
 Gallons Per Minute

Location of Well

WELL LOCATION ADDRESS (IF ANY): 2125 W. Zepeda St.

COUNTY WHERE WELL IS LOCATED: COCHISE

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
24.0 S	24.0 E	18	SW 1/4	NW 1/4	NW 1/4

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL	# OF ACRES
102	57	306	.8

EXPECTED LATITUDE: _____ " N _____ " W
 Degrees Minutes Seconds Degrees Minutes Seconds

Place of Water Use (Mandatory information, see instructions)

Is the groundwater basin where the well will be drilled the same as the place where the water will be used?
 Yes No

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
24.0 S	24.0 E	18	SW 1/4	NW 1/4	NW 1/4

SECTION 3. OWNER INFORMATION

Land Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL
 JAMES TERRY

MAILING ADDRESS
 2125 W. ZEPEDA ST
 CITY / STATE / ZIP CODE
 NACO, AZ 85620

CONTACT PERSON NAME AND TITLE
 JAMES TERRY

TELEPHONE NUMBER: (310) 922-6655 FAX: _____

Well Owner (check this box if Land Owner and Well Owner are same)

FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL
 JAMES TERRY

MAILING ADDRESS
 2125 W. ZEPEDA ST
 CITY / STATE / ZIP CODE
 NACO, AZ 85620

CONTACT PERSON NAME AND TITLE
 JAMES TERRY

TELEPHONE NUMBER: (310) 922-6655 FAX: _____

WELL REGISTRATION NUMBER 55 - 229476

Notice of Intent to Drill, Deepen, Replace or Modify a Well

SECTION 4. Questions

Questions	Yes	No	If Yes:
1. Is the proposed well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	You must also request a variance (A.A.C. R12-15-818).
2. Is there another well name or identification number associated with this well (e.g. Lot 35 Well, Smith Well, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(please state)
3. Is the proposed well a NEW well to be located within an Active Management Area? (See instructions)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	You must also file a supplemental form A.R.S. § 45-454(C) & (D), unless the well is a replacement well and the total number of operable exempt wells on the land is not increasing.
4. Is the proposed well the second exempt well on this parcel for the same use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	You must also file a supplemental form A.R.S. § 45-454(I) if the proposed well is in an Active Management Area.

SECTION 5. DRILLING AUTHORIZATION

NAME: BJ DRILLING CO INC

DWR LICENSE NUMBER: 25

ROC LICENSE CATEGORY: A4

TELEPHONE NUMBER: (520) 586-3282

FAX NUMBER: [Blank]

Mailing Address: PO BOX 815

CITY / STATE: BENSON, AZ 85602

DRILLERS EMAIL: bjdillingco@gmail.com

DATE CONSTRUCTION IS SCHEDULED TO BEGIN: *existing well dry*

Principal Use of Water: Irrigation Commercial Domestic Municipal Industrial Stock Remediation Dewatering

Other Uses of Water: Irrigation Commercial Domestic Municipal Industrial Stock Remediation Dewatering

Other (please specify):

Other (please specify):

CHECK ONE

CHECK ALL THAT APPLY

SECTION 6. WATER / SITE INFORMATION

Principal Use of Water: Irrigation Commercial Domestic Municipal Industrial Stock Remediation Dewatering

Other (please specify):

Other (please specify):

CHECK ONE

CHECK ALL THAT APPLY

SECTION 7. PROPOSED WELL CONSTRUCTION DESIGN (attach separate sheet if needed)

Borehole	DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	MATERIAL TYPE (T)				PERFORMANCE TYPE (T)	IF OTHER DESCRIBE TYPE		
	FROM SURFACE	TO					STEEL	PVC	ABS	IF OTHER DESCRIBE TYPE				
0	20	12"	+1	20	8"	X*								
20	400	7 5/8"	+1	300	4 1/2"		X							
				300	600	4 1/2"								

* ADWR well construction standards require a surface seal consisting of a minimum of 20 feet of steel casing. Cement grout must be used to fill the annular space between the surface casing and the borehole. (A.A.C. R12-15-811(B))

The Department's issuance of an authorization to drill a well is not a determination of whether water withdrawal from the well is legally surface water or groundwater. The legal nature of the water withdrawn from the well may be the subject of court action in the future as part of a determination of surface water rights in your area. If there are court proceedings that could affect your well, you will be notified and be given the opportunity to participate. If you have questions regarding the legal nature of the water to be withdrawn from your proposed well, please consult with an experienced civil engineer, hydrologist or water rights attorney.

For the purposes of determining appropriate fees outside AMAs or INAs, "domestic purposes" is defined as "uses related to the supply, service and activities of households and private residences and includes the application of water to less than 2 acres of land to produce plants or parts of plants for sale or human consumption, or for use as feed for livestock, range livestock or poultry, as such terms are defined in A.R.S. § 3-1201."

SITE PLAN
PARCEL 102-57-306
2125 West Zepeda St
NACO #2 85620
OWNER
JAMES TERRY

WEST ZEPEDA ST



124

GATE

6"
BLOCK
WALL

D
A
O
R
N
O
S
T
L
-
W

153'

NO SEPTIC
300ft

EXISTING
STRUCTURE

PROPOSED
NEW WELL

EXISTING
WELL
12K

173

M. Mettlen P.L.

11

Notice of Intent to Drill, Deepen, Replace or Modify a Well

SECTION 8. PERMISSION TO ACCESS

By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. Advance notice can be provided. (See instructions)

SECTION 9. WELL SITE PLAN

If this well will be a domestic well on 5 acres or less, please draw the following: (1) the boundaries of your property; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well. If the parcel is vacant land or lacks a septic tank or sewer system, please indicate this.
Indicate the distance between the proposed well location and any septic tank system or sewer system. County Assessor's ID# 102 - 57 - 306

COUNTY OR LOCAL HEALTH AUTHORITY APPROVAL CODE

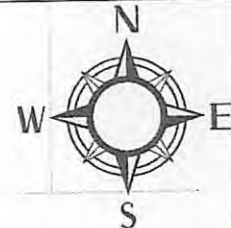
COUNTY APPROVAL CODE

If applicant is filing this NOI electronically via the ADWR website and County approval is required, please indicate approval by providing a County Approval Code.

SECTION 10. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

Land Owner		Well Owner (if different from Land Owner; See instructions)	
PRINT NAME AND TITLE JAMES TERRY MRS Gardening Angel	SIGNATURE OF LAND OWNER <i>[Signature]</i>	PRINT NAME AND TITLE JAMES TERRY Mrs Gardening Angel	SIGNATURE OF WELL OWNER <i>[Signature]</i>
DATE Sept 24, 2018		DATE Sept 24 2018	
<input checked="" type="checkbox"/> By checking this box, you agree to allow ADWR to contact you via electronic mail.	EMAIL ADDRESS	<input checked="" type="checkbox"/> By checking this box, you agree to allow ADWR to contact you via electronic mail.	EMAIL ADDRESS



1" = _____ ft





Arizona Department of Water Resources
 Groundwater Permitting and Wells
 PO Box 36020 • Phoenix, Arizona 85067-6020
 (602) 771-8527 • 602-771-8500
www.azwater.gov

**Well Driller Report
 and
 Well Log**

**THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL.
 PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE
 R12-15-808.**

FILE NUMBER D(24-24) 18 CBB
WELL REGISTRATION NUMBER 55 - 229470
PERMIT NUMBER (IF ISSUED)

PLEASE PRINT CLEARLY USING BLACK OR BLUE INK

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm		
Mail To:	NAME B-J DRILLING COMPANY, INC.	DWR LICENSE NUMBER 25
	ADDRESS P.O. BOX 815	TELEPHONE NUMBER 520-586-3282
	CITY / STATE / ZIP BENSON, AZ, 85602-0815	FAX

SECTION 1. REGISTRY INFORMATION

Well Owner		Location of Well					
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL TERRY, JAMES		WELL LOCATION ADDRESS (IF ANY)					
MAILING ADDRESS 2125 W. ZEPEDA ST.		TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE 1/4	40 ACRE 1/4	10 ACRE 1/4
CITY / STATE / ZIP NACO, AZ, 85620		LATITUDE DEGREES MINUTES SECONDS		"N	LONGITUDE DEGREES MINUTES SECONDS		"W
CONTACT PERSON NAME AND TITLE		METHOD OF LATITUDE/LONGITUDE (CHECK ONE) <input type="checkbox"/> *GPS: Hand-Held <input type="checkbox"/> Conventional Survey <input type="checkbox"/> *GPS: Survey-Grade					
TELEPHONE NUMBER 310 9226655	FAX	LAND SURFACE ELEVATION AT WELL Feet Above Sea Level					
WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.)		METHOD OF ELEVATION (CHECK ONE) <input type="checkbox"/> *GPS: Hand-Held <input type="checkbox"/> Conventional Survey <input type="checkbox"/> *GPS: Survey-Grade					
*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (CHECK ONE) <input type="checkbox"/> NAD-83 <input type="checkbox"/> Other (please specify)							
COUNTY		ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK 102 MAP 57 PARCEL 306					

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method	Method of Well Development	Method of Sealing at Reduction Points
CHECK ONE <input type="checkbox"/> Air Rotary <input type="checkbox"/> Bored or Augered <input type="checkbox"/> Cable Tool <input type="checkbox"/> Dual Rotary <input type="checkbox"/> Mud Rotary <input type="checkbox"/> Reverse Circulation <input type="checkbox"/> Driven <input type="checkbox"/> Jetted <input type="checkbox"/> Air Percussion / Odex Tubing <input type="checkbox"/> Other (please specify)	CHECK ONE <input type="checkbox"/> Airlift <input type="checkbox"/> Bail <input type="checkbox"/> Surge Block <input type="checkbox"/> Surge Pump <input type="checkbox"/> Other (please specify)	CHECK ONE <input type="checkbox"/> None <input type="checkbox"/> Packed <input type="checkbox"/> Swedged <input type="checkbox"/> Welded <input type="checkbox"/> Other (please specify)
	Condition of Well	Construction Dates
	CHECK ONE <input type="checkbox"/> Capped <input type="checkbox"/> Pump Installed	DATE WELL CONSTRUCTION STARTED
		DATE WELL CONSTRUCTION COMPLETED

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY	DATE
-------------------------------	------

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 229470

SECTION 6. WELL SITE PLAN			
NAME OF WELL OWNER	COUNTY ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)		
TERRY, JAMES	BOOK 102	MAP 57	PARCEL 306

- ❖ Required for all wells, please draw the following: (1) the boundaries of property on which the well was located; (2) the well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well.
- ❖ Please indicate the distance between the well location and any septic tank system or sewer system.

