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VIA UPS NEXT DAY AIR 1Z 871 126 02 9794 7995

January 28, 2015

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

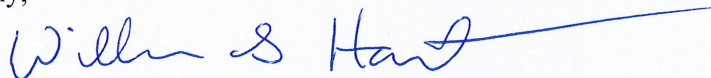
**Re: Groundwater Monitoring Report for the Fourth Quarter 2014
Mitigation Order on Consent No. P-121-07**

Dear Ms. Cross:

Freeport-McMoRan Corporation, Copper Queen Branch herein submits one copy of the attached Groundwater Monitoring Report for monitoring activities conducted in the fourth quarter of 2014. The report was prepared by Clear Creek Associates, P.L.C for Task 2.2 of the Aquifer Characterization Plan described in the Work Plan¹.

If you have any questions about this information please contact me at (520) 432-6206.

Sincerely,



William Hart
Sr. Environmental Scientist
Freeport Minerals Corporation

Enclosures

cc: Robert Quintanar/Freeport Minerals Corporation, Copper Queen Branch
Sheila Deely/Freeport-McMoRan Copper and Gold
Stuart Brown/Freeport-McMoRan Copper and Gold
Lee Wilkening/Freeport-McMoRan Copper and Gold
D. Mollenberg/Gallagher & Kennedy

¹Hydro Geo Chem, 2008. Revision I 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.

**FOURTH QUARTER 2014
GROUNDWATER MONITORING REPORT**

**TASKS 1.0 AND 2.2 OF AQUIFER CHARACTERIZATION PLAN
MITIGATION ORDER ON CONSENT DOCKET NO. P-121-07
COCHISE COUNTY, ARIZONA**



Prepared for:

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

Prepared by:

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January 27, 2014

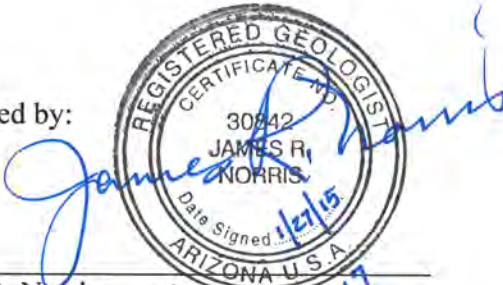
**FOURTH QUARTER 2014
GROUNDWATER MONITORING REPORT**

**TASKS 1.0 AND 2.2 OF AQUIFER CHARACTERIZATION PLAN
MITIGATION ORDER ON CONSENT DOCKET NO. P-121-07
COCHISE COUNTY, ARIZONA**

Prepared for:

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

Approved by:



James R. Norris
Arizona Registered Geologist No. 30842

January 27, 2014

TABLE OF CONTENTS

1.	INTRODUCTION	1
1.1	Scope of Groundwater Monitoring	1
2.	GROUNDWATER MONITORING RESULTS	3
2.1	Results of Monitoring	3
2.2	Quality Assurance/Quality Control Review	3
3.	FINDINGS	4
4.	REFERENCES	6

TABLES

1	Schedule for Water Quality Sampling and Water Level Monitoring
2	Summary of Groundwater Monitoring Program for Fourth Quarter 2014
3	Compilation of Analytical Results for Sulfate and Field Parameters
4	Compilation of Groundwater Elevation Data

FIGURES

1	Geologic Map with Monitoring Locations
2	Monitoring Locations
3	Sulfate Concentrations in Groundwater for Fourth Quarter 2014
4	Groundwater Elevations for Fourth Quarter 2014
5	Sulfate Concentration Over Time in Public Drinking Water Supply Wells
6	Hydrographs for BMO Monitor Wells in Basin Fill
7	Hydrographs for BMO Monitor Wells in Bedrock

APPENDICES

A	Data Verification Report
B	Analytical Reports
C	Groundwater Sampling Forms

1. INTRODUCTION

This report provides the results of groundwater monitoring conducted by Freeport Minerals Corporation Copper Queen Branch (CQB) in the fourth quarter 2014 in the vicinity of the Concentrator Tailing Storage Area (CTSA). Groundwater monitoring is conducted pursuant to Tasks 1 (well inventory of drinking water wells) and 2.2 (groundwater monitoring) of the Work Plan (Hydro Geo Chem, Inc. [HGC], 2008) (and subsequent modifications) to characterize sulfate in the vicinity of the CTSA. The Work Plan was initially submitted to Arizona Department of Environmental Quality (ADEQ) on December 17, 2007 pursuant to the Mitigation Order on Consent Docket No. P-121-07 (ADEQ, 2007). CQB initiated water sampling prior to work plan approval while ADEQ was commenting on the Work Plan and CQB was responding to their comments. Revision 1 of the Work Plan was submitted to ADEQ on July 3, 2008 and ADEQ approved the Work Plan on August 3, 2008. On January 25, 2010 CQB proposed a revised groundwater monitoring program (CQB, 2010). The revised monitoring program was approved by ADEQ in April 2010 (ADEQ, 2010). Clear Creek Associates (Clear Creek) prepared this groundwater monitoring report on behalf of CQB.

1.1 Scope of Groundwater Monitoring

The objectives of groundwater monitoring are:

- Determination of the sulfate concentration in drinking water supply wells within a one-mile radius of the sulfate plume's outer edge for the purposes of identifying the need for mitigation actions and tracking the plume margin,
- Identification of the plume margin for ongoing delineation of the plume extent and migration,
- Documentation of the sulfate concentration in the plume and at areas distal to the plume to monitor long-term concentration trends, and
- Measurement of water levels in the vicinity of the plume to document potentiometric conditions (CQB, 2010).

The groundwater sulfate plume consists of groundwater with sulfate in excess of 250 milligrams per liter (mg/L) attributable to the CTSA. The sample collection and analysis methods described in the Work Plan have been retained throughout the groundwater monitoring program. Table 1 provides the schedule for the groundwater monitoring program. Dissolved sulfate is the only constituent monitored.

Figure 1 presents a geologic map (Hayes and Landis, 1964) of the study area and well locations where data reported herein have been collected. The well locations are identified by name on Figure 2. Table 2 lists the sampling status of wells scheduled under the groundwater monitoring program for sampling in the fourth quarter 2014 and any additional wells where data were collected. The collection of groundwater samples was conducted by CQB and Clear Creek personnel. Groundwater sampling and analysis methods used by CQB and Clear Creek are described in the Quality Assurance Project Plan (QAPP) contained in Appendix F of the Work Plan (HGC, 2008). Results of groundwater monitoring are in Section 2.

The monitoring purpose listed on Table 2 was updated in the first quarter 2014 to reflect the current well usage. Current well usage was based on an updated well inventory submitted to ADEQ in June 2014 (Clear Creek, 2014). Drinking water supply wells are monitored under the Well Inventory task (Task 1.1) of the Mitigation Order Work Plan. All other wells are monitored to determine hydrologic conditions and the plume extent pursuant to the groundwater monitoring task (Task 2.2) of the Work Plan.

2. GROUNDWATER MONITORING RESULTS

2.1 Results of Monitoring

Analytical results and groundwater elevation data for the fourth quarter 2014 are tabulated in Tables 3 and 4, respectively, along with the results of previous monitoring under the Mitigation Order. Figure 3 shows the concentrations of dissolved sulfate in the well water samples. The highest sulfate concentration measured at co-located wells was used for concentration contouring. Figure 4 shows groundwater elevations in the fourth quarter 2014. Groundwater elevations were calculated using depth to water measurements made under static (non-pumping) conditions whenever possible. The most recent measuring point elevation data for each well was used to calculate groundwater elevations in Table 4. At wells with multiple samples or water levels during the fourth quarter 2014, the most recent data are shown on the figures.

2.2 Quality Assurance/Quality Control Review

Pursuant to Section 6.4 of the QAPP, a data verification report was prepared for quality assurance and quality control purposes. The data verification report, analytical laboratory reports, and groundwater sampling forms for samples collected by Clear Creek and CQB during the fourth quarter 2014 are included in Appendices A, B, and C, respectively. As determined by the data verification review, the analytical results for samples collected in the fourth quarter 2014 are of acceptable quality for use in activities conducted pursuant to the Mitigation Order.

3. FINDINGS

In the fourth quarter of 2014, groundwater samples were collected from 53 wells and depth to water measurements were collected in 49 wells. The December 2010 Aquifer Characterization Report (Clear Creek, 2010) provides detailed descriptions of the hydrogeology, water quality, and sulfate plume. Findings based on the fourth quarter 2014 and historical groundwater monitoring are described below.

- Sulfate concentration data indicate that the plume extends from the vicinity of the former evaporation pond (Figure 2) southwest to the vicinity of Naco and south to the vicinity of Bisbee Junction (Figure 3). The groundwater monitoring data indicate that the sulfate plume extends over an oblong area of approximately 2 miles by 3.9 miles and is contained primarily in the basin fill and undifferentiated Bisbee Group except near the former evaporation pond where wells in the Glance Conglomerate have sulfate concentrations greater than 250 mg/L. The extent of the sulfate plume and the sulfate contours as drawn on Figure 3 are based on both historical and current sulfate concentration data. Historical sulfate concentration data are available in this and previous groundwater monitoring reports and in the Aquifer Characterization Report (Clear Creek, 2010).
- Comparison of the fourth quarter 2014 sulfate concentrations with previous quarters indicates no large scale change in the plume geometry (represented by the position of the 250 mg/L sulfate concentration contour) since the Mitigation Order sampling began in 2008, although concentration contours within the plume have been modified to reflect current concentrations.
- Figure 5 shows sulfate concentrations through time at public drinking water supply wells. Sulfate concentrations have remained relatively stable over time at AWC-02, AWC-04, AWC-05, NWC-02, and NWC-06. The sulfate concentration at AWC-03 increased from 41 mg/L to 69.1 mg/L between 2008 and July 2014. The fourth quarter sample at AWC-03 had a sulfate concentration of 63 mg/L. There was an increasing trend in the sulfate concentrations in NWC-04 from October 2008 to February 2013; however concentrations were highly variable from month to month. Sulfate concentrations at NWC-04 have shown a decreasing trend since February 2013, and ranged between 163 and 223 mg/L in 2014.
- Groundwater elevations decrease from east to west across the study area, indicating westerly groundwater flow (Figure 4).
- Figures 6 and 7 show groundwater elevations over time for BMO monitor wells with screened intervals in basin fill and bedrock, respectively. Groundwater elevations in BMO monitor wells screened in basin fill have decreased over time. The maximum rate of decline measured in the basin fill through the most recent quarter sampled is 1.22 feet per year in BMO-2008-3B, which declined 7.31 feet between July 2008 and July 2014. Groundwater elevations in most BMO monitor wells screened in bedrock have also declined over time.

The maximum rate of decline measured in the bedrock through the most recent quarter sampled is 2.05 feet per year in BMO-2008-1G which declined 12.09 feet between August 2008 and July 2014. Water level declines range from 0.66 to 1.25 feet per year in BMO-2008-5M, BMO-2008-6M, BMO-2008-7M, BMO-2008-8M, BMO-2008-9M, BMO-2008-13M, and BMO-2010-3M. The groundwater elevations in bedrock wells BMO-2008-10GL, BMO-2008-10GU, BMO-2008-11G, BMO-2010-1M, BMO-2010-2M, and BMO-2012-1M display increasing trends.

4. 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. 2010. Correspondence from Cynthia Campbell, ADEQ, to Rebecca Sawyer, CQB, Re: Request to Modify Groundwater Monitoring Program, Mitigation Order on Consent No. P-127-07, Your Letter dated January 25, 2010. April 22, 2010.
- Clear Creek Associates (Clear Creek). 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. 2014. Well Inventory Update, Task 1 of Aquifer Characterization Plan for Mitigation Order on Consent No. P-121-07. June 30, 2014.
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- Hayes, P.T. and E.R. Landis. 1964. Geologic Map of the Southern Part of the Mule Mountains, Arizona. United States Geological Survey Miscellaneous Geologic Investigations Map-418.
- Hydro Geo Chem, Inc. (HGC). 2008. Revision 1, Work Plan to Characterize and Mitigate Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Concentrator Tailing Storage Area, Cochise County, Arizona. July 3, 2008.