						
						1" = _____ ft
Place X where well is drilled						
						



10234005C

10236002B

13

T24S R23E

T24S R24E

10257306

18

1025731

10257307A

10257309

10257308

1025731

10257307B

10234008C

10257307C

10257307D

10257305B

10

10

Arizona Department of Water Resources

1110 West Washington Street, Suite 310

Phoenix AZ 85007

Customer:

JAMES TERRY
GARDENING ANGEL LLC
2125 W ZEPEDA ST
NACO, AZ 85620

Receipt #: 19-61751
Office: MAIN OFFICE
Receipt Date: 09/28/2018
Sale Type: IN_PERSON
Cashier: WRJDL

Item No.	Function Code	AOBJ	Description	Ref ID	Qty	Unit Price	Ext Price
67489	12221	4439-TT	Notice of intention to drill a well that will not be located in an active management area or irrigation non-expansion area, that will be used solely for domestic purposes and that will have a pump with a maximum capacity of not more than 35 gallons per mi	229470	1	100.00	100.00
RECEIPT TOTAL:							100.00

Payment type: CHECK

Amount Paid: \$100.00

Payment Received Date: 09/28/2018

Notes: FROM TTA.

Check #	1151
---------	------



Arizona Department of Water Resources
 Groundwater Permitting and Wells
 PO Box 36020 • Phoenix, Arizona 85067-36020
 (602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

- ❖ Review instructions prior to completing form
- ❖ The drilling firm or single well licensee must file this report within 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

FILE NUMBER
D(23-24) 33 BBC
 WELL REGISTRATION NUMBER
55 - 482692

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm		
Mail To:	NAME NATIONAL EWP, INC.	DWR LICENSE NUMBER 823
	ADDRESS 1200 W. SAN PEDRO ST.	TELEPHONE NUMBER 480-558-3500
	CITY / STATE / ZIP GILBERT, AZ 85233	FAX

RECEIVED

FEB 07 2017

ADWR

SECTION 2. REGISTRY INFORMATION

Well Owner Information	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE
MAILING ADDRESS 400 NORTH 5TH STREET	TELEPHONE NUMBER
CITY / STATE / ZIP PHOENIX, AZ 85004	FAX

Location of Well

WELL LOCATION ADDRESS (IF ANY) 1547 S. NACO BISBEE, AZ 85603					LATITUDE Degrees Minutes Seconds "N	LONGITUDE Degrees Minutes Seconds "W
TOWNSHIP (N/S) 23S	RANGE (E/W) 24E	SECTION 33	160 ACRE NW 1/4	40 ACRE NW 1/4	10 ACRE SW 1/4	LAND SURFACE ELEVATION AT WELL Feet Above Sea Level
COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK 102 MAP 33 PARCEL 195			METHOD OF LATITUDE / LONGITUDE (Check One) <input type="checkbox"/> GPS: Hand-Held <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Conventional Survey <input type="checkbox"/> GPS: Survey-Grade *If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One) <input type="checkbox"/> NAD-83 <input type="checkbox"/> Other (please specify):			

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if necessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)		X	IF YES, PLEASE STATE
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? <input type="checkbox"/> Yes <input type="checkbox"/> No
4. Was the well backfilled above the cement plug?	X		
5. Was the well casing video logged?	X		
6. Why was the well abandoned? <p style="text-align: center;">NO LONGER NEEDED</p>			

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 482692

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)															
Existing Borehole			Existing Casing (to the best of your knowledge)												
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)					SLOT SIZE IF ANY (inches)
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	
0	125	9	0	125	6	X				X					

Condition of casing: Good Fair Poor

Existing Annular Material (to the best of your knowledge)												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)						FILTER PACK				
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE			IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	SAND	GRAVEL	SIZE
						GROUT	CHIPS	PELLETS				

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)		
Refer to ADWR's Well Abandonment Handbook for additional information	DEPTH TO WATER N/A	DATE ABANDONMENT COMPLETED 10/12/16
	Feet Below Land Surface	

Casing Treatment					Sealing or Fill Material														
DEPTH FROM SURFACE		TREATMENT TYPE (T)			IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED	DEPTH FROM SURFACE		MATERIAL TYPE (T)						MIXING RATIO by (check one) <input type="checkbox"/> Weight <input checked="" type="checkbox"/> Volume	VOLUME OF MATERIAL USED (cubic feet)				
FROM (feet)	TO (feet)	SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE		CASING REMOVAL (explain in Remarks)	FROM (feet)	TO (feet)	NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT			HIGH SOLIDS			
						0	125			X									

Actual Abandonment Method (See Well Abandonment Handbook)	Emplacement Method of Sealing or Fill Material
CHECK ONE <input type="checkbox"/> Standard Method <input type="checkbox"/> Alternative 1 <input type="checkbox"/> Alternative 2 <input type="checkbox"/> Alternative 3 <input checked="" type="checkbox"/> Alternative 4 <input checked="" type="checkbox"/> Variance Option <input type="checkbox"/> Alternative 5 <input type="checkbox"/> Variance Option 1 <input type="checkbox"/> Variance Option 2	CHECK ONE <input type="checkbox"/> Gravity <input type="checkbox"/> Pressure Grouting <input checked="" type="checkbox"/> Tremie Pumped <input type="checkbox"/> Other (please specify)

REMARKS

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and			
TYPE OR PRINT NAME AND TITLE Tom Moreland	General Manager	SIC Tom Moreland	DATE 2017.01.21 17:22:29 -08'00' 1/21/17

5" PIPE 4" LONG WITH
STEEL PLATE 12" X 3/8" X 1'-0"
(FILLET WELDED TO TOP OF PIPE)

GROUND LEVEL
(SUBGRADE)

12" MIN.

TOP OF CASING

12 GAGE SHEET STEEL
2" X 9" FILLET WELDED
TO CASING
(AFTER CABLE LOWERED
INTO WELL)

2 - 4/0 COPPER OR
9/16" COPPERWELD
CABLES TO GROUND MAT

4 - 4/0 COPPER OR
9/16" COPPERWELD
CABLES

WELL CASING

2 - 4/0 COPPER OR
9/16" COPPERWELD
CABLES TO GROUND MAT

BRAZE OR CADWELD
TO FORM A PERMANENT
SOLID CONNECTION TO
CASING

4 - 4/0 COPPER OR 9/16" COPPERWELD
CABLES LOWERED TO BOTTOM OF WELL

NOTES:

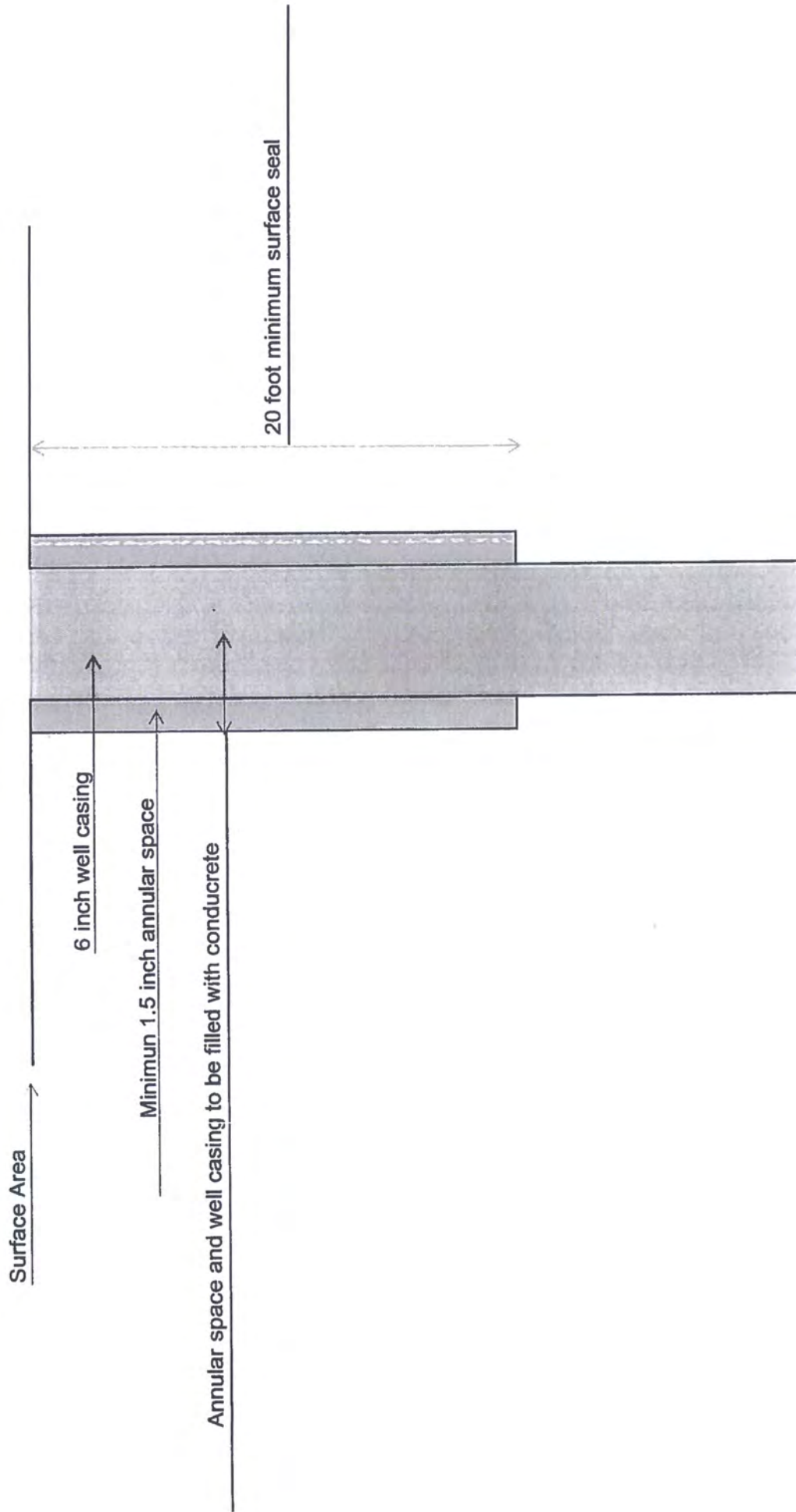
1. ALL CONNECTIONS AND WELDS TO BE WATERTIGHT.
2. WHERE DOUBLE CASING IS USED, BRING 2 - 4/0 COPPER OR 9/16" COPPERWELD CABLES THROUGH BOTH CASINGS IN MANNER SHOWN.

RS

"REFERENCE"

DRAWN	JBK	GROUNDING WELLS	SUBSTATION STANDARDS	
CHECKED	JBK		REVISION	5
APPROVED	HVH	GROUND WELL INSTALLATION DETAILS	SHEET 1 OF 1	
DATE	10-27-87		ARIZONA PUBLIC SERVICE COMPANY	DRAWING NO.

TYPICAL WELL ABANDONMENT DIAGRAM



Run Date: 11/30/2016

AZ DEPARTMENT OF WATER RESOURCES

WELL REGISTRY REPORT - WELLS55

Location D 23.0 24.0 33 B B C Well Reg.No 55 - 482692 Cancelled AMA NOT WITHIN ANY AMA OR INA

Registered Name ARIZONA PUBLIC SERVICE
400 NORTH 5TH STREET
PHOENIX AZ 85004
File Type ABANDONMENTS
Application/Issue Date 09/22/2016

Owner OWNER
Driller No. 823
Driller Name NATIONAL EWP, INC.
Driller Phone 480-558-3500
County COCHISE
Parcel No. 102-33-195
Intended Capacity GPM 0.00
Well Type SPCL - GROUNDING
SubBasin SIERRA VISTA
Watershed SAN PEDRO RIVER
Registered Water Uses NO WATER USE
Registered Well Uses ABANDONED
Discharge Method NO DISCHARGE METHOD LISTED
Power NO POWER CODE LISTED

Well Depth 0.00 Case Diam 6.00 Tested Cap 0.00
Pump Cap. 0.00 Case Depth 0.00 CRT
Draw Down 0.00 Water Level 0.00 Log
Acres Irrig 0.00 Finish OTHER - BLACK STEEL - IRON - SEAMLESS

Contamination Site: NO - NOT IN ANY REMEDIAL ACTION SITE

Tribe: GRIC Maintenance area

Comments Well located at 1547 South Naco Highway, Bisbee, AZ. mib

Current Action

10/14/2016 870 ABANDONED
Action Comment: mib

Action History

11/30/2016 802 WELL OWNER'S NOTIFICATION OF ABANDONMENT RECEIVED/ENTERED
Action Comment: mib
9/23/2016 855 CHANGE OF WELL LEGAL DESCRIPTION
Action Comment: OLD LEGAL DESC: D(23.0-24.0) 33 BBB
9/23/2016 560 ABANDONMENT AUTHORITY ISSUED
Action Comment: kc
9/23/2016 555 DRILLER & OWNER PACKETS MAILED
Action Comment: kc
9/22/2016 175 NOI RECEIVED TO ABANDON A WELL
Action Comment: kc



Arizona Department of Water Resources
 Groundwater Permitting and Wells
 PO Box 36020 • Phoenix, Arizona 85067-36020
 (602) 771-8527 • 602-771-8500

**Well Owner's
 Notification of Abandonment**

NO FEE

- ❖ Review instructions prior to completing form in black or blue ink.
- ❖ The owner or operator of any well shall notify the Department, in writing, no later than 30 days after the abandonment has been completed.

FILE NUMBER
D(23-24) 33 BBC
 WELL REGISTRATION NUMBER
55 - 482692

PLEASE PRINT CLEARLY USING BLACK OR BLUE INK

SECTION 1. DRILLING FIRM		SECTION 2. LOCATION OF WELL					
NAME NATIONAL EWP, INC.		WELL LOCATION ADDRESS (IF ANY)					
DWR LICENSE NUMBER 823		TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE 1/4	40 ACRE 1/4	10 ACRE 1/4
TELEPHONE NUMBER 480-558-3500	FAX	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)					
DATE ABANDONMENT COMPLETED		BOOK 102	MAP 33	PARCEL 195			
COUNTY WHERE WELL IS LOCATED							

SECTION 3. OWNER INFORMATION			
Well Owner		Land Owner	
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE		FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL	
MAILING ADDRESS 400 NORTH 5TH STREET		MAILING ADDRESS	
CITY / STATE / ZIP PHOENIX, AZ. 85004		CITY / STATE / ZIP	
CONTACT PERSON NAME AND TITLE		CONTACT PERSON NAME AND TITLE	
TELEPHONE NUMBER	FAX	TELEPHONE NUMBER	FAX

I state that this notice is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY 	DATE 10/14/16
---	------------------

RECEIVED

OCT 19 2016

ADWR

ARIZONA DEPARTMENT OF WATER RESOURCES
1110 W. Washington St. Suite 310
Phoenix, Arizona 85007

ABANDON

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILLING OPERATIONS

WELL REGISTRATION NO: 55-482692

AUTHORIZED DRILLER: NATIONAL EWP, INC.

LICENSE NO: 823

NOTICE OF INTENTION TO ABANDON SPCL - GROUNDING WELL(S) HAS BEEN FILED WITH THE DEPARTMENT BY:

WELL OWNER: ARIZONA PUBLIC SERVICE 400 NORTH 5TH STREET PHOENIX, AZ, 85004

THE WELL(S) IS/ARE TO BE LOCATED IN THE:

SW 1/4 of the NW 1/4 of the NW 1/4 Section 33 Township 23.0 SOUTH Range 24.0 EAST

NO. OF WELLS IN THIS PROJECT: 1

ASSESSOR'S PARCEL NO: 102-33-195

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON THE DAY OF

Sella Muriello

GROUNDWATER PERMITTING AND WELLS

THE DRILLER MUST FILE A WELL ABANDONMENT COMPLETION REPORT WITHIN 30 DAYS OF ABANDONMENT.



ARIZONA DEPARTMENT of WATER RESOURCES

1110 W. Washington St. Suite 310

Phoenix, AZ 85007

602-771-8500

azwater.gov

September 23, 2016

ARIZONA PUBLIC SERVICE
400 NORTH 5TH STREET
PHOENIX, AZ 85004

Registration No. 55- 482692
File Number: D(23-24) 33 BBC

Dear Well Owner:

Enclosed is a copy of the Notice of Intent to Abandon a Well (NOI) which you or your driller recently filed with the Department of Water Resources. This letter is to inform you that the Department has approved the NOI and has mailed an abandonment authorization card to your designated well drilling contractor. The driller may not begin abandonment until he/she has received the authorization, and must keep it in their possession at the well site during the abandonment.

The well abandonment authorization card and a blank Well Abandonment Completion Report form (form 55-58) have been sent to your driller. Arizona statute [A.R.S. § 45-594] requires the driller to furnish the Department with a complete and accurate Well Abandonment Completion Report within thirty (30) days after completion of abandonment. Arizona statute also requires a well owner to submit a Well Owner's Notification of Abandonment form (form 55-36) within thirty (30) days after the well has been properly abandoned. A copy of the form is enclosed for your convenience. An electronic copy (compact disc or electronic file) of all video logs, if performed, must be included with the well owner's notification or Well Abandonment Completion Report. You should insist, and ensure, all of this is done.

If you change drillers, you must supply the Department with the new driller's identity on a Request to Change Well Information form (form 55-71A). Well abandonments shall be performed only by a licensed well drilling contractor or single well licensee.