TABLES

TABLE 1
Schedule for Water Quality Sampling and Water Level Monitoring

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

TABLE 1
Schedule for Water Quality Sampling and Water Level Monitoring

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

TABLE 1
Schedule for Water Quality Sampling and Water Level Monitoring

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

Notes:

35-71891 = ADWR 35 Database

ADWR = Arizona Department of Water Resources

NR = No Record

WLO = Water Level Only

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2014

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
ANDERSON 396	613396	Anderson	Plume	236	Y	Y	Water quality sample collected in October 2014.
ANDERSON 458	221458	Anderson	Well Inventory	734	Y	Y	Water quality sample collected in October 2014.
ASLD 435	616435	AZ State Land	Regional	340	Y	N	Well identified for water level measurements only. Water level measured in November 2014.
AWC-02	616586	Arizona Water Company	Well Inventory	330	Y	Y	Water quality sample collected in October 2014.
AWC-03	616585	Arizona Water Company	Well Inventory	269	Y	Y	Water quality sample collected in October 2014.
AWC-04	616584	Arizona Water Company	Well Inventory	250	Y	Y	Water quality sample collected in October 2014.
AWC-05	590620	Arizona Water Company	Well Inventory	1183	Y	Y	Water quality sample collected in October 2014.
BANKS 986	647986	Banks	Well Inventory	435	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead is inaccessible.
BANKS 987	647987	Banks	Plume	339	Y	N	Well is not scheduled for fourth quarter monitoring. Water level measured in October 2014.
BARTON 919	644919	Barton	Plume	130	N	N	Well is not scheduled for fourth quarter monitoring.
BF-01	539783	Copper Queen Branch	Plume	400	N	N	Well abandoned April 2013.
BIMA	577927	Bisbee Municipal Airport	Well Inventory	465	N	Y	Water quality sample collected in October 2014. Unable to measure water level due to obstruction in well.
BMO-2008-1G	909474	Copper Queen Branch	Plume	310	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-3B	909147	Copper Queen Branch	Plume	260	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-4B	910096	Copper Queen Branch	Plume	610	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-5B	909653	Copper Queen Branch	Well Inventory	285	Y	Y	Water quality sample collected in November 2014.
BMO-2008-5M	909552	Copper Queen Branch	Plume	450	Y	Y	Water quality sample collected in November 2014.
BMO-2008-6B	909146	Copper Queen Branch	Plume	265	Y	Y	Water quality sample collected in November 2014.
BMO-2008-6M	909019	Copper Queen Branch	Plume	450	Y	Y	Water quality sample collected in November 2014.
BMO-2008-7M	908794	Copper Queen Branch	Plume	670	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-8B	910097	Copper Queen Branch	Plume	480	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-8M	909711	Copper Queen Branch	Plume	1210	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-9M	909255	Copper Queen Branch	Plume	775	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-10GL	909435	Copper Queen Branch	Plume	810	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-10GU	909272	Copper Queen Branch	Plume	449	N	N	Well is not scheduled for fourth quarter monitoring.

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2014

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
BMO-2008-11G	909434	Copper Queen Branch	Plume	760	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-13B	909551	Copper Queen Branch	Plume	474	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2008-13M	909760	Copper Queen Branch	Plume	1030	N	N	Well is not scheduled for fourth quarter monitoring.
BMO-2010-1M	219957	Copper Queen Branch	Plume	540	Y	Y	Water quality sample collected in November 2014.
BMO-2010-2M	219958	Copper Queen Branch	Plume	370	Y	Y	Water quality sample collected in November 2014.
BMO-2010-3B	219970	Copper Queen Branch	Plume	330	Y	Y	Water quality sample collected in October 2014.
BMO-2010-3M	219969	Copper Queen Branch	Plume	532	Y	Y	Water quality sample collected in October 2014.
BMO-2012-1M	221388	Copper Queen Branch	Plume	396	Y	Y	Water quality sample collected in November 2014.
BOOTH	914931	Booth	Well Inventory	240	N	N	Well owner has declined participation in groundwater sampling program.
BURKE	212268	Burke	Well Inventory	781	Y	Y	Water quality sample collected in October 2014.
CHAMBERS	629807	Chambers	Well Inventory	245	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead is inaccessible.
COB MW-1	903992	City of Bisbee	Plume	420	N	N	Well is not scheduled for fourth quarter monitoring.
COB MW-2	903984	City of Bisbee	Plume	170	N	N	Well is not scheduled for fourth quarter monitoring.
COB MW-3	906823	City of Bisbee	Plume	269	N	N	Well is not scheduled for fourth quarter monitoring.
COB WL	593116	City of Bisbee	Plume	150	N	N	Well is not scheduled for fourth quarter monitoring.
COOPER	623564	Cooper	Well Inventory	325	N	Y	Water quality sample collected in October 2014. Unable to measure water level due to obstruction in well.
COOPER C	637069	Copper Queen Branch	Plume	220	Y	Y	Water quality sample collected in November 2014.
DODSON	644927	Dodson	Well Inventory	200	Y	Y	Water quality sample collected in October 2014.
DOUGLASS 791	592791	Douglass	Plume	200	N	N	Well is not scheduled for fourth quarter monitoring.
DOUGLASS 792	592792	Douglass	Plume	200	N	N	Well is not scheduled for fourth quarter monitoring.
DURAZO	NR	Durazo	Plume	ND	N	N	Well is not operational. Unable to measure water level because wellhead is inaccessible.
EAST	599796	East	Well Inventory	125	Y	Y	Water quality sample collected in October 2014.
ECHAVE	219449	Echave	Well Inventory	345	N	Y	Water quality sample collected in October 2014. Unable to measure water level due to obstruction in well.
EPPELE 641	805641	Epele	Well Inventory	265	Y	Y	Water quality sample collected in October 2014.
FLEMING	218386	Fleming	Plume	400	N	N	Well is not scheduled for fourth quarter monitoring.

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2014

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
FRANCO 101	500101	Franco	Plume	200	Y	N	Water level measured in November 2014. Unable to collect water quality sample because well is not operational.
FRANCO 383	221383	Franco	Well Inventory	711	Y	Y	Water quality sample collected in October 2014.
FULTZ	212447	Fultz	Well Inventory	300	N	N	Water quality sample not collected per owner request. Unable to measure water level due to obstruction in well.
GARNER 557	558557	Garner	Plume	300	N	N	Well is not scheduled for fourth quarter monitoring.
GARNER 635	587635	Garner	Well Inventory	680	N	N	Well owner was unable to participate in groundwater sampling program this quarter.
GGOOSE 547	628547	Copper Queen Branch	Plume	800	N	N	Well is not scheduled for fourth quarter monitoring.
GOAR RANCH	610695	Goar	Plume	250	N	N	Well is not scheduled for fourth quarter monitoring.
HOBAN	805290	Copper Queen Branch	Plume	316	Y	Y	Water quality sample collected in November 2014.
HOWARD 312	221312	Howard	Well Inventory	980	Y	Y	Water quality sample collected in October 2014.
HOWARD NR	NR	Howard	Plume	200	Y	Y	Water quality sample collected in October 2014.
KEEFER	209744	Keefer	Well Inventory	245	Y	Y	Water quality sample collected in October 2014.
LADD 251	520251	Ladd	Regional	280	Y	N	Well identified for water level measurements only. Water level measured in November 2014.
LADD 538	503538	Ladd	Regional	282	Y	N	Well identified for water level measurements only. Water level measured in November 2014.
LADD 837	519837	AZ State Land	Regional	460	Y	N	Well identified for water level measurements only. Water level measured in November 2014.
LADD 977	642977	Ladd	Regional	165	Y	N	Well identified for water level measurements only. Water level measured in November 2014.
MARCELL	NR	Marcell	Well Inventory	220	N	N	Unable to collect water quality sample because well is not operational. Unable to measure water level because port in wellhead is corroded and cannot be opened.
MCCONNELL 265	539265	McConnell	Plume	216	Y	Y	Water quality sample collected in October 2014.
MCCONNELL 459	221459	McConnell	Well Inventory	863	Y	Y	Water quality sample collected in October 2014.
METZLER	35-71891	Metzler	Plume	351	Y	N	Water level measured in October 2014. Unable to collect water quality sample because well is not operational.
MOORE	538847	Moore	Well Inventory	220	N	Y	After repeated attempts, unable to contact well owner for access.
NESS	509127	Ness	Well Inventory	812	N	N	Well is not scheduled for fourth quarter monitoring.
NOTEMAN	212483	Bailey	Well Inventory	400	N	Y	Water quality sample collected in December 2014. Unable to measure water level because wellhead is inaccessible.
NSD-02	527587	Naco Sanitary District	Regional	120	Y	N	Well identified for water level measurements only. Water level measured in December 2014.
NSD-03	527586	Naco Sanitary District	Regional	100	Y	N	Well identified for water level measurements only. Water level measured in December 2014.
NWC-02	562944	Naco Water Company	Well Inventory	312	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead port is stuck shut.

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2014

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
NWC-03	203321	Naco Water Company	Well Inventory	312	N	N	Well abandoned in first quarter 2013.
NWC-03 CAP	627684	Naco Water Company	Plume	179	N	N	Well is not scheduled for fourth quarter monitoring.
NWC-04	551849	Naco Water Company	Well Inventory Sulfate Trend	795	N	Y	Water quality sample collected in October, November, and December 2014. Unable to measure water level because wellhead port is stuck shut.
NWC-06	575700	Naco Water Company	Well Inventory	410	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead port is stuck shut.
OSBORN	643436	2	Well Inventory	258	N	N	Well is not scheduled for fourth quarter monitoring.
PALMER	578819	Palmer	Well Inventory	220	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead is inaccessible.
PANAGAKOS	35-76413	Panagakos	Well Inventory	200	Y	Y	Water quality sample collected in October 2014.
PARRA	576415	Parra	Plume	355	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead is inaccessible.
PIONKE 395	613395	Pionke	Plume	300	Y	N	Water level measured in October 2014. Unable to collect water quality sample because well is not operational.
PIONKE 517	221517	Pionke	Well Inventory	604	Y	Y	Water quality sample collected in October 2014.
POOL	509518	Pool	Well Inventory	313	N	N	After repeated attempts, unable to contact well owner for access.
POWER 639	222639	Power	Well Inventory	480	Y	N	Water level measured in October 2014. Unable to collect water quality sample due to lack of power to well.
RAMIREZ	216425	Ramirez	Well Inventory	300	N	Y	Water quality sample collected in October 2014. Unable to measure water level due to obstruction in well.
RAY	803772	Ray	Well Inventory	100	Y	Y	Water quality sample collected in October 2014.
ROGERS 596	573596	Rogers, David	Plume	290	N	N	Unable to contact new property owner for sample collection
ROGERS 803	641803	Rogers, David	Well Inventory	140	N	N	Unable to contact new property owner for sample collection
ROGERS E	216018	Rogers, Ernest	Well Inventory	290	N	Y	Water quality sample collected in October 2014. Unable to measure water level due to obstruction in well.
RUIZ	531770	Ruiz	Well Inventory	312	Y	Y	Water quality sample collected in October 2014.
SCHWARTZ	210865	Schwartz	Well Inventory	305	Y	Y	Water quality sample collected in October 2014.
STEPHENS	808560	Stephens	Plume	NR	N	N	Well is not scheduled for fourth quarter monitoring.
SUNBELT	201531	Sunbelt Marketing, Inc.	Plume	380	N	N	Well is not scheduled for fourth quarter monitoring.
SWAN	NR	Swan	Well Inventory	NR	N	N	Well is not scheduled for fourth quarter monitoring.
THOMPSON 151	612151	Thompson	Plume	NR	Y	N	Water level measured in October 2014. Well is not scheduled for fourth quarter monitoring.
THOMPSON 341	218341	Thompson	Well Inventory	285	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead is inaccessible.
TM-02A	522574	Copper Queen Branch	Plume	925	N	N	Well is not scheduled for fourth quarter monitoring.