Sincerely,



Groundwater Permitting and Wells Section



DOUGLAS A. DUCEY
Governor

THOMAS BUSCHATZKE
Director



Arizona Department of Water Resources
 Groundwater Permitting and Wells Section
 P.O. Box 36020 Phoenix, Arizona 85067-6020
 (602) 771-8527 • (602) 771-8690 fax
 • www.azwater.gov •

**Notice of Intention to
Abandon a Well**

**FEE
\$150.00**

- ❖ Review instructions and the Well Abandonment Handbook prior to completing form with black or blue ink.
- ❖ You **must** include with your Notice:
 - Well construction diagram showing all existing well construction features listed in Section 5 and the proposed abandonment specifications listed in Section 6.
- ❖ Authority for fee: A.R.S. § 45-113 and A.A.C. R12-15-104

TO BE COMPLETED BY ADWR			FILE NUMBER
AMA/INA —	BASIN USP	SUBBASIN 76	D(23-2A)33 BBC
RECEIVED DATE 9-22-2016	WATERSHED 11	WELL REGISTRATION NUMBER	
ISSUED DATE 9-23-2016	REMEDIAL ACTION SITE —	55-482692	

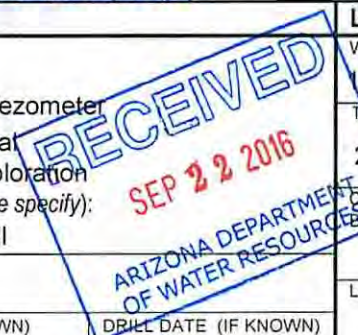
SECTION 1. REGISTRY INFORMATION

To determine the location of well, please refer to the Well Registry Map (<https://gisweb.azwater.gov/WellRegistry/Default.aspx>) and Google Earth (<http://www.earthpoint.us/Townships.aspx>)

Well Type

CHECK ONE

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Domestic | <input type="checkbox"/> Monitor / Piezometer |
| <input type="checkbox"/> Stock | <input type="checkbox"/> Geotechnical |
| <input type="checkbox"/> Irrigation | <input type="checkbox"/> Mineral Exploration |
| <input type="checkbox"/> Municipal | <input checked="" type="checkbox"/> Other (please specify):
Ground Well |



Location of Well

WELL LOCATION ADDRESS (IF ANY) OR CROSS STREETS
 1547 S. Naco Highway Bisbee Az. 85603

TOWNSHIP (N/S) 23 0 S	RANGE (E/W) 24.0 E	SECTION 33	160 ACRE NW 1/4	40 ACRE NW 1/4	10 ACRE SW 1/4
COUNTY ASSESSOR'S PARCEL ID NUMBER BOOK MAP PARCEL			COUNTY WHERE WELL IS LOCATED		
102 33 195			COCHISE		
LATITUDE			LONGITUDE		
°	'	"N	°	'	"W
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
METHOD OF LATITUDE/LONGITUDE (check one) <input type="checkbox"/> *GPS: Hand-Held					
<input type="checkbox"/> Google Earth <input type="checkbox"/> Conventional Survey <input type="checkbox"/> *GPS: Survey-Grade					
*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (check one)					
<input type="checkbox"/> NAD-83 <input type="checkbox"/> Other (please specify):					

SECTION 2. OWNER INFORMATION

Land Owner	Well Owner (check this box if Land Owner and Well Owner are same) <input checked="" type="checkbox"/>
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL Arizona Public Service	FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL Arizona Public Service
MAILING ADDRESS 400 N. 5th St.	MAILING ADDRESS 400 N. 5th St.
CITY / STATE / ZIP CODE PHX. Az. 85004	CITY / STATE / ZIP CODE PHX. Az. 85004
CONTACT PERSON NAME AND TITLE Bob Lotts Water Resources Management	CONTACT PERSON NAME AND TITLE Bob Lotts Water Resources Management
TELEPHONE NUMBER FAX NUMBER (602) 250-3881	TELEPHONE NUMBER FAX NUMBER (602) 250-3881

SECTION 3. ABANDONMENT AUTHORIZATION

Drilling Firm	Consultant (if applicable)
NAME National EWP	CONSULTING FIRM
DWR LICENSE NUMBER 823	CONTACT PERSON NAME
ROC LICENSE CATEGORY A-4	TELEPHONE NUMBER
TELEPHONE NUMBER (480) 558-3500	EMAIL ADDRESS
EMAIL ADDRESS CFitts@NationalEWP.com	

SECTION 4.

Questions	Yes	No	If Yes:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be, or is contaminated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EXPLAIN (attach additional page if necessary)
2. Is there another well name or identification number associated with this well? (e.g., Lot 3 Well, MW-1, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(please state)
3. Was the well casing video logged?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	INCLUDE CD OR DVD OF VIDEO LOG WITH NOTICE OF INTENT
4. Why is the well being abandoned?	No Longer Required		

Kc

Notice of Intent to Abandon a Well

WELL REGISTRATION NUMBER
55 -

SECTION 5. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)															
Existing Borehole			Existing Casing (to the best of your knowledge)												
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE				PERFORATION TYPE					SLOT SIZE IF ANY (inches)
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	
0	TD	9	0	TD	6	<input checked="" 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Condition of casing: (good, fair, poor, unknown) UNKNOWN

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE							FILTER PACK			
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE			IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
						GROUT	CHIPS	PELLETS				
		<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	

SECTION 6. PROPOSED WELL ABANDONMENT DESIGN (attach additional page if needed) DATE ABANDONMENT IS TO BEGIN
10/13/2016

Refer to ADWR's [Well Abandonment Handbook](#) for additional information.

Casing Treatment					Sealing or Fill Material														
DEPTH FROM SURFACE		TREATMENT TYPE				DEPTH FROM SURFACE		MATERIAL TYPE								MIXING RATIO by (check one) <input type="checkbox"/> Weight <input type="checkbox"/> Volume	ESTIMATED VOLUME OF MATERIAL (cubic feet)		
FROM (feet)	TO (feet)	SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING IS TO BE PERFORATED, DESCRIBE SPACING AND SIZE OF PERFORATIONS TO BE ADDED	FROM (feet)	TO (feet)	NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	HIGH SOLIDS BENTONITE				SAND	
0	TD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	0	TD	<input checked="" 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"/>	<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"/>		

Proposed Abandonment Method (See Well Abandonment Handbook)

- CHECK ONE
- Standard Method Alternative 4: Other (please specify):
- Alternative 1 Variance Option *
- Alternative 2 Alternative 5:
- Alternative 3 Variance Option 1* * requires a letter requesting a variance
- Variance Option 2*

Emplacement Method of Sealing or Fill Material

- CHECK ONE
- Tremie Pumped (Recommended)
- Gravity
- Pressure Grouting
- Other (please specify):

APPLICATION CONTINUES ON PAGE 3



A subsidiary of Pinnacle West Capital Corporation

Robert Lotts
Manager Water Resource
Management

Tel. 602-250-3905
Fax 602-250-4494
e-mail: Robert.lotts@aps.com

Mail Station 9424
PO Box 53999
Phoenix, Arizona 85072-3999

May 20, 2016

Ms. Stella Murillo
Groundwater Permitting and Wells Section Manager
Arizona Department of Water Resources
3550 N Central Ave
Phoenix, AZ 85004

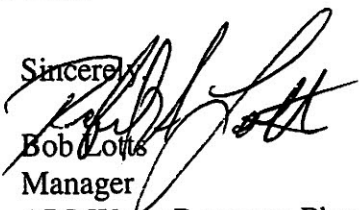
RE: Notice of Intent to Abandon a Well

Dear Ms. Murillo,

During the past year, Arizona Public Service (APS) has been in the process of identifying all wells owned and operated by APS. During this process several APS substations that were constructed prior to 1980 were found to have used a grounding well to help achieve an adequate ground for the electrical equipment at the substation. Some of the existing grounding wells may not meet current ADWR Minimum Well Construction Standards for Exploration/Specialty Wells; APS intends to properly abandon all grounding wells located at the APS substations. We will be using National Exploration Wells and Pump (NEWP), as our contractor, ADWR license #823. Hydro vac type equipment will be used to confirm that a surface seal exists; if a surface seal does not exist the hydro vac equipment will be used to create an annular area between the casing and the borehole wall the annular area will be a minimum of 1.5 inches to a minimum depth of 20 feet below land surface. Conducrete grout will then be placed in the annular area and inside the casing utilizing the Tremmie/pressure grout method, the annular area and the inside of the casing will be grouted to land surface, completing the well abandonment. Attached is a well abandonment diagram showing the completed abandonment. Also attached are the technical specifications and the SDS/MSDS for the Conducrete grout.

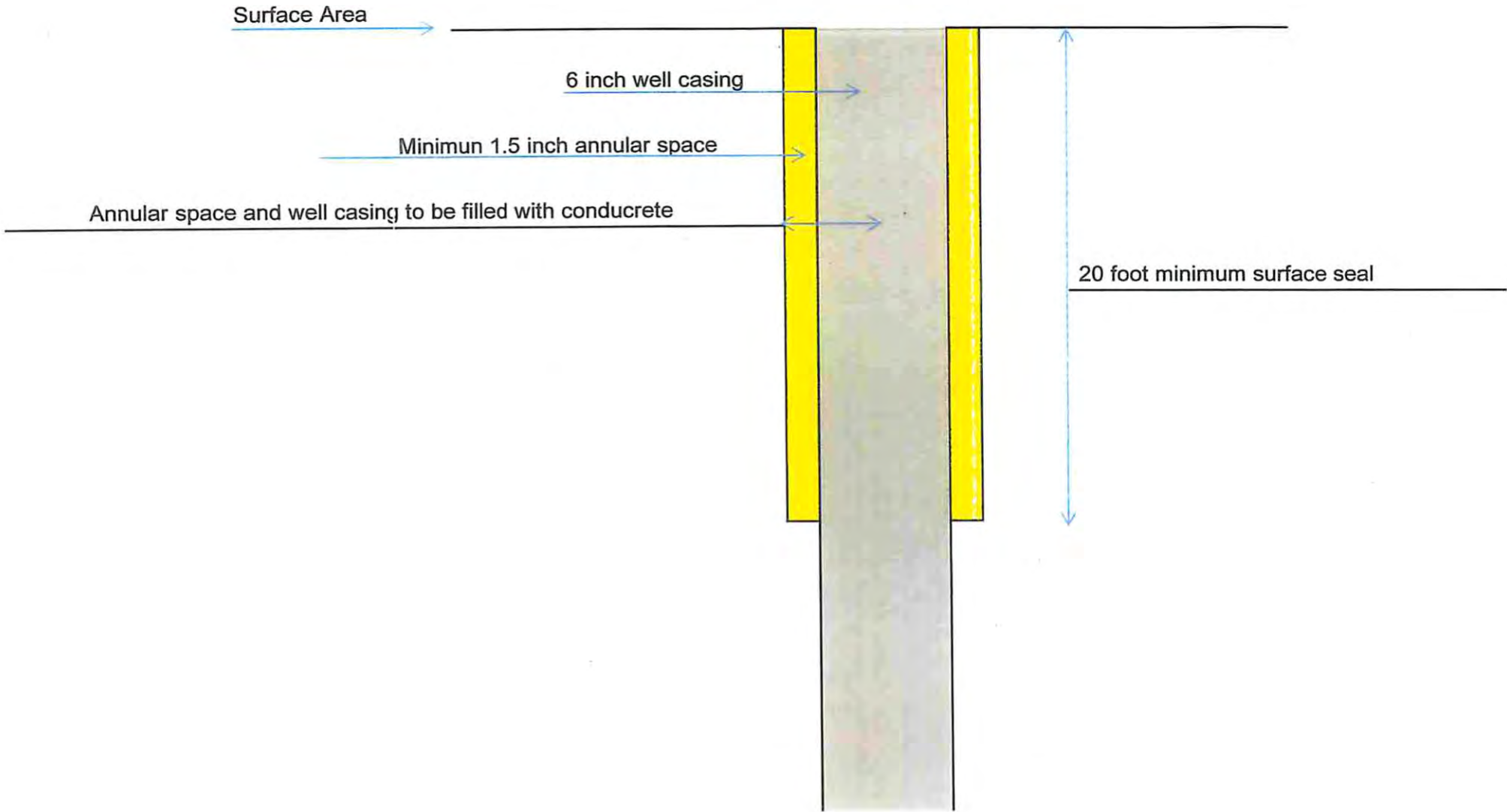
Based on the information provided in this application, APS respectfully requests approval of our Notice of Intent to Abandon a Well. If you have any questions or need further information, please contact Dan Batten at 602-250-3188

Sincerely,


Bob Lotts
Manager

APS Water Resource Planning

TYPICAL WELL ABANDONMENT DIAGRAM



5" PIPE 4" LONG WITH
STEEL PLATE 12" X 3/8" X 1'-0"
(FILLET WELDED TO TOP OF PIPE)

GROUND LEVEL
(SUBGRADE)

12" MIN.

TOP OF CASING

12 GAGE SHEET STEEL
2" X 9" FILLET WELDED
TO CASING
(AFTER CABLE LOWERED
INTO WELL)

2 - 4/0 COPPER OR
9/16" COPPERWELD
CABLES TO GROUND MAT

4 - 4/0 COPPER OR
9/16" COPPERWELD
CABLES

2 - 4/0 COPPER OR
9/16" COPPERWELD
CABLES TO GROUND MAT

WELL CASING

BRAZE OR CADWELD
TO FORM A PERMANENT
SOLID CONNECTION TO
CASING

4 - 4/0 COPPER OR 9/16" COPPERWELD
CABLES LOWERED TO BOTTOM OF WELL

NOTES:

1. ALL CONNECTIONS AND WELDS TO BE WATERTIGHT.
2. WHERE DOUBLE CASING IS USED, BRING 2 - 4/0 COPPER OR 9/16" COPPERWELD CABLES THROUGH BOTH CASINGS IN MANNER SHOWN.

RS

"REFERENCE"

DRAWN		GROUNDING WELLS GROUND WELL INSTALLATION DETAILS ARIZONA PUBLIC SERVICE COMPANY	SUBSTATION STANDARDS	
CHECKED			REVISION	5
APPROVED			SHEET 1 OF 1	
DATE			DRAWING NO.	WCO1
	JDK			
	JDK			
	HVH			
	10-27-87			

Notice of Intent to Abandon a Well

WELL REGISTRATION NUMBER
55 - 48269Z

SECTION 7. Well Abandonment Diagram

Please use the space below to provide a well abandonment diagram showing all existing well construction features listed in Section 5 and the proposed abandonment specifications listed in Section 6.

SECTION 8. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

Land Owner		Well Owner (complete if Land Owner/Well Owner are NOT the same)	
PRINT NAME AND TITLE	Bob Lotts Water Resources Management	PRINT NAME AND TITLE	
SIGNATURE OF LAND OWNER		SIGNATURE OF WELL OWNER	
DATE	09/21/2016	DATE	
<input checked="" type="checkbox"/> By checking this box, you agree to allow ADWR to contact you via electronic mail.		<input type="checkbox"/> By checking this box, you agree to allow ADWR to contact you via electronic mail.	
EMAIL ADDRESS	Daniel.batten@aps.com	EMAIL ADDRESS	

NOTICE

A.R.S. § 41-1030(B), (D), (E) and (F) provide as follows:

B. An agency shall not base a licensing decision in whole or in part on a licensing requirement or condition that is not specifically authorized by statute, rule or state tribal gaming compact. A general grant of authority in statute does not constitute a basis for imposing a licensing requirement or condition unless a rule is made pursuant to that general grant of authority that specifically authorizes the requirement or condition.

D. This section may be enforced in a private civil action and relief may be awarded against the state. The court may award reasonable attorney fees, damages and all fees associated with the license application to a party that prevails in an action against the state for a violation of this section.

E. A state employee may not intentionally or knowingly violate this section. A violation of this section is cause for disciplinary action or dismissal pursuant to the agency's adopted personnel policy.

F. This section does not abrogate the immunity provided by section 12-820.01 or 12-820.02.

Safety Data Sheet



Concrete - ready mix

Section 1. Identification

Product identifier:	Concrete - ready mix
Other means of identification:	Concrete (premixed), wet unhardened concrete
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, a structural component in construction.
Manufacturers Name:	CEMEX
Address:	929 Gessner Road, Suite 1900 Houston TX, 77024 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1 SINGLE TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:



GHS05



GHS07



GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage May cause respiratory irritation May cause cancer (Dermal, Inhalation) May cause damage to organs (eye, lung/respiratory system, Skin) through prolonged or repeated exposure (Dermal, Inhalation)
Precautionary Statements:	Obtain special instructions before use Do not handle until all safety precautions have been read and understood

Safety Data Sheet

Do not breathe dust, spray, mist, fume
 Avoid breathing dust, spray, mist, fume
 Wash clothing, hands, forearms and face thoroughly after handling
 Use only outdoors or in a well-ventilated area
 Contaminated work clothing must not be allowed out of the workplace
 Wear eye protection, protective clothing, protective gloves
 If swallowed: rinse mouth. Do NOT induce vomiting
 If on skin: Wash with plenty of soap and water
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 If inhaled: Remove person to fresh air and keep comfortable for breathing
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If exposed or concerned: Get medical advice/attention
 Immediately call a POISON CENTER
 Call a poison center if you feel unwell
 Get medical advice/attention if you feel unwell
 Specific treatment (see Section 4 on this label)
 If skin irritation or rash occurs: Get medical advice/attention
 Take off contaminated clothing and wash it before reuse
 Wash contaminated clothing before reuse
 Store in a well-ventilated place. Keep container tightly closed
 Store locked up
 Dispose of contents/container to comply with local/regional/national regulations

Other Hazards: Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include up to 0.75% insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture: Concrete - ready mix - mixture
 Chemical name: Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts of iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement	1 - 30	65997-15-1
Aggregates (Limestone/Quartz/Granite/Gravel/Basalts)	0 - 80	NA
Calcium Oxide	<=20.85	1305-78-8
Amorphous Silica	<=6.55	61790-53-2
Quartz (crystalline silica)	0 - 1.8	14808-60-7
Hexavalent chromium*	*	18450-29-9

Fly Ash, containing the hazardous ingredients Calcium Oxide and Amorphous Silica listed above, is present as 0 - 35% of the product.

Slag, containing hazardous ingredients Calcium Oxide, Amorphous Silica, and Quartz (crystalline silica) listed above, is present at 0 - 50% of the product.

Any concentration shown as a range is to protect confidentiality or is due to batch variation. Chemical admixtures may be present in ranges of less than 1%. Individual composition of hazardous constituents may vary between types/different mixed designs of ready mix concrete.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Safety Data Sheet

Section 4. First-Aid Measures

Description of necessary first aid measures:

General:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Eye contact:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Concrete - ready mix requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet Concrete - ready mix, Concrete - ready mix mixtures or liquids from wet Concrete - ready mix. Burns should be treated as caustic burns. Heavy exposure to dried Concrete - ready mix dust caused by cutting and grinding, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Concrete - ready mix.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Safety Data Sheet

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical attention and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Personnel involved with the handling of wet unhardened concrete should take steps to avoid contact with the eyes and skin, through the use of gloves and suitable clothing as described in Section 8. Silica-containing respirable dust particles may be generated by crushing, cutting, grinding, or drilling hardened concrete or concrete products, and should always be avoided. Follow protective controls defined in Section 8 when handling these products. When cutting, grinding, crushing or drilling hardened concrete, use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.
For emergency responders:	For personal protective clothing and equipment requirements, please see Section 8.
Environmental precautions:	Wet unhardened concrete should be Salvaged or allowed to harden and disposed. Do not wash concrete down sewage and drainage systems or into bodies of water (e.g. lakes, streams, wetlands, etc.).