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2014

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
TM-06 MILLER	522695	Miller	Plume	200	N	N	Well is not scheduled for fourth quarter monitoring.
TM-07	522576	Copper Queen Branch	Plume	350	N	N	Well is not scheduled for fourth quarter monitoring.
TM-10 USBP	522696	USBP	Regional	290	Y	Y	Water quality sample collected in October 2014.
TM-15 MILLER	522699	Miller	Plume	325	N	N	Well is not scheduled for fourth quarter monitoring.
TM-16	522578	Copper Queen Branch	Plume	115	N	N	Well is not scheduled for fourth quarter monitoring.
TM-19A	522580	Copper Queen Branch	Plume	700	N	N	Well is not scheduled for fourth quarter monitoring.
TM-42	562554	Copper Queen Branch	Plume	250	N	N	Well is not scheduled for fourth quarter monitoring.
TVI 236	802236	Turquoise Valley, Inc.	Well Inventory	222	N	N	Well is not scheduled for fourth quarter monitoring.
TVI 713	567713	Turquoise Valley, Inc.	Well Inventory	200	Y	N	Water level measured in October 2014. Well is not scheduled for fourth quarter monitoring.
TVI 875	568875	Turquoise Valley, Inc.	Plume	330	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead is inaccessible.
WEED	544535	Weed	Well Inventory	320	N	Y	Water quality sample collected in October 2014. Unable to measure water level because wellhead is inaccessible.
WEISKOPF 802	641802	Weiskopf	Plume	200	Y	Y	Water quality sample collected in October 2014.
WEISKOPF 897	221897	Weiskopf	Well Inventory	947	Y	Y	Water quality sample collected in October 2014.
ZANDER	205126	Zander	Well Inventory	280	N	Y	Water quality sample collected in October 2014. Unable to measure water level due to obstruction in well.

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		
ANDERSON 458	221458	9/9/12	8.34	25.9	406.3	31
		10/10/12	8.13	23.8	412.3	30.3
		1/17/13	8.06	23.7	416.0	30.9
		4/15/13	8.19	23.5	402.7	32.3
		7/18/13	8.18	24.3	401.9	23
		10/16/13	8.10	23.8	400.1	25.2
		1/9/14	8.15	22.9	399.3	26.2
		1/9/14 DUP	8.15	22.9	399.3	26.2
		4/7/14	8.16	24.0	401.6	27.5
		7/11/14	8.13	24.5	396.7	25.3
10/6/14	8.06	25.6	384	26.0		
AWC-02	616586	1/7/08	ND	ND	ND	14
		3/3/08	ND	ND	ND	16
		5/5/08	ND	ND	ND	13.3
		8/12/08	7.01	22.3	630	14.3
		10/23/08	7.31	23.1	464	15.9
		3/11/09	7.19	21.8	420	15.5
		4/22/09	7.17	22.6	430	14.7
		7/22/09	7.24	22.7	444	14.2
		10/21/09	7.19	21.3	468	16.8
		2/3/10	7.44	19.7	449	18.6
		4/23/10	7.56	19.7	526	18.3
		7/20/10	7.27	23.9	450	18.2
		11/4/10	7.72	21.3	465.9	18.8
		1/19/11	7.84	19.0	500	18.4
		4/7/11	7.27	20.3	488.5	17.3
		7/13/11	5.93	23.9	431.5	12.9
		10/13/11	6.72	25.1	464.6	17.4
		10/13/11 DUP	6.72	25.1	464.6	17.4
		2/2/12	7.20	20.8	479.5	19.4
		4/24/12	7.23	23.0	430	15.5
		7/5/12	7.25	22.1	437.1	10.1
		10/18/12	7.48	21.6	473.6	13.0
		2/5/13	7.54	19.3	448.9	18.0
		4/11/13	7.53	22.1	471.3	17.2
		7/25/13	7.35	22.1	460.5	14.7
		10/9/13	7.53	21.2	476.4	15.5
		1/7/14	7.45	20.3	503.7	18.8
1/7/14 DUP	7.45	20.3	503.7	18.9		
5/14/14	7.34	21.0	508.4	19.2		
7/16/14	7.54	21.8	499.5	19.2		
10/15/14	7.26	23.2	520	18.9		

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

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

Notes:

35-71891 = ADWR 35 Database

ADWR = Arizona Department of Water Resources

deg C = degrees Celsius

DUP = Blind duplicate

M = Multi-Meter Malfunction

mg/L = milligrams per liter

ND = No Data

NR = No Record

SC = Specific Conductance

SU = Standard Units

µS/cm = microsiemens per centimeter

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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
ANDERSON 396	613396	601134.729	3468816.065	4588.51	3/20/08	145.46	4443.05
					5/5/08	145.84	4442.67
					7/14/08	146.16	4442.35
					10/15/08	146.21	4442.30
					1/27/09	145.97	4442.54
					4/14/09	146.21	4442.30
					7/14/09	146.88	4441.63
					10/12/09	147.31	4441.20
					1/27/10	147.31	4441.20
					4/21/10	147.57	4440.94
					7/19/10	148.34	4440.17
					10/19/10	147.75	4440.76
					1/17/11	148.63	4439.88
					4/11/11	149.46	4439.05
					7/14/11	149.92	4438.59
					10/11/11	150.19	4438.32
					2/1/12	150.19	4438.32
					4/25/12	150.69	4437.82
					7/12/12	151.34	4437.17
					10/10/12	151.50	4437.01
1/17/13	151.24	4437.27					
4/15/13	152.08	4436.43					
7/18/13	152.19	4436.32					
10/16/13	152.41	4436.10					
1/9/14	152.14	4436.37					
4/7/14	152.56	4435.95					
7/11/14	152.02	4436.49					
10/6/14	152.7	4435.81					
ANDERSON 458	221458	601118.690	3468826.284	4585.37	9/7/12	173.76	4411.61
					10/10/12	151.82	4433.55
					1/17/13	152.17	4433.20
					4/15/13	158.42	4426.95
					7/18/13	157.56	4427.81
					10/16/13	156.24	4429.13
					1/9/14	152.58	4432.79
					4/7/14	153.54	4431.83
					7/11/14	156.66	4428.71
10/6/14	157.31	4428.06					
ASLD 435	616435	593496.865	3468879.791	4471.34	6/27/13	250.85	4220.49
					9/24/13	250.85	4220.49
					12/3/13	250.79	4220.55
					2/25/14	250.75	4220.59
					6/4/14	250.93	4220.41
					9/10/14	250.97	4220.37
					11/20/14	250.66	4220.68
AWC-02	616586	598907.911	3468549.357	4547.64	8/27/08	121.12	4426.52
					4/8/08	116	4431.64
					10/23/08 ¹	115	4432.64
					4/22/09 ¹	118	4429.64
					10/9/09 ¹	117	4430.64
					4/23/10 ¹	119	4428.64
					4/11/13	127.64	4420.00
					7/25/13	128.89	4418.75
					10/7/13 ¹	125.00	4422.64
					1/7/14	125.36	4422.28
					5/14/14	124.89	4422.75
					7/16/14	124.49	4423.15
10/15/14	122.52	4425.12					

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-03	616585	599090.322	3468681.898	4539.52	8/27/08	119.40	4420.12
					4/8/08	112	4427.52
					10/23/08 ¹	106	4433.52
					4/22/09 ¹	114	4425.52
					10/9/09 ¹	116	4423.52
					4/23/10 ¹	116	4423.52
					4/11/13 ¹	125	4414.52
					7/16/13 ¹	126	4413.52
					10/7/13 ¹	122	4417.52
					1/7/14 ¹	121	4418.60
					5/14/14 ¹	121.50	4418.02
7/16/14 ¹	123.50	4416.02					
10/15/14	119.6	4419.92					
AWC-04	616584	598949.929	3468717.084	4540.48	8/18/08	112.56	4427.92
					4/8/08	108	4432.48
					10/23/08 ¹	111.31	4429.17
					4/22/09 ¹	110	4430.48
					10/9/09 ¹	110	4430.48
					4/23/10 ¹	109	4431.48
					4/11/13	120.93	4419.55
					7/16/13	123.76	4416.72
					10/7/13 ¹	116.00	4424.48
					1/7/14	115.98	4424.50
					5/14/14	115.32	4425.16
7/16/14	118.44	4422.04					
10/15/14	114.29	4426.19					
AWC-05	590620	599269.904	3468541.692	4542.51	8/27/08	299.65	4242.86
					4/8/08	284	4258.51
					10/23/08	284	4258.51
					4/22/09	286	4256.51
					6/3/09	125	4417.51
					10/9/09 ¹	289	4253.51
					4/23/10 ¹	278	4264.51
					4/11/13	229.56	4312.95
					7/16/13	203.17	4339.34
					10/7/13 ¹	142.00	4400.51
					1/7/14	123.09	4419.42
5/14/14	346.75	4195.76					
7/16/14	346.34	4196.17					
10/15/14	316.16	4226.35					

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)
BANKS 987	647987	606981.921	3469206.175	4648.18	2/27/08	208.00	4440.18
					5/12/08	216.30	4431.88
					7/21/08	228.95	4419.23
					10/13/08	228.20	4419.98
					1/21/09	206.64	4441.54
					4/8/09	205.50	4442.68
					7/9/09	235.68	4412.50
					10/7/09	236.71	4411.47
					2/25/10	216.98	4431.20
					4/20/10	219.35	4428.83
					7/20/10	235.60	4412.58
					10/20/10	230.24	4417.94
					1/17/11	215.28	4432.90
					4/5/11	221.68	4426.50
					7/11/11	237.39	4410.79
					10/12/11	237.34	4410.84
					1/31/12	228.95	4419.23
					4/11/12	219.39	4428.79
					7/6/12	232.59	4415.59
					10/4/12	237.16	4411.02
1/18/13	237.81	4410.37					
4/8/13	237.92	4410.26					
7/9/13	238.32	4409.86					
10/15/13	239.48	4408.70					
1/14/14	239.53	4408.65					
4/8/14	231.49	4416.69					
7/8/14	228.85	4419.33					
10/21/14	233.96	4414.22					
BARTON 919	644919	606243.850	3469076.689	4692.36	5/12/08	113.71	4578.65
					7/23/08	113.56	4578.80
					10/16/08	113.20	4579.16
					3/11/09	112.92	4579.44
					4/10/09	112.89	4579.47
					7/7/09	112.86	4579.50
					7/17/13	114.18	4578.18
					1/14/14	113.96	4578.40
7/17/14	113.42	4578.94					
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
					3/11/10	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					

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)
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					
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					

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-2008-4B	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					
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					

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					
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					