Methods and materials for containment and cleaning up

Small and large spills:	Place spilled material into a contained area and allow wet unhardened concrete to harden and dispose in a landfill as common solid waste. Follow applicable Federal, State, and local regulations for disposal. Uncontaminated ready mixed concrete is neither a listed nor a characteristic hazardous waste under designations by the USEPA or USDOT. USDOT Class: Uncontaminated ready mixed
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Safety Data Sheet

concrete does not meet any hazardous material class definition found in Title 49 Code of Federal Regulations Part 173.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Conditions for safe storage,	A key to using the product safely requires the user to recognize that Concrete - ready mix reacts including any incompatibilities: chemically with water to produce calcium hydroxide which can cause severe chemical burns. Every attempt should be made to avoid skin and eye contact with Concrete - ready mix. Do not get Concrete - ready mix inside boots, shoes or gloves. Do not allow wet, saturated clothing to remain against the skin. Promptly remove clothing and shoes that are dusty or wet with Concrete - ready mix mixtures. Launder/clean clothing and shoes before reuse.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement Clinker	<p>ACGIH TLV (United States, 3/2012). TWA: 1 mg/m³ 8 hours. Form: Respirable</p> <p>NIOSH REL (United States, 6/2009). TWA: 5 mg/m³ 10 hours. Form: Respirable TWA: 10 mg/m³ 10 hours. Form: Total</p> <p>OSHA PEL (United States, 6/2010). TWA: 5 mg/m³ 8 hours. Form: Respirable TWA: 15 mg/m³ 8 hours. Form: Total</p>
Quartz (crystalline silica)	<p>ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m³ 8 hours. Form: Respirable</p> <p>NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m³ 8 hours. Form: Respirable</p> <p>OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m³ divided by %SiO₂ + 2: Respirable TWA: 30mg/m³ divided by %SiO₂ + 2: Total</p>
Limestone	<p>ACGIH TLV (United States, 3/2012). TWA: 10 mg/m³ 8 hours. Form: Total</p> <p>NIOSH REL (United States, 6/2009). TWA: 5 mg/m³ 10 hours. Form: Respirable TWA: 10 mg/m³ 10 hours. Form: Total Dust</p> <p>OSHA PEL (United States, 6/2010). TWA: 5 mg/m³ 8 hours. Form: Respirable TWA: 15 mg/m³ 8 hours. Form: Total dust</p>
Gypsum	<p>ACGIH TLV (United States, 3/2012) TWA: 10 mg/m³ 8 hours. Form: Respirable</p>

Safety Data Sheet

	<p>NIOSH REL (United States, 6/2009) TWA 5 mg/m³ 8 hours. Form: Respirable TWA 10 mg/m³ 8 hours. Form: Total</p> <p>OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m³ 8 hours. Form: Respirable TWA 15 mg/m³ 8 hours. Form: Total</p>
Calcium Oxide	<p>ACGIH TLV (United States, 3/2012) TWA: 2 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 6/2009) TWA 2 mg/m³ 8 hours.</p> <p>OSHA PEL (United States, 6/2010). TWA: 5mg/m³ 8 hours. Form: Respirable</p>
Amorphous Silica	<p>ACGIH TLV (United States, 3/2012) Not Established</p> <p>NIOSH REL (United States, 6/2009) 6 mg/m³ TWA; Appendix C - Supplementary Exposure Limits (Mineral Dusts).</p> <p>OSHA PEL Z-1 (United States, 2/2006) 20 mppcf, 80 mg/m³/%SiO₂ TWA (PEL listed under Silica, Amorphous, including natural diatomaceous earth) (3) See Table Z-3.</p>
Particulates Not Otherwise Regulated (Total Dust)	<p>ACGIH TLV (United States, 3/2012) TWA: 3 mg/m³ 8 hours. Form: Respirable TWA: 10 mg/m³ 8 hours. Form: Total dust</p> <p>OSHA PEL (United States, 6/2010). TWA: 5mg/m³ 8 hours. Form: Respirable TWA: 15 mg/m³ 8 hours. Form: Total dust</p>

Controls

- Appropriate engineering controls: Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

- Wash: Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Concrete - ready mix with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Concrete - ready mix, garments should be removed and replaced with clean, dry clothing.
- Remove protective equipment and saturated clothing before entering eating areas.

PPE

- Eye/face protection: To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet Concrete - ready mix. Wearing contact lenses when working with Concrete - ready mix is not recommended.
- Hand protection: Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Concrete - ready mix inside gloves. Recommended material: Nitrile®
- Body protection: Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Concrete - ready mix. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent

Safety Data Sheet

Concrete - ready mix from getting inside them. Do not get Concrete - ready mix inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with Concrete - ready mix and immediately wash exposed areas of the body.

- Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
- Respiratory protection: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. (See OSHA Respiratory Protection Standard 29 CFR 1910.134)

Section 9. Physical and Chemical Properties

Physical State:	Suspended Solid [paste].	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.2 to 2.6
pH (in water):	12 - 13	Solubility:	Not applicable.
Melting point:	Not available.	Solubility in water:	Not applicable.
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

- Reactivity: Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.
- Chemical stability: The product is stable.
- Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid: No specific data.
- Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Portland Concrete - ready mix is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.
- Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Safety Data Sheet

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity:	Ready Mix Concrete - ready mix LD50/LC50 = Not available
Irritation/Corrosion:	Skin: May cause serious burns in the presence of moisture. Eyes: Causes serious eye damage. May cause burns in the presence of moisture. Respiratory: May cause respiratory tract irritation.
Sensitization:	May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.
Mutagenicity:	Not classified.
Reproductive toxicity:	Not classified.
Teratogenicity:	Not classified.
Aspiration hazard:	Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement Clinker	-	-	A4	-
Quartz (crystalline silica)	-	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation
Calcium Oxide	Category 3	Inhalation and skin contact	Eyes, skin, respiratory system
Amorphous Silica	Category 3	Inhalation	Respiratory tract and kidneys

Specific target organ toxicity (repeated exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys
Amorphous Silica	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:	Eye contact: Causes serious eye damage. Inhalation: May cause respiratory irritation. Skin contact: Causes severe burns. May cause an allergic skin reaction. Ingestion: May cause burns to mouth, throat and stomach.
Symptoms related to the physical, chemical and toxicological characteristics:	Eye contact: Adverse symptoms may include the following: pain, watering, redness Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur Ingestion: Adverse symptoms may include the following: stomach pains
Delayed and immediate effects and also chronic	Short term exposure Potential immediate effects: No known significant effects or critical hazards.

Safety Data Sheet

effects from short and long term exposure:

Potential delayed effects: No known significant effects or critical hazards.

Long term exposure

Potential immediate effects: No known significant effects or critical hazards.

Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity:

There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods: Salvage spilled Concrete - ready mix material where possible. Uncontaminated Concrete - ready mix material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated

Safety Data Sheet

UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200

This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302

Not listed.

Hazard Category under SARA (Title III), Sections 311 and 312

This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313

This product does not contain Emergency Planning and Community Right to Know (EPCRA) Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)

The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act

This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65

This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:

Portland Cement (65997-15-1)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Washington - Permissible Exposure Limits - TWAs

Gypsum (7778-18-9)

U.S. - New Jersey - Right to Know Hazardous Substance List

Limestone (1317-65-3)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	May 2015 - Revised Section(s) per HCS-GHS

Safety Data Sheet

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Portland Concrete - ready mix as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Concrete - ready mix to produce Portland Concrete - ready mix products. Users should review other relevant material safety data sheets before working with this Concrete - ready mix or working on Concrete - ready mix products, for example, Concrete - ready mix concrete.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Concrete - ready mix to produce Concrete - ready mix products. Users should review other relevant safety data sheets before working with Concrete - ready mix or working on Concrete - ready mix products, for example, Concrete - ready mix concrete.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS — Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Transaction Receipt - Success

Arizona Water Resources
Arizona Water Resources
MID:347501639533
1700 W Washington St
Phoenix , AZ 85012
602-771-8454


09/22/2016 01:07PM
Remittance ID
Arizona092216160222828Ald
Transaction ID:
172633693

DANIEL BATTEN
400 N. 5th St.
PHOENIX, Arizona 85003
United States
Visa - 3277
Approval Code: 055460

Sale
Amount: \$300.00

55-55-482692, 55-482693
N/A
Time Tracking
0
palder@azwater.gov

Cardmember acknowledges
receipt of goods and/or
services in the amount of
the total shown hereon and
agrees to perform the
obligations set forth by the
cardmember's agreement with
the issuer.

Signature 
[click here](#) to continue.