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					
BMO-2008-7M	908794	603099.165	3470029.283	4688.33	7/14/08	238.31	4450.02
					11/6/08	239.69	4448.64
					2/18/09	238.90	4449.43
					5/11/09	239.03	4449.30
					8/6/09	239.17	4449.16
					10/27/09	239.55	4448.78
					2/17/10	239.98	4448.35
					4/15/10	240.13	4448.20
					7/6/10	240.28	4448.05
					2/14/11	241.26	4447.07
					7/15/11	241.81	4446.52
					1/30/12	242.44	4445.89
					7/11/12	243.0	4445.33
					2/15/13	243.8	4444.53
8/28/13	244.32	4444.01					
2/13/14	244.31	4444.02					
7/22/14	244.66	4443.67					
BMO-2008-8B	910097	604171.347	3471141.719	4753.25	12/5/08	297.94	4455.31
					2/19/09	297.63	4455.62
					5/5/09	297.37	4455.88
					8/10/09	297.53	4455.72
					11/9/09	297.85	4455.40
					3/3/10	298.37	4454.88
					4/16/10	298.46	4454.79
					7/1/10	298.64	4454.61
					2/11/11	299.56	4453.69
					5/13/11	299.78	4453.47
					7/15/11	300.00	4453.25
					1/30/12	300.52	4452.73
					7/12/12	301.15	4452.10
					2/13/13	302.05	4451.20
8/12/13	302.48	4450.77					
7/24/14	301.86	4451.39					

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					
BMO-2008-9M	909255	604668.669	3471121.675	4762.61	8/8/08	287.17	4475.44
					11/5/08	287.65	4474.96
					2/26/09	285.65	4476.96
					5/12/09	285.28	4477.33
					8/17/09	286.09	4476.52
					11/3/09	286.55	4476.06
					3/4/10	287.45	4475.16
					4/6/10	287.81	4474.80
					7/1/10	288.26	4474.35
					2/10/11	289.77	4472.84
					5/13/11	290.47	4472.14
					7/15/11	290.95	4471.66
					2/1/12	293.44	4469.17
					7/12/12	294.65	4467.96
					2/13/13	296.67	4465.94
8/12/13	297.63	4464.98					
2/18/14	293.68	4468.93					
7/24/14	293.53	4469.08					
BMO-2008-10GL	909435	605264.072	3471702.043	4792.21	8/20/08	521.75	4270.46
					11/5/08	520.50	4271.71
					2/25/09	516.72	4275.49
					5/12/09	514.68	4277.53
					8/11/09	513.23	4278.98
					11/2/09	509.43	4282.78
					3/4/10	510.88	4281.33
					4/8/10	506.31	4285.90
					7/2/10	511.80	4280.41
					7/13/11	512.16	4280.05
					2/2/12	511.34	4280.87
					7/13/12	510.90	4281.31
					2/18/13	509.91	4282.30
					8/13/13	509.32	4282.89
8/7/14	507.21	4285.00					

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-2008-10GU	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					
BMO-2008-11G	909434	603800.995	3472626.482	4844.67	8/22/08	577.76	4266.91
					11/12/08	576.80	4267.87
					2/26/09	575.91	4268.76
					4/8/09	575.46	4269.21
					8/12/09	574.84	4269.83
					11/9/09	573.41	4271.26
					3/1/10	573.68	4270.99
					4/9/10	573.56	4271.11
					7/1/10	572.97	4271.70
					2/10/11	571.61	4273.06
					7/22/11	571.20	4273.47
					1/31/12	569.83	4274.84
					8/14/12	569.70	4274.97
					2/13/13	568.75	4275.92
8/27/13	566.50	4278.17					
2/19/14	564.68	4279.99					
8/14/14	564.24	4280.43					
BMO-2008-13B	909551	601657.612	3470076.358	4649.21	10/3/08	206.42	4442.79
					2/17/09	206.11	4443.10
					5/6/09	206.32	4442.89
					8/5/09	206.79	4442.42
					10/28/09	207.08	4442.13
					2/16/10	207.26	4441.95
					4/14/10	207.27	4441.94
					7/6/10	207.68	4441.53
					2/10/11	208.51	4440.70
					5/13/11	208.95	4440.26
					7/15/11	209.36	4439.85
					2/9/12	209.78	4439.43
					7/11/12	210.60	4438.61
					2/27/13	211.40	4437.81
9/4/13	212.15	4437.06					
8/19/14	212.68	4436.53					

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-2008-13M	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
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
BMO-2010-2M	219958	605685.549	3470564.646	4746.16	9/7/10	264.13	4482.03
					11/11/10	263.94	4482.22
					2/10/11	264.13	4482.03
					5/13/11	266.97	4479.19
					7/14/11	268.05	4478.11
					12/13/11	270.98	4475.18
					1/30/12	271.50	4474.66
					4/18/12	272.31	4473.85
					7/9/12	273.20	4472.96
					10/17/12	274.27	4471.89
					2/13/13	275.52	4470.64
					5/8/13	276.05	4470.11
					8/15/13	278.76	4467.40
					11/4/13	273.26	4472.90
					2/12/14	271.44	4474.72
5/8/14	270.65	4475.51					
8/14/14	270.78	4475.38					
11/12/14	263.19	4482.97					

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2010-3B	219970	599977.962	3468347.363	4550.59	7/28/10	115.38	4435.21
					11/10/10	115.80	4434.79
					1/20/11	115.46	4435.13
					4/7/11	116.11	4434.48
					7/13/11	117.30	4433.29
					10/13/11	117.72	4432.87
					2/2/12	117.18	4433.41
					4/24/12	117.92	4432.67
					7/5/12	118.84	4431.75
					10/18/12	119.13	4431.46
					1/16/13	118.89	4431.70
					4/16/13	119.36	4431.23
					7/23/13	120.02	4430.57
					10/8/13	119.63	4430.96
BMO-2010-3M	219969	599970.801	3468353.543	4550.53	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
					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					
BMO-2012-1M	221388	606097.384	3469746.747	4719.76	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
					11/13/12	231.90	4487.86
BOOTH	914931	601132.466	3468049.945	4568.21	2/27/13	233.20	4486.56
					5/8/13	233.97	4485.79
					8/14/13	233.96	4485.80
BURKE	212268	602230.087	3473029.816	4856.30	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
					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					

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-1	903992	603153.259	3469889.889	4683.26	2/22/08	232.47	4450.79
					5/20/08	233.12	4450.14
					7/30/08	233.37	4449.89
					10/23/08	233.62	4449.64
					2/12/09	234.05	4449.21
					4/21/09	234.99	4448.27
					7/22/09	234.34	4448.92
					10/22/09	234.69	4448.57
					2/4/10	235.15	4448.11
					4/20/10	235.47	4447.79
					7/13/10	235.68	4447.58
					7/14/11	236.98	4446.28
					7/12/12	238.24	4445.02
					2/5/13	239.11	4444.15
7/11/13	239.67	4443.59					
7/9/14	240.03	4443.23					
COB MW-2	903984	600973.257	3468114.836	4566.21	2/22/08	122.85	4443.36
					5/20/08	123.00	4443.21
					7/30/08	123.53	4442.68
					10/23/08	124.02	4442.19
					2/12/09	123.39	4442.82
					4/23/09	124.16	4442.05
					7/22/09	124.91	4441.30
					10/22/09	125.33	4440.88
					3/3/10	124.93	4441.28
					4/26/10	125.47	4440.74
					7/13/10	126.54	4439.67
					1/20/11	126.46	4439.75
					7/14/11	128.17	4438.04
					1/31/12	128.04	4438.17
					7/12/12	129.58	4436.63
1/9/13	129.28	4436.93					
7/25/13	130.21	4436.00					
1/6/14	130.11	4436.10					
7/9/14	131.32	4434.89					
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					

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					
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					

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
FRANCO 383	221383	602817.854	3468831.563	4636.88	9/13/12	195.19	4441.69
					10/5/12	195.00	4441.88
					12/3/12	196.70	4440.18
					1/15/13	196.30	4440.58
					2/6/13	195.62	4441.26
					3/7/13	196.20	4440.68
					4/10/13	196.25	4440.63
					7/10/13	196.13	4440.75
					10/16/13	196.30	4440.58
					1/14/14	196.46	4440.42
FULTZ	212447	607153.306	3469063.892	4642.92	4/8/14	196.89	4439.99
					7/14/14	196.87	4440.01
					10/8/14	196.86	4440.02
					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
GARNER 557	558557	602659.240	3468962.415	4638.45	1/25/10	53.45	4589.47
					4/20/10	63.82	4579.10
					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					

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
GOAR RANCH	610695	602454.751	3468892.471	4631.13	2/21/08	183.90	4447.23
					5/5/08	188.11	4443.02
					7/16/08	184.41	4446.72
					10/22/08	184.68	4446.45
					1/27/09	184.87	4446.26
					4/15/09	184.96	4446.17
					7/7/09	185.36	4445.77
					10/12/09	185.72	4445.41
					2/2/10	186.25	4444.88
					4/22/10	186.44	4444.69
					7/13/10	186.76	4444.37
					1/19/11	187.52	4443.61
					7/12/11	188.24	4442.89
					2/6/12	189.02	4442.11
					9/13/12	190.08	4441.05
HOBAN	805290	601705.848	3468880.329	4607.60	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
					2/27/08	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
HOWARD 312	221312	601308.920	3468772.630	4594.9356	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					
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					

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					
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					

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 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
LADD 538	505538	596790.675	3469638.573	4527.05	11/20/14	213.58	4230.25
					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
LADD 837	519837	594757.700	3470817.194	4470.11	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
					2/9/10	262.80	4207.31
					4/28/10	262.65	4207.46
					7/28/10	265.75	4204.36
					12/8/10	262.38	4207.73
					3/17/11	262.65	4207.46
					6/24/11	262.51	4207.60
					9/29/11	262.28	4207.83
					12/16/11	264.32	4205.79
					2/15/12	262.24	4207.87
					6/11/12	264.04	4206.07
					9/26/12	261.75	4208.36
12/19/12	261.94	4208.17					
3/27/13	266.68	4203.43					
6/14/13	261.51	4208.60					
9/24/13	261.38	4208.73					
12/3/13	260.85	4209.26					
2/25/14	261.04	4209.07					
6/4/14	262.53	4207.58					
9/10/14	263.68	4206.43					
11/20/14	261.18	4208.93					

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
LADD 977	642977	597619.168	3468714.011	4513.40	3/17/11	82.32	4431.08
					6/24/11	84.00	4429.40
					9/29/11	83.62	4429.78
					12/16/11	84.8	4428.60
					2/15/12	84.67	4428.73
					6/11/12	85.7	4427.70
					9/26/12	84.96	4428.44
					12/19/12	86.27	4427.13
					3/22/13	85.18	4428.22
					6/14/13	86.54	4426.86
					9/24/13	82.66	4430.74
					12/3/13	84.48	4428.92
					2/25/14	85.27	4428.13
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					
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					

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)
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					
NESS	509127	607866.391	3471419.494	4761.23	7/24/08	557.90	4203.33
					10/16/08	549.30	4211.93
					2/25/09	536.40	4224.83
					5/11/09	544.64	4216.59
					8/11/09	566.87	4194.36
					11/12/09	537.34	4223.89
					2/2/10	531.85	4229.38
					4/21/10	568.11	4193.12
					7/19/10	573.02	4188.21
					1/18/11	541.80	4219.43
					7/12/11	597.71	4163.52
					2/3/12	591.24	4169.99
					1/9/13	551.35	4209.88
1/6/14	538.84	4222.39					
7/7/14	594.42	4166.81					
NOTEMAN	212483	606053.800	3471576.400	4800.68	5/13/08	339.77	4460.91
					8/27/08	344.34	4456.34
					11/22/08	322.26	4478.42
					2/25/09	327.54	4473.14

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
NSD-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					
NSD-03	527586	598070.538	3468694.259	4518.28	10/7/09	85.62	4432.66
					3/16/10	83.51	4434.77
					5/25/10	84.49	4433.79
					8/25/10	85.70	4432.58
					3/17/11	86.76	4431.52
					6/17/11	88.76	4429.52
					12/7/11	89.30	4428.98
					3/6/12	89.24	4429.04
					12/14/12	90.83	4427.45
					3/22/13	88.65	4429.63
					6/24/13	91.70	4426.58
					9/23/13	86.88	4431.40
					12/19/13	89.11	4429.17
3/24/14	89.48	4428.80					
6/23/14	90.77	4427.51					
9/23/14	89.10	4429.18					
12/22/14	86.80	4431.48					
NWC-02	562944	600177.435	3467474.673	4600.44	10/27/08	160.51	4439.93
					4/29/09 ²	160.5	4439.94
					9/10/09 ²	155	4445.44
					4/2010 ²	131	4469.44
					3/1/2013 ²	131	4469.44
NWC-03	203321	601153.857	3468350.838	4574.99	11/3/08	131.48	4443.51
					4/29/09 ²	130	4444.99
					9/10/09 ²	126	4448.99
					10/9/09 ⁵	125	4449.99