Arizona Department of Water Resources

1110 West Washington Street, Suite 310

Phoenix AZ 85007

Customer:

DANIEL BATTEN
400 N. 5TH ST.
PHOENIX, AZ 85004

Receipt #: 17-47499
Office: Engineering and Per
Receipt Date: 09/22/2016
Sale Type: Mail
Cashier: WRPXA

Item No.	Function Code	AOBJ	Description	Ref ID	Qty	Unit Price	Ext Price
66330	12221	4439-6H	NOTICE OF INTENT TO ABANDON A WELL		2	150.00	300.00
RECEIPT TOTAL:							300.00

Payment type: CREDIT CARD

Amount Paid: \$300.00

Payment Received Date: 09/22/2016

Authorization 172633693

Notes: Credit Card payment for \$300.00 if for well registration numbers 55-482692 and 55-482693



Arizona Department of Water Resources
 Groundwater Permitting and Wells
 P.O. Box 36020 Phoenix, Arizona 85067-6020
 (602) 771-8527 • (602) 771-8690 fax
 • www.azwater.gov •

FEE
\$60.00

Late Registration of a Well

RECEIVED

- ❖ Review instructions prior to completing form in black or blue ink. **SEP 17 2018**
- ❖ You must include with your application:
 - check or money order for the fee(s)
- ❖ Authority for fee: A.R.S. § 45-113 and A.A.C. **12-15-104**

ARIZONA DEPARTMENT OF WATER RESOURCES

AMA / INA	B	SB
—	Dou	35
RECEIVED	DATE	WS
9/17/18	17/18	13
ISSUED	DATE	WQARF CERCLA
9/17/18		—

FILE NUMBER
D(24-24) 2DD
WELL REGISTRATION NUMBER
55 - 010034

**** PLEASE PRINT CLEARLY ****

SECTION 1. REGISTRY INFORMATION							
Well Type	Fee	Location of Well					
CHECK ONE <input checked="" type="checkbox"/> Exempt (Pump has a maximum capacity of not more than 35 gpm and water is not used for irrigation purposes inside an AMA.) (See instructions.) <input type="checkbox"/> Non-Exempt (Pump has a maximum capacity of more than 35 gpm and the well is located outside an AMA.) (See instructions.)	\$60	WELL LOCATION ADDRESS (IF ANY) OR CROSS-STREETS 2601 S. Swan Rd Bisbee, AZ 85603					
		TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
		24S	24E	2	D 1/4	D 1/4	1/4
		LATITUDE			LONGITUDE		
		°	'	"N	°	'	"W
		Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
		METHOD OF LATITUDE/LONGITUDE (CHECK ONE) <input type="checkbox"/> *GPS: Hand-Held					
		<input type="checkbox"/> Google Earth <input type="checkbox"/> Conventional Survey <input type="checkbox"/> *GPS: Survey-Grade					
		*IF GPS, GEOGRAPHIC COORDINATE DATUM (CHECK ONE)					
		<input type="checkbox"/> NAD-83 <input type="checkbox"/> Other (please specify):					
ORIGINAL WELL DRILLING FIRM (IF KNOWN) Unknown		COUNTY ASSESSOR'S PARCEL ID NUMBER			# OF ACRES		
ORIGINAL WELL DRILL DATE (ESTIMATE IF NOT KNOWN) Unknown		BOOK	MAP	PARCEL			
PROPERTY OWNER WHEN WELL WAS DRILLED (IF KNOWN) The Swan Family		101	41	003B	20		
		PLACE OF USE (ONLY IF DIFFERENT FROM LOCATION OF WELL)					
		TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
					1/4	1/4	1/4
		COUNTY WHERE WELL IS LOCATED Cochise					

SECTION 2. OWNER INFORMATION			
Land Owner	Well Owner (check this box if Land Owner and Well Owner are same) <input checked="" type="checkbox"/>		
FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL Molly R. Williams and John E. Morton	FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL		
MAILING ADDRESS 5356 Highland Shadows Drive	MAILING ADDRESS		
CITY / STATE / ZIP CODE Sierra Vista, AZ 85635	CITY / STATE / ZIP CODE		
CONTACT PERSON NAME AND TITLE Molly Williams	CONTACT PERSON NAME AND TITLE		
TELEPHONE NUMBER 520-210-250	FAX	TELEPHONE NUMBER	FAX

SECTION 3.			
Questions	Yes	No	If Yes:
1. Is the well site within 100 feet of a septic tank system, sewer disposal area, landfill, hazardous materials or petroleum storage area or tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EXPLAIN
2. Is there another well name or identification number associated with this well? (e.g., Lot 39 Well, MW-1, Smith Well, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	PLEASE STATE
3. If this well is an exempt well, is it the second exempt well on this parcel for the same use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EXPLAIN

SECTION 4. WATER/SITE INFORMATION								
Principal Use of Water CHECK ONE <input type="checkbox"/> Irrigation (# of acres _____) <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Industrial <input type="checkbox"/> Drainage <input type="checkbox"/> Monitoring <input type="checkbox"/> Municipal <input type="checkbox"/> Stock <input type="checkbox"/> Dewatering <input type="checkbox"/> Other (please specify):	Other Uses of Water CHECK ALL THAT APPLY <input type="checkbox"/> Irrigation (# of acres _____) <input type="checkbox"/> Commercial <input type="checkbox"/> Domestic <input type="checkbox"/> Industrial <input type="checkbox"/> Drainage <input type="checkbox"/> Monitoring <input type="checkbox"/> Municipal <input type="checkbox"/> Stock <input type="checkbox"/> Dewatering <input type="checkbox"/> Other (please specify):	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">MAXIMUM PUMP CAPACITY</td> <td style="width: 50%; text-align: right;">Gallons Per Minute</td> </tr> <tr> <td>TOTAL DEPTH OF WELL</td> <td style="text-align: right;">Feet Below Land Surface</td> </tr> <tr> <td>STATIC WATER LEVEL</td> <td style="text-align: right;">Feet Below Land Surface</td> </tr> </table>	MAXIMUM PUMP CAPACITY	Gallons Per Minute	TOTAL DEPTH OF WELL	Feet Below Land Surface	STATIC WATER LEVEL	Feet Below Land Surface
MAXIMUM PUMP CAPACITY	Gallons Per Minute							
TOTAL DEPTH OF WELL	Feet Below Land Surface							
STATIC WATER LEVEL	Feet Below Land Surface							

SECTION 5. EXISTING WELL CONSTRUCTION DESIGN (attach additional page if needed)																
Borehole			Existing Casing (to the best of your knowledge)													
DEPTH FROM SURFACE		BOREHOLE DIAMETER (inches)	DEPTH FROM SURFACE		OUTER DIAMETER (inches)	MATERIAL TYPE (T)				PERFORATION TYPE (T)					SLOT SIZE IF ANY (inches)	
FROM (feet)	TO (feet)		FROM (feet)	TO (feet)		STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED		IF OTHER TYPE, DESCRIBE

Existing Annular Material (to the best of your knowledge)												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)							FILTER PACK			
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT-GROUT	BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE

SECTION 6. OPTIONAL BY PROPERTY OWNER AND WELL OWNER ONLY

By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (See instructions.)

SECTION 7. WELL OWNER OR PROPERTY OWNER SIGNATURE

I state that this registration is complete and correct to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE	SIGNATURE OF WELL OWNER OR LANDOWNER	DATE
Molly R. Williams - Owner	<i>Molly Williams</i>	Sept 12, 2018

2018-13187
Page 1 of 4
Requested By: PIONEER TITLE AGENCY
David W. Stevens - Recorder
Cochise County, AZ
07-18-2018 03:55 PM Recording Fee \$15.00

at the request of Pioneer Title Agency, Inc.

When recorded mail to
Molly Ryan Williams
John Eugene Morton
5356 Highland Shadows Dr
Sierra Vista, AZ 85635

74301568-GUH

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Tax Parcel No.: 101-41-003B

SPECIAL WARRANTY DEED

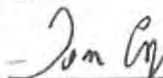
For the consideration of Ten Dollars, and other valuable considerations,
Wilmington Savings Fund Society, FSB, as Trustee of Stanwich Mortgage Loan Trust A
hereafter called the Grantor, hereby conveys to
Molly Ryan Williams and John Eugene Morton, wife and husband
the following real property situated in Cochise County, Arizona, together with all rights and privileges
appurtenant thereto, to wit:
See Exhibit A attached hereto and made a part hereof.

Subject to current taxes and other assessments, reservations in patents and all easements, rights of way,
encumbrances, liens, covenants, conditions, restrictions, obligations and liabilities as may appear of
record.

And the Grantor binds itself and its successors to warrant the title as against its acts and none other,
subject to the matters above set forth.

DATED May 29, 2018

Wilmington Savings Fund Society, FSB,
as Trustee of Stanwich Mortgage Loan
Trust A



John A. Carrington, SVP of Default
for Carrington Mortgage Services, LLC, Attorney in Fact

By Carrington Mortgage Services, LLC
as attorney in fact

UNRECORDED

Special Warranty Deed - Escrow No. 74301568

Exhibit A

Parcel I:

The Southeast quarter of the Southeast quarter of Section 2, Township 24 South, Range 24 East of the Gila and Salt River Base and Meridian, Cochise County, Arizona;

EXCEPT that portion lying within the following described:

COMMENCING at the Southeast corner of Section 2;
thence North 00°01'18" East, a distance of 660.82 feet along the East line of said Southeast quarter of the Southeast quarter of Section 2 to the TRUE POINT OF BEGINNING;
thence North 00°01'18" East, a distance of 660.82 feet along said East line;
thence North 89°58'32" West, a distance of 1,319.80 feet along the North line of the Southeast quarter of the Southeast quarter of Section 2;
thence South 00°02'13" West, a distance 661.03 feet along the West line of said Southeast quarter of the Southeast quarter of Section 2;
thence South 89°59'22" East, a distance of 1,319.62 feet along the South line of the North half of said Southeast quarter of the Southeast quarter of Section 2 and the POINT OF BEGINNING.

Parcel II:

Easements contained in instrument recorded in Document No. 2018-11950.