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
NWC-03 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
					NWC-04	551849	605829.808
4/29/09 ²	328	4362.77					
9/10/09 ²	324	4366.77					
4/2010 ²	216	4474.77					
3/1/2013 ²	216	4474.77					
NWC-06	575700	599822.821	3467749.954	4592.50	4/29/09 ²	156	4436.50
					9/10/09 ²	155	4437.50
					10/9/09 ²	148	4444.50
					4/2010 ²	140	4452.50
					3/1/13 ²	140	4452.50
OSBORN	643436	607031.823	3470270.548	4711.95	5/13/08	68.65	4643.30
					8/5/08	69.53	4642.42
					10/16/08	69.83	4642.12
					1/20/09	69.23	4642.72
					4/7/09	69.60	4642.35
					7/8/09	96.61	4615.34
					10/5/09	75.09	4636.86
					1/21/10	75.37	4636.58
					4/19/10	81.59	4630.36
					7/12/10	83.00	4628.95
					7/12/11	74.60	4637.35
2/3/12	74.57	4637.38					
7/9/12	74.63	4637.32					

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
PANAGAKOS	35-76413	605304.234	3469323.140	4691.40	1/22/09	155.28	4536.12
					4/9/09	156.15	4535.25
					7/9/09	161.61	4529.79
					10/6/09	167.20	4524.20
					1/21/10	166.92	4524.48
					4/20/10	167.11	4524.29
					7/20/10	171.78	4519.62
					10/18/10	176.39	4515.01
					7/14/11	173.78	4517.62
					8/25/11	172.89	4518.51
					2/6/12	169.09	4522.31
					2/29/12	169.32	4522.08
					3/15/12	169.64	4521.76
					4/12/12	168.85	4522.55
					7/9/12	170.38	4521.02
					11/27/12	169.82	4521.58
					1/18/13	169.12	4522.28
					2/6/13	168.76	4522.64
					4/9/13	167.79	4523.61
					7/10/13	168.51	4522.89
10/15/13	164.49	4526.91					
1/10/14	160.32	4531.08					
4/16/14	158.75	4532.65					
7/17/14	159.69	4531.71					
10/16/14	159.28	4532.12					
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
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					

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
RAY	803772	607083.422	3469195.147	4647.91	2/15/08	40.85	4607.06
					5/13/08	43.82	4604.09
					7/29/08	45.25	4602.66
					10/22/08	44.54	4603.37
					1/20/09	44.31	4603.60
					4/8/09	44.68	4603.23
					7/9/09	48.99	4598.92
					10/7/09	49.87	4598.04
					1/26/10	47.61	4600.30
					4/20/10	49.78	4598.13
					7/14/10	51.36	4596.55
					10/20/10	49.85	4598.06
					1/17/11	50.51	4597.40
					4/5/11	51.84	4596.07
					7/11/11	55.74	4592.17
					10/12/11	53.63	4594.28
					1/31/12	53.21	4594.70
					4/11/12	54.50	4593.41
					7/6/12	58.75	4589.16
					10/3/12	60.98	4586.93
1/17/13	56.57	4591.34					
4/18/13	56.32	4591.59					
7/9/13	60.30	4587.61					
10/15/13	44.33	4603.58					
1/14/14	34.50	4613.41					
4/8/14	36.72	4611.19					
7/8/14	43.38	4604.53					
10/22/14	44.65	4603.26					
ROGERS 596	573596	601001.503	3468491.639	4577.35	11/11/09	135.46	4441.89
					2/25/10	135.89	4441.46
					4/22/10	135.62	4441.73
					7/16/10	136.63	4440.72
					10/19/10	136.61	4440.74
					1/20/11	134.21	4443.14
					4/8/11	137.68	4439.67
					7/14/11	138.09	4439.26
					10/12/11	138.09	4439.26
					1/30/12	137.91	4439.44
					4/23/12	138.61	4438.74
					7/13/12	139.65	4437.70
					10/10/12	139.55	4437.80
					1/15/13	139.23	4438.12
					4/15/13	139.97	4437.38
					7/15/13	139.94	4437.41
10/16/13	140.50	4436.85					
1/9/14	140.12	4437.23					
4/11/14	140.56	4436.79					
7/18/14	140.64	4436.71					
ROGERS 750 ³	641750	600977.690	3468417.386	4579.02	2/7/08	129.85	4449.17
					7/29/08	131.86	4447.16
					10/22/08	132.08	4446.94
					2/10/09	130.62	4448.40
					4/29/09	131.33	4447.69
8/3/09	135.07	4443.95					

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					
RUIZ	531770	602857.357	3471424.219	4735.18	2/5/08	293.29	4441.89
					5/15/08	293.57	4441.61
					7/30/08	293.86	4441.32
					10/20/08	294.18	4441.00
					2/12/09	294.62	4440.56
					4/21/09	294.66	4440.52
					8/3/09	294.98	4440.20
					10/28/09	295.33	4439.85
					2/1/10	295.70	4439.48
					4/26/10	295.96	4439.22
					4/8/11	297.20	4437.98
					4/13/12	298.47	4436.71
					1/11/13	299.39	4435.79
					4/11/13	299.72	4435.46
					7/25/13	300.06	4435.12
10/17/13	300.07	4435.11					
1/8/14	300.19	4434.99					
4/15/14	300.31	4434.87					
10/21/14	300.38	4434.80					

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
TM-02A	522574	604152.059	3472008.794	4808.43	3/4/08	346.62	4461.81
					5/23/08	346.16	4462.27
					8/15/08	353.91	4454.52
					10/30/08	349.45	4458.98
					2/24/09	348.64	4459.79
					5/6/09	349.38	4459.05
					8/12/09	349.13	4459.30
					11/4/09	348.97	4459.46
					3/10/10	348.19	4460.24
					4/6/10	353.86	4454.57
					7/6/10	349.20	4459.23
					2/10/11	347.60	4460.83
					7/13/11	348.14	4460.29
					2/2/12	346.94	4461.49
					8/13/12	344.53	4463.90
TM-03	522575	606366.130	3473711.046	4897.85	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
					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
TM-06 MILLER	522695	606055.975	3468376.658	4707.88	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					
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					

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-16	522578	605588.075	3469842.199	4717.71	3/5/08	81.00	4636.71
					5/22/08	81.24	4636.47
					8/6/08	81.65	4636.06
					11/5/08	81.75	4635.96
					2/26/09	81.88	4635.83
					5/13/09	82.01	4635.70
					8/19/09	82.37	4635.34
					11/10/09	82.83	4634.88
					3/2/10	83.09	4634.62
					4/14/10	83.22	4634.49
					7/2/10	83.51	4634.20
					7/14/11	80.41	4637.30
					7/9/12	72.55	4645.16
8/15/13	61.42	4656.29					
8/4/14	62.55	4655.16					
TM-19A	522581	602458.710	3469197.426	4645.87	3/6/08	199.85	4446.02
					5/22/08	199.50	4446.37
					8/6/08	199.19	4446.68
					11/18/08	199.46	4446.41
					3/3/09	199.81	4446.06
					4/22/09	200.57	4445.30
					8/12/09	201.46	4444.41
					11/4/09	201.16	4444.71
					3/10/10	201.34	4444.53
					4/9/10	201.55	4444.32
					7/7/10	202.35	4443.52
					2/14/11	203.00	4442.87
					7/15/11	203.30	4442.57
					2/2/12	203.84	4442.03
					7/11/12	204.75	4441.12
					10/16/12	205.02	4440.85
2/15/13	205.30	4440.57					
9/4/13	205.73	4440.14					
2/12/14	207.47	4438.40					
7/21/14	210.56	4435.31					
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					

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 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					
TVI 713	567713	600729.095	3468412.946	4567.22	5/7/08	127.10	4440.12
					7/14/08	126.30	4440.92
					10/15/08	130.00	4437.22
					2/11/09	149.87	4417.35
					4/17/09	126.73	4440.49
					7/21/09	127.36	4439.86
					10/19/09	127.79	4439.43
					2/2/10	126.71	4440.51
					4/23/10	127.53	4439.69
					7/15/10	129.14	4438.08
					10/20/10	130.84	4436.38
					1/20/11	134.36	4432.86
					4/11/11	135.72	4431.50
					7/15/11	131.61	4435.61
					10/12/11	130.33	4436.89
					2/3/12	130.01	4437.21
					4/25/12	131.33	4435.89
					7/16/12	131.97	4435.25
					10/9/12	132.16	4435.06
					2/6/13	131.14	4436.08
4/10/13	132.08	4435.14					
7/18/13	131.72	4435.50					
10/8/13	133.10	4434.12					
1/9/14	132.37	4434.85					
4/9/14	132.93	4434.29					
7/16/14	132.57	4434.65					
10/9/14	132.29	4434.93					

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

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

Notes:

35-71891 = ADWR 35 Database

ADWR = Arizona Department of Water Resources

ft amsl = feet above mean sea level

NR = No Record

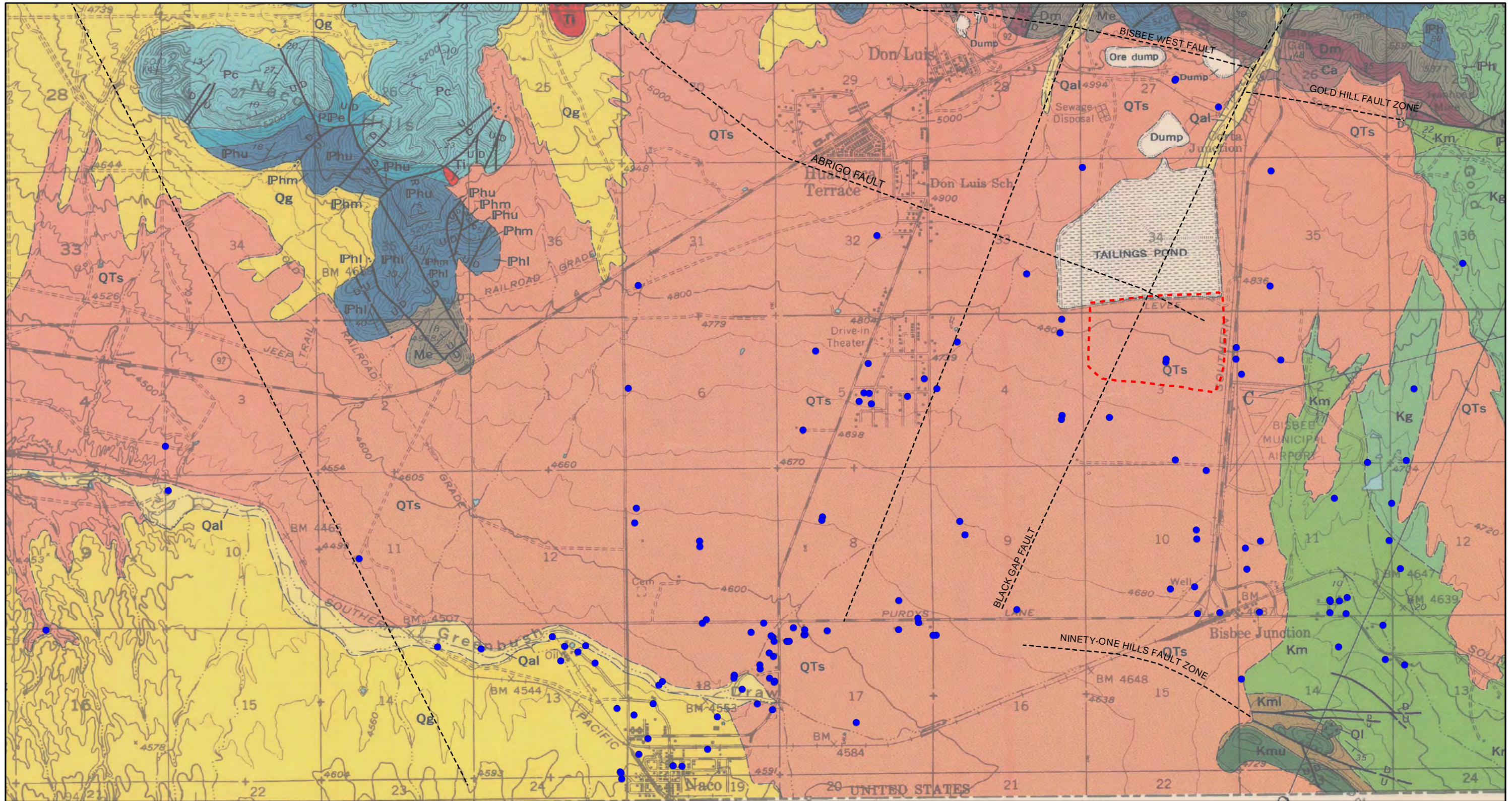
UTM = Universal Transverse Mercator Zone 12, North American Datum 1983 (NAD83)

¹ Depth to water measurement provided by Arizona Water Company

² Depth to water measurement provided by Naco Water Company

³ Well previously identified as ROGERS 803

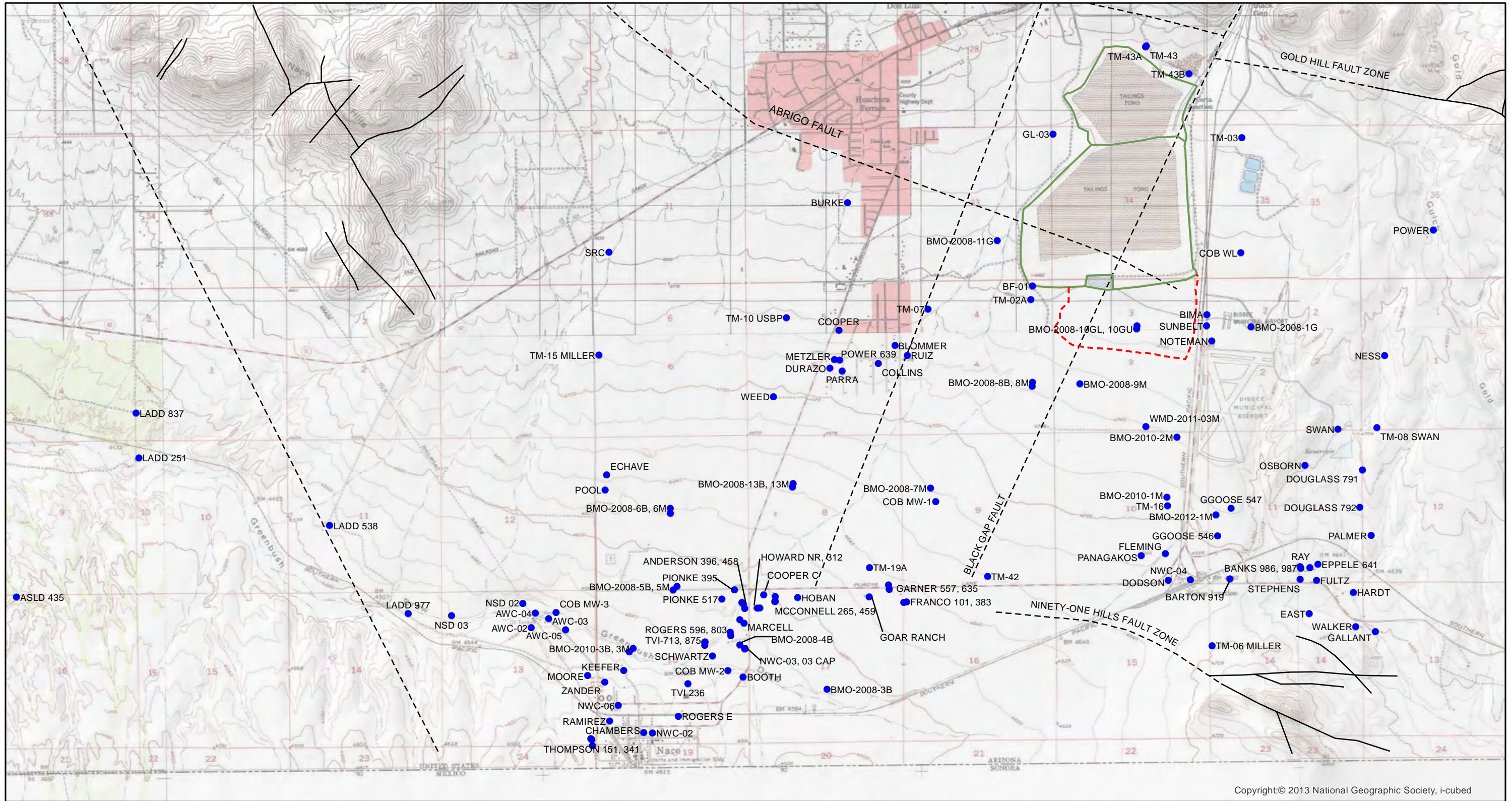
FIGURES



Legend <ul style="list-style-type: none"> ● Monitoring Location --- Fault Former Evaporation Ponds 	Geologic Unit - Hayes and Landis (1964) <ul style="list-style-type: none"> Qal - Quaternary Alluvium Qg - Quaternary Gravel QTs - Quaternary Tertiary sediment Ti - Tertiary Intrusive Kc - Cintura Formation (not shown) Kmu - Upper Mural Limestone Kml - Lower Mural Limestone Km - Morita Formation Kg - Glance Conglomerate 	<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 	Scale (Feet) <div style="text-align: center;"> 0 3,000 6,000 </div>	Date: 2/26/14 File ID: 055038-358
	Basin Fill <ul style="list-style-type: none"> Qal - Quaternary Alluvium Qg - Quaternary Gravel QTs - Quaternary Tertiary sediment 	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 	Paleozoic Sedimentary Formations <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 	Projection: UTM Zone 12N NAD83 Geology reprinted from Hayes and Landis (1964) USGS Miscellaneous Geologic Investigations I-418

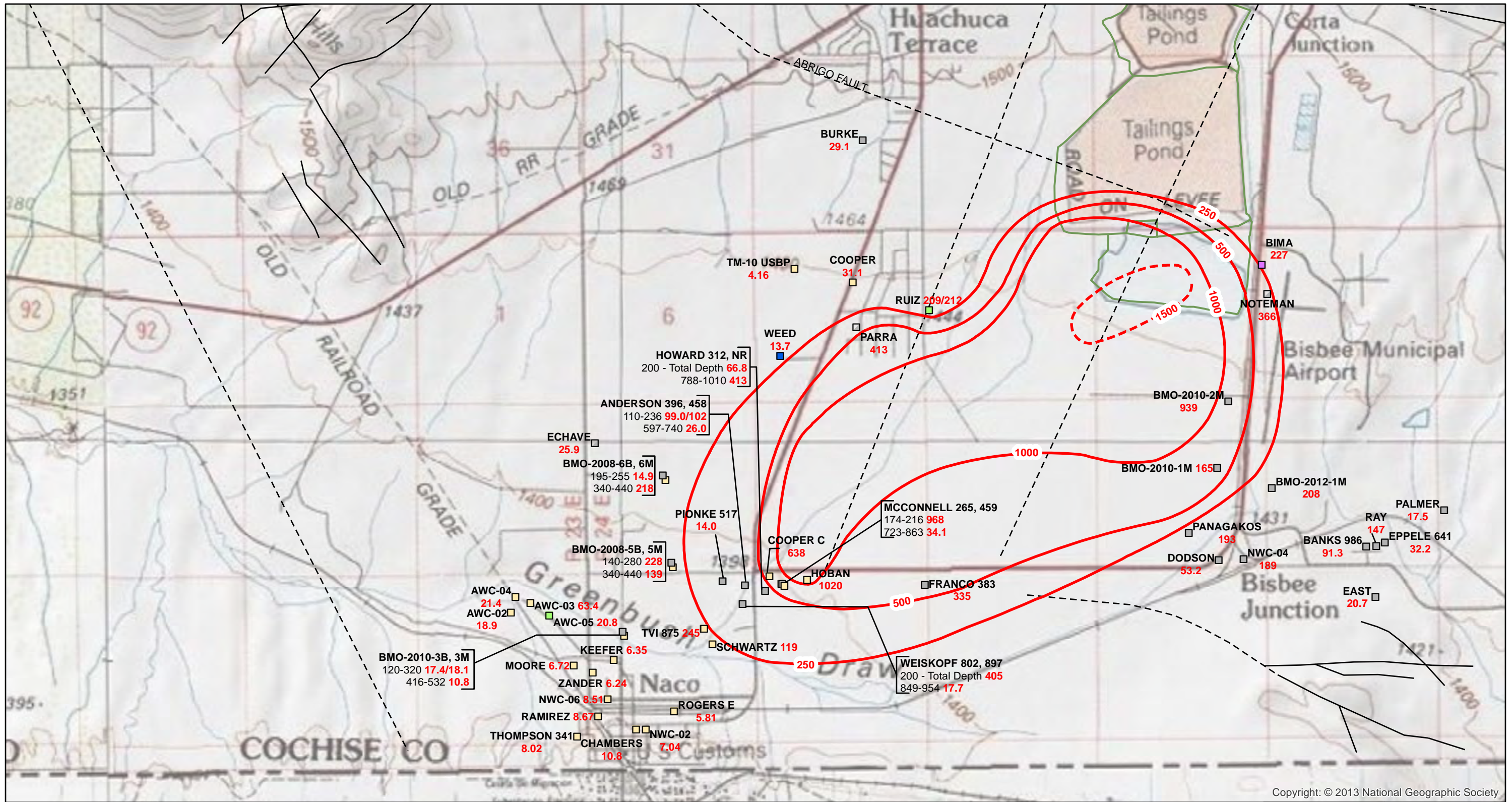
See Figure 2 for Monitor Location Names

FIGURE 1
GEOLOGIC MAP
WITH MONITORING LOCATIONS



Copyright:© 2013 National Geographic Society, i-cubed

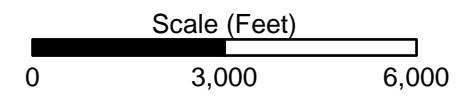
<p>Legend</p> <ul style="list-style-type: none"> ● Monitoring Location ▭ Former Evaporation Ponds ▭ CTSA Facility --- Fault 	<p>Scale (Feet)</p>		<p>Date</p> <p>3/18/14</p>	<p>File ID</p> <p>055038-357</p>
	<p>Projection: UTM Zone 12N NAD83</p>			
	<p>FIGURE 2 MONITORING LOCATIONS</p>			



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- Legend**
- RAY Well ID
 - 147 SO4 Concentration (mg/L)
 - SO4 Concentration Contours
 - - - - Fault
 - Co-located Wells
 - Well ID
 - Screen (ft bls): Sulfate Levels (mg/L)

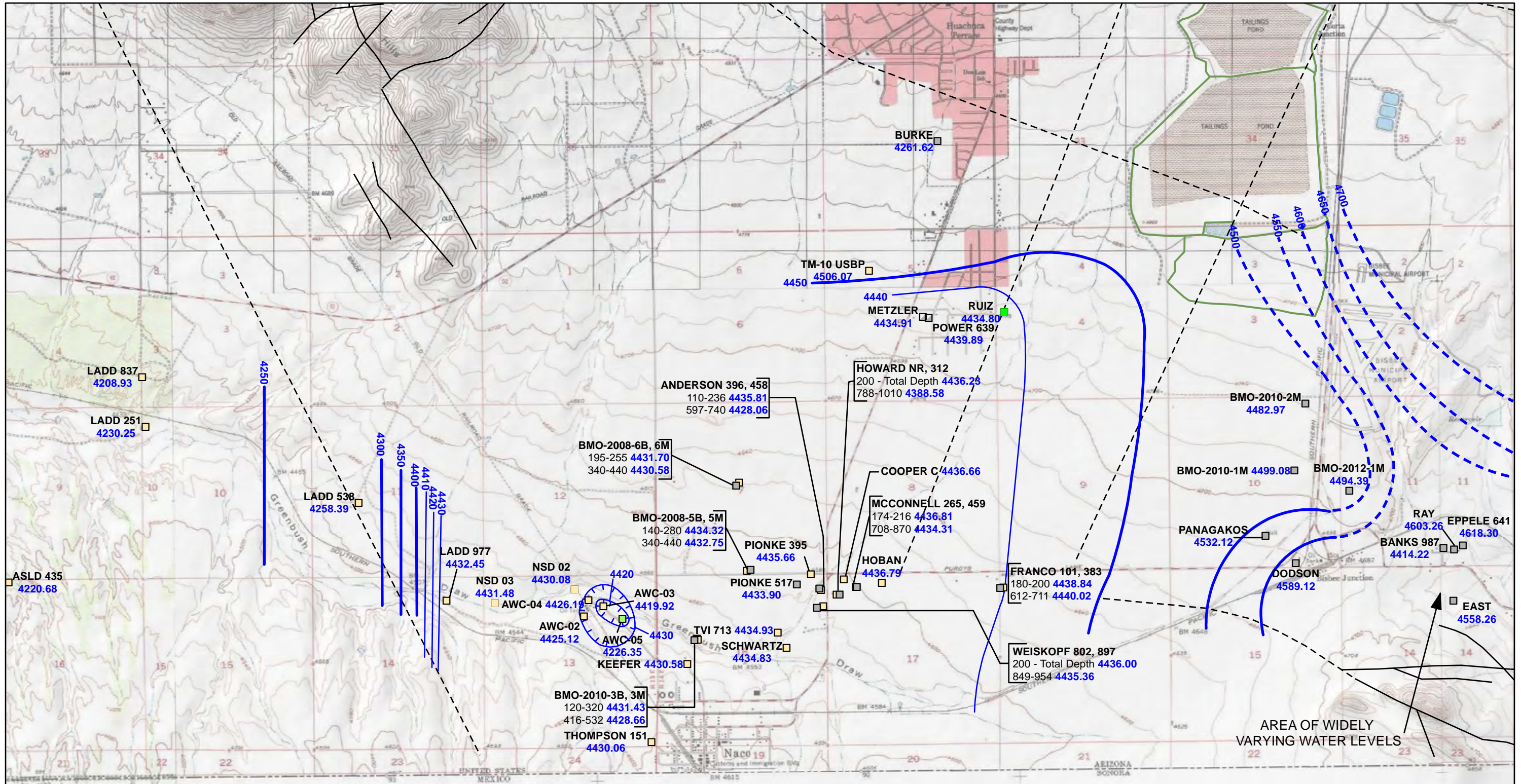
- Screened Formation**
- Basin Fill
 - Basin Fill and Undifferentiated Bisbee Group
 - Undifferentiated Bisbee Group
 - Undifferentiated Bisbee Group - Estimated
 - Undifferentiated Bisbee Group and Glance Conglomerate
 - Glance Conglomerate
 - Glance Conglomerate - Estimated
- Undifferentiated Bisbee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



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

Date	12/22/14	File ID	055038-394

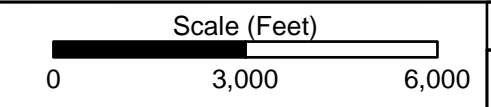
FIGURE 3
SULFATE CONCENTRATIONS IN GROUNDWATER FOR FOURTH QUARTER 2014



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Legend

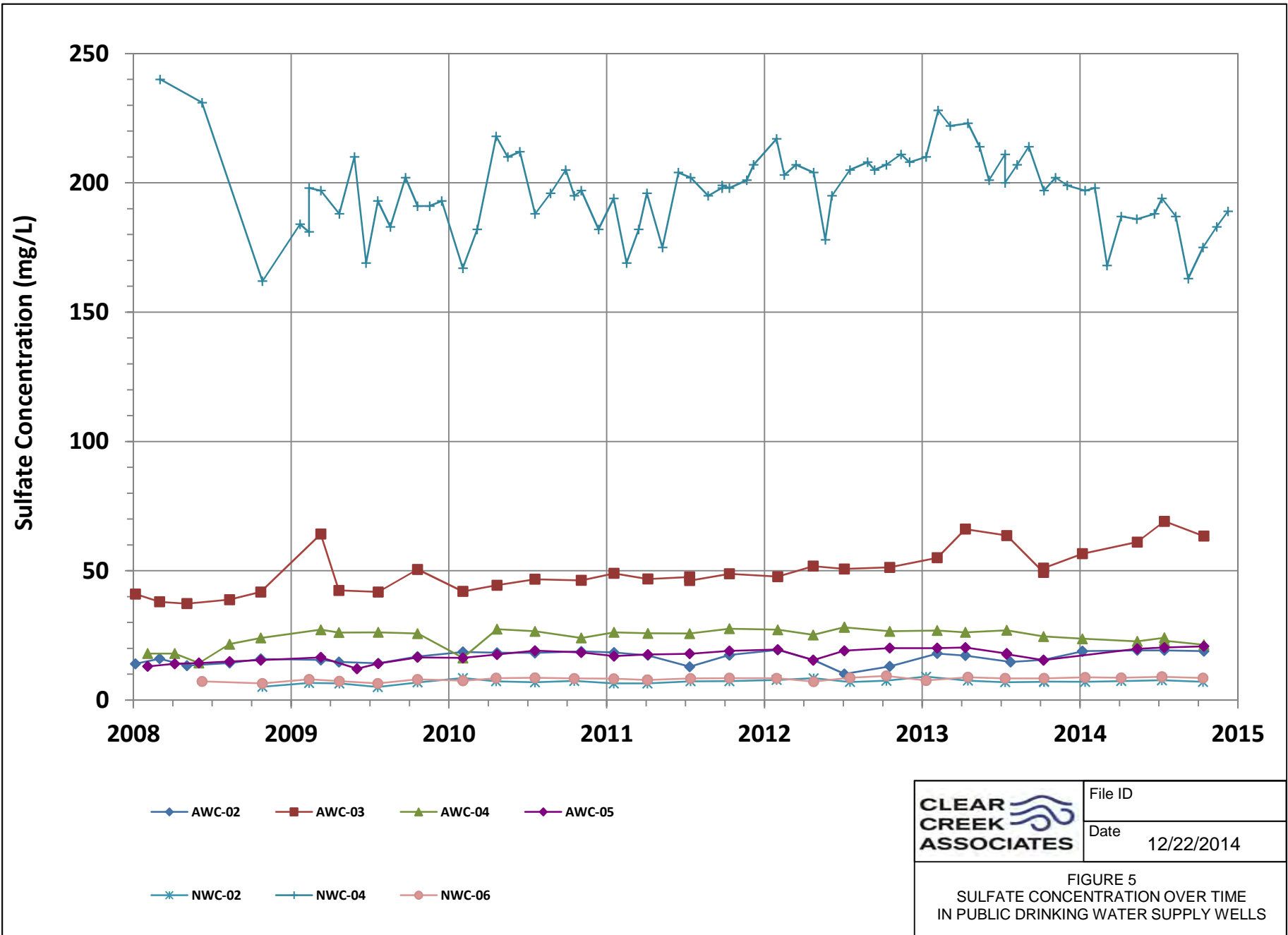
- Well ID
- Groundwater Elevation (ft amsl)
- Groundwater Elevation Contours (10 ft)
- Groundwater Elevation Contours (50 ft) (dashed where inferred)
- Faults (dashed where inferred)
- CTSA Facility
- Co-located Wells
 - Well ID
 - Screen (ft bls): Water Elevation (ft amsl)
- Screened Formation
 - Basin Fill
 - Basin Fill and Undifferentiated Bisbee Group
 - Undifferentiated Bisbee Group
 - Undifferentiated Bisbee Group - Estimated
 - Undifferentiated Bisbee Group and Glance Conglomerate
 - Glance Conglomerate
 - Glance Conglomerate-Estimated

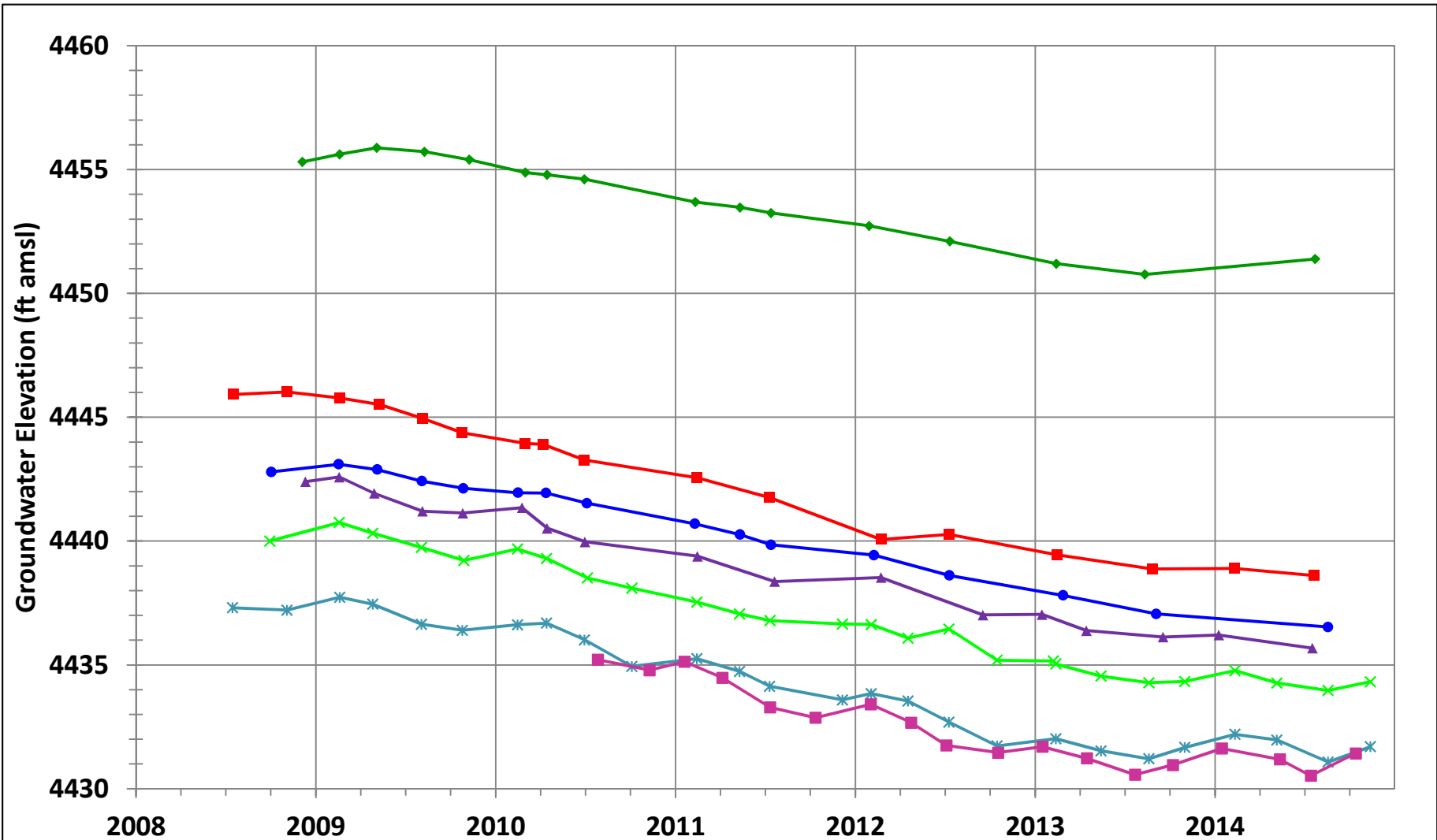


Date	12/22/14	File ID	055038-393


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

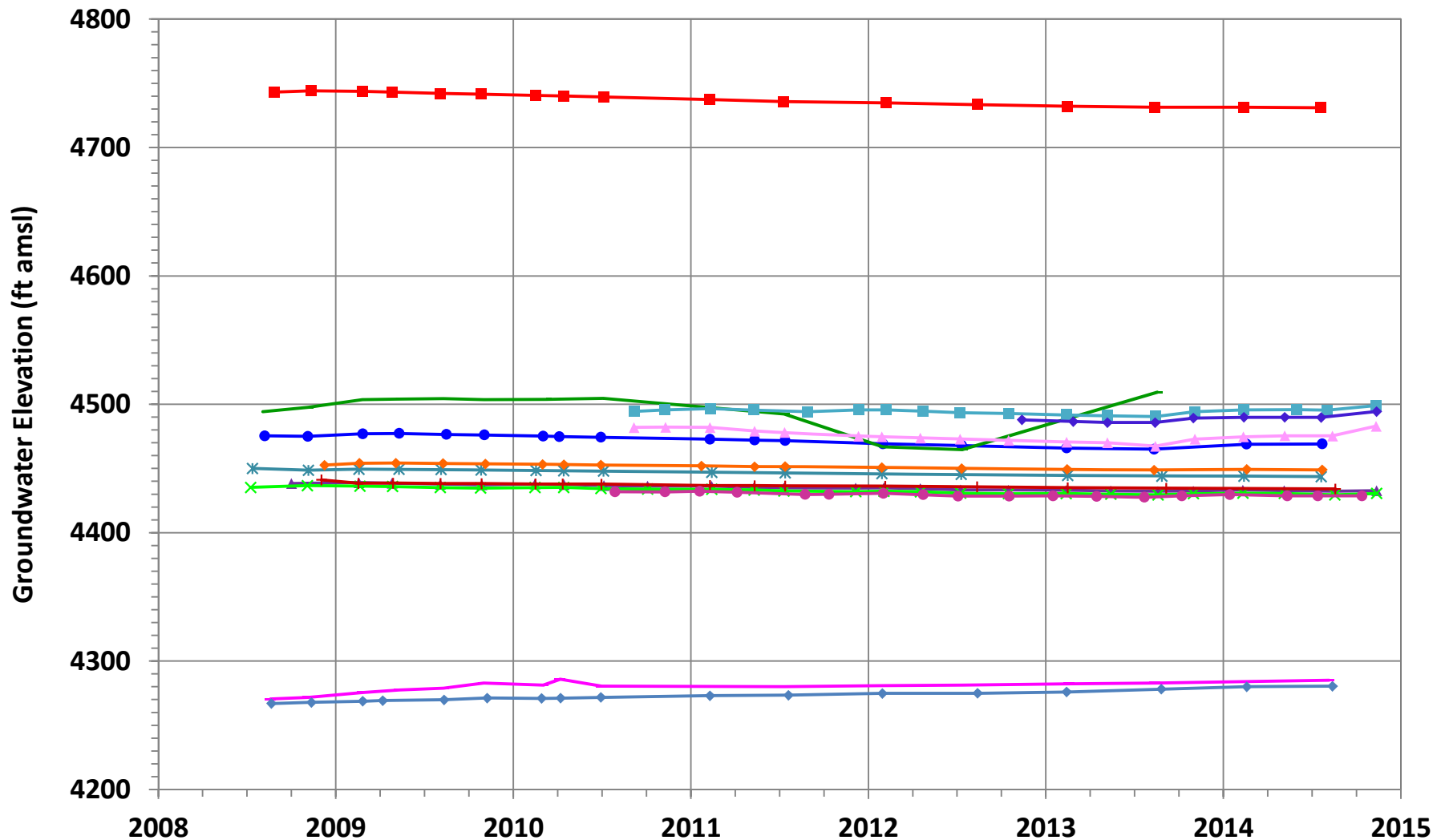
FIGURE 4
GROUNDWATER ELEVATIONS
FOR FOURTH QUARTER 2014





- BMO-2008-3B
 ▲ BMO-2008-4B
 × BMO-2008-5B
 ✱ BMO-2008-6B
- ◆ BMO-2008-8B
 ● BMO-2008-13B
 ■ BMO-2010-3B

	File ID
	Date 12/3/2014
FIGURE 6 HYDROGRAPHS FOR BMO MONITOR WELLS IN BASIN FILL	



File ID	
Date	12/3/2014

FIGURE 7
HYDROGRAPHS FOR BMO MONITOR
WELLS IN BEDROCK

APPENDIX A
DATA VERIFICATION REPORT

APPENDIX A
DATA VERIFICATION REPORT
FOURTH QUARTER 2014
GROUNDWATER MONITORING REPORT

Prepared for:

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January 27, 2014

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	FIELD 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) and Reporting Limit (RL).....	7
4.4	Timeliness	7
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.....	8
4.5.4	Sample Re-Analysis.....	9
4.5.5	Blank Samples	9
5.	DATA QUALITY INDICATORS	10
5.1	Precision.....	10
5.2	Bias	11
5.3	Accuracy	11
5.4	Representativeness	11
5.5	Comparability	12
5.6	Completeness	12
5.7	Sensitivity	12
6.	REFERENCES	13

1. INTRODUCTION

This report summarizes the data verification review of groundwater samples collected during the fourth quarter 2014 by Clear Creek Associates (Clear Creek) and Freeport Minerals Corporation, Copper Queen Branch (CQB) and analyzed pursuant to Mitigation Order on Consent Docket No. P-121-07 (ADEQ, 2007). Clear Creek and CQB collected groundwater samples pursuant to the groundwater monitoring program approved by ADEQ in April 2010 (CQB, 2010 and ADEQ, 2010). Analytical results for groundwater samples collected for this project during the fourth quarter 2014 were provided to Clear Creek by SVL Analytical, Inc. (SVL) of Kellogg, Idaho for preparation of the fourth quarter 2014 Groundwater Monitoring Report.

Quality assurance (QA) and quality control (QC) procedures are specified in the *Quality Assurance Project Plan for Aquifer Characterization Plan* (QAPP) (Appendix F of HGC, 2008) for field sampling, chain-of-custody (COC) documentation, laboratory analysis, and reporting. This report reviews field sampling for samples collected by Clear Creek and CQB. Additionally, sample handling and laboratory QA/QC data are evaluated according to the data quality indicators (DQIs) given in the QAPP.

The laboratory reports for the fourth quarter 2014 samples are in Appendix B, 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, SVL did not advise any modifications regarding the usability and data validation status of the laboratory test results. The analytical results for 64 samples collected by Clear Creek and CQB in fourth quarter 2014 are contained in 8 reports with the SVL laboratory identification numbers listed in the following table.

Number of wells sampled: 53 Number of well samples collected (including duplicates and multiple samples from one well): 58 Number of duplicate samples collected: 3 Number of field and equipment blanks collected: 6 Total number of samples collected: 64	
W4J0257	ANDERSON 458, FB20141006, EQB20141006, ANDERSON 396, DUP20141006, PARRA, PIONKE 517, MCCONNELL 265, MCCONNELL 459, COOPER, KEEFER, FRANCO 383, WEISKOPF 897, WEISKOPF 802
W4J0359	TVI 875, HOWARD 312, HOWARD NR
W4J0414	NWC-04, NWC-06, NWC-02, ZANDER, MOORE, FB20141014, EQB20141014, BMO-2010-3B, DUP20141014, BMO-2010-3M, AWC-05, AWC-03, AWC-04, AWC-02, TM-10
W4J0455	PANAGAKOS, DODSON, CHAMBERS, ROGERS E, RAMIREZ
W4J0564	EPPELE 641, BANKS 986, BURKE, FB20141021, EQB20141021, RUIZ, DUP20141021, THOMPSON 341, SCHWARTZ, RAY, EAST, WEED, ECHAVE, PALMER, BIMA
W4J0384	BMO-2010-1M, BMO-2010-2M, BMO-2012-1M, HOBAN, COOPER C, BMO-2008-5M, BMO-2008-5B, BMO-2008-6M, BMO-2008-6B
W4K0392	NWC-04
W4L0273	NWC-04, NOTEMAN

2. FIELD OPERATIONS

Field operations for this project consisted of the following for all monitoring wells sampled by Clear Creek and CQB:

- Static water level measurement if possible,
- Well purging,
- Collection of water quality field parameters (pH in standard units [SU], specific conductance [SC] in microSiemens per centimeter [$\mu\text{S}/\text{cm}$], and temperature in degrees Celsius [$^{\circ}\text{C}$]),
- Collection of groundwater samples for water quality analysis,
- Collection of groundwater QA and QC samples per requirements in the QAPP, and
- Equipment decontamination.

Field notebook entries and sampling forms were evaluated for quality assurance and met the documentation requirements stated in the QAPP.

2.1 Water Level Monitoring

Static water level measurements were attempted at each well that was sampled (where there are no known obstructions or lack of wellhead access to prevent static water level measurement) and at all wells where water level monitoring was conducted by Clear Creek and CQB. Water levels 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 water level measurements (for wells equipped with pumps), 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. Each measurement was collected 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 in the monitoring program approved by ADEQ (ADEQ, 2010). Construction and location information for the wells sampled for water quality and water level measurements is listed in Tables 2 and 4 of the main text.

2.2.1 Pre-Sampling Field Activities

On each day of sampling, the pH¹ and SC² multipurpose meter was calibrated. 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 probes. In addition to calibrating the instruments each day, 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 C) at each well for which this was the case. Purge water was discharged to the ground surface.

Field measurements 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.

During this monitoring period, 58 groundwater samples (duplicate and multiple samples included) were collected for analysis from 53 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. All bottles were provided by the laboratory 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 SVL.

3. SAMPLE HANDLING

All fourth quarter 2014 samples collected by Clear Creek and CQB were shipped to SVL 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. As noted on the analytical data reports from SVL, all of the sample bottles were received intact, properly preserved, and in good condition. The samples were shipped within one to seven days of sample collection and the time between sample collection and receipt of samples by SVL was two to eight days. The samples were collected, shipped, and received by SVL within the established holding time for dissolved sulfate analysis in accordance with United States Environmental Protection Agency (EPA) Method 300.0.

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), 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.

4.2 Analytical Method

EPA method 300.0 was used for sulfate analysis during this monitoring period.

4.3 Method Detection Limit (MDL) and Reporting Limit (RL)

The MDL and RL of the analytical method used by SVL are shown in the following table. The MDL for analyses of samples is equal to or less than the target MDL identified in the QAPP.

Lab	Method	MDL (mg/L)	RL (mg/L)	Target MDL ¹ (mg/L)
SVL	EPA 300.0	0.06	0.30	10

mg/L = milligrams per liter
¹ Target MDL from Table F.2 of QAPP

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 no detections of the target analyte. 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 QA Plan and the QAPP.

4.5.2 Analytical Spike

Analytical spike and spike duplicate samples were analyzed 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 analyses