UNOFFICIAL DOCUMENT

Search

Search

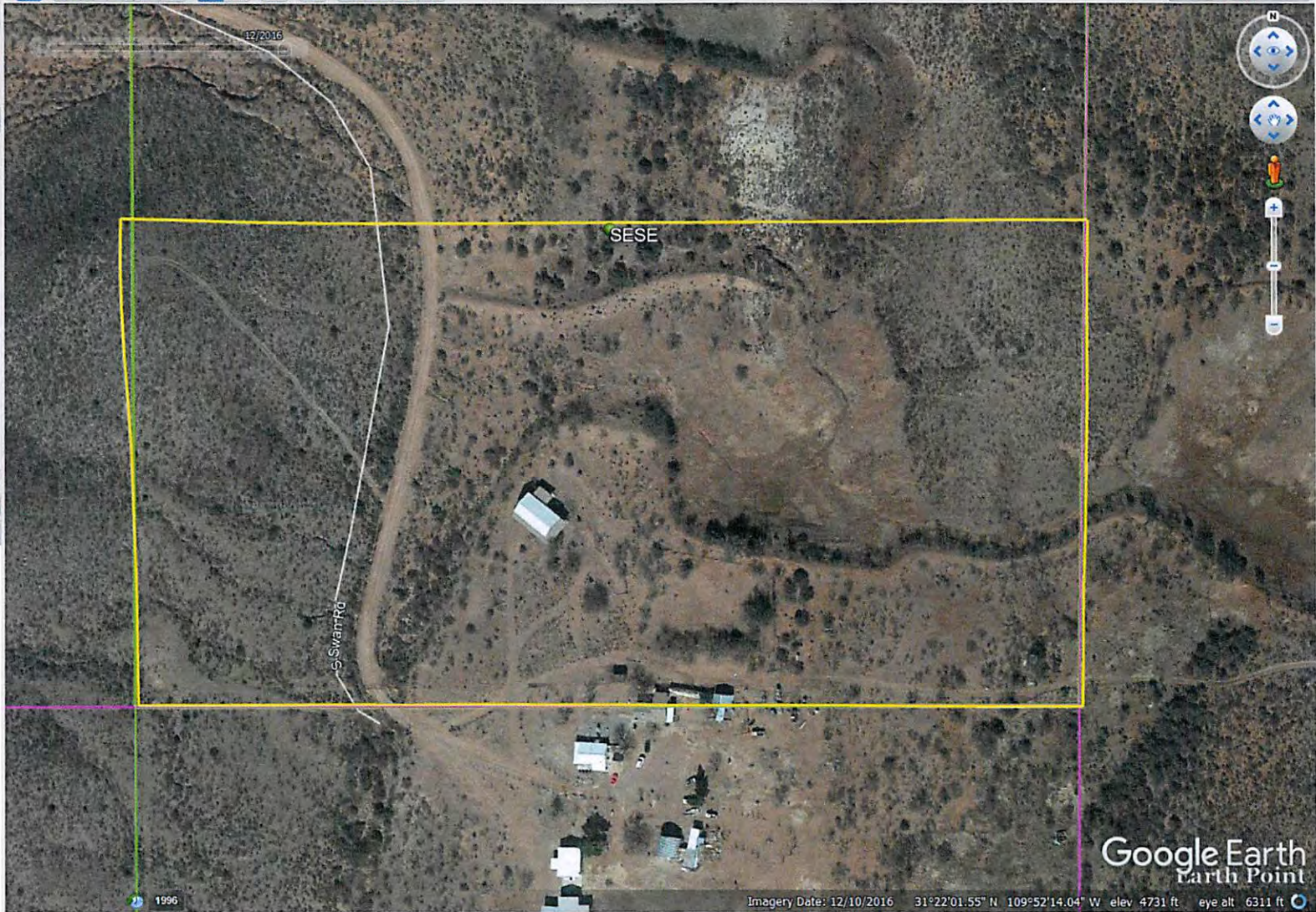
Get Directions History

Places

- ✓ 55-601459
- ✓ Untitled Path
- ✓ Untitled Path
- ✓ 55-519699
- ✓ Untitled Path
- ✓ Untitled Path
- ✓ Untitled Path
- Temporary Places
- ✓ Earth Point Townships
 - Click and link to an account or right-click and delete folder.
 - ✓ Subscription Message
- ✓ Earth Point Townships
 - Click and link to an account or right-click and delete folder.
 - ✓ Subscription Message
 - ✓ Click To Customize
 - ✓ Quarters
 - ✓ Sections
 - ✓ Townships
- ✓ 55-918866

Layers

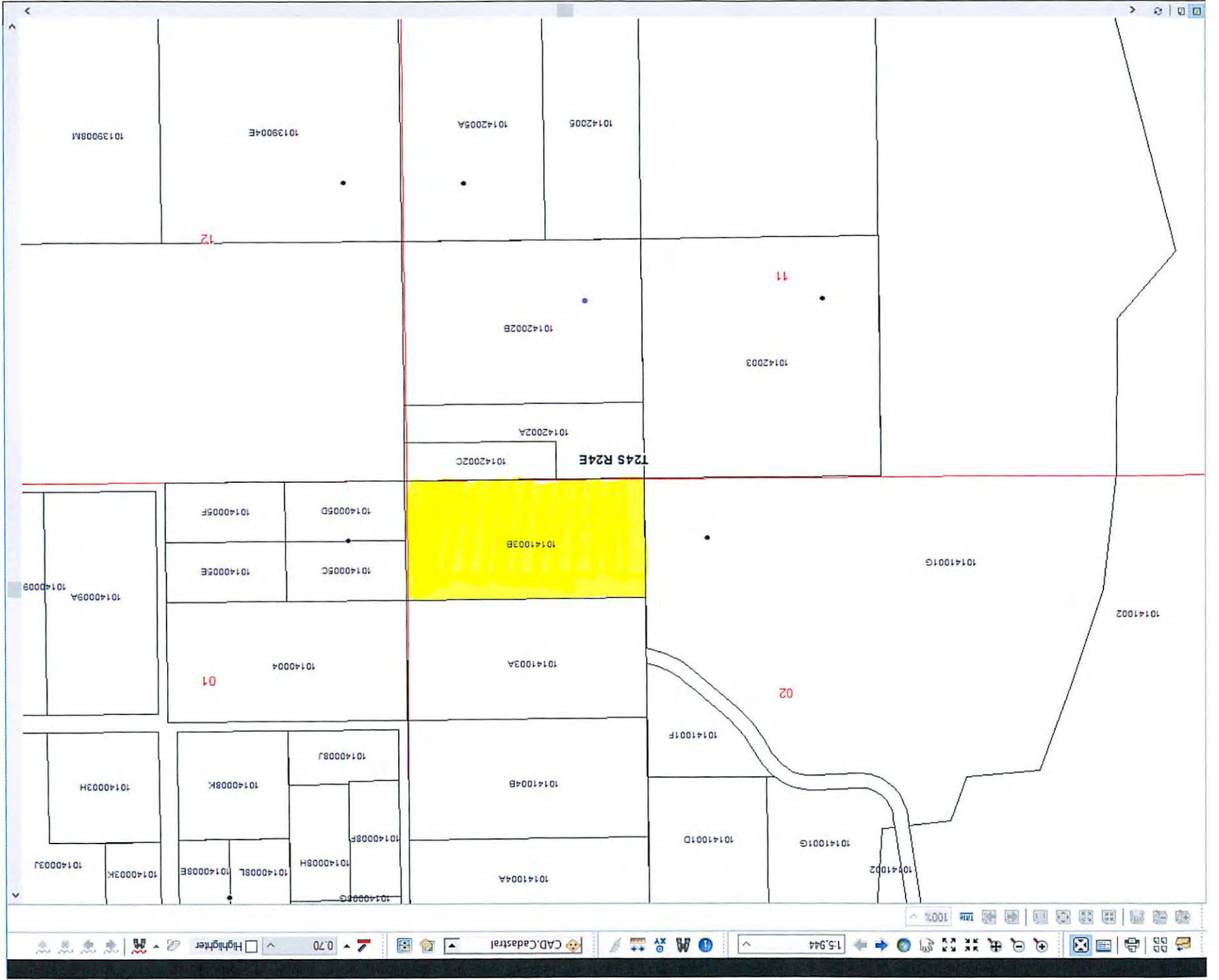
- Primary Database
- ✓ Borders and Labels
- ✓ Places
- Photos
- ✓ Roads
- 3D Buildings
- Ocean
- Weather
- Gallery
- Global Awareness
- More
- ✓ Terrain



Google Earth Earth Point

1996

Imagery Date: 12/10/2016 31°22'01.55" N 109°52'14.04" W elev 4731 ft eye alt 6311 ft



Parcel Details ✖

Attribute	Value
GID	50018
APN	10141003B
Book	101
Map	41
Parcel	003B
Zoning	RU-4
Category Designation	C-DEVELOPING
Tax Area Code	0200
School District	BISBEE (02)
Incorporated City	NONE
Fire District	NONE

Attribute	Value
Hospital District	NONE
Sanitation District	NONE
Light District	NONE
Flood District	NONE
Irrigation District	NONE
Road District	NONE
JTE District	COCHISE
Use Code	8714
Description	SFR ON > 5 AC RURAL NON SUBDIVIDED
Precinct Number	6

Attribute	Value
County Board of Supervisors	ANN ENGLISH - DIST 2
Cochise College Board	DENNIS L. NELSON - PCT 5
Justice of the Peace	ADAM AMBROSE - PCT 1
Reference	ASSESSOR LEGAL
Acres	NaN
2601 S SWAN RD	
Attribute	Value
ID	23842
APN	10141003B
Situs Address	2601 S SWAN RD
Community	BISBEE
Zip Code	85603

Arizona Department of Water Resources

1110 West Washington Street, Suite 310

Phoenix AZ 85007

Customer:

MOLLY R WILLIAMS
5356 HIGHLAND SHADOWS DR
SIERRA VISTA, AZ 85635

Receipt #: 19-61485
Office: MAIN OFFICE
Receipt Date: 09/17/2018
Sale Type: IN_PERSON
Cashier: WRJDL

Item No.	Function Code	AOBJ	Description	Ref ID	Qty	Unit Price	Ext Price
67482	WRFREV	4439-TT	Late registration of well	810034	1	60.00	60.00
RECEIPT TOTAL:							60.00

Payment type: CHECK

Amount Paid: \$60.00

Payment Received Date: 09/17/2018

Check #	154
---------	-----

Notes: FROM TTA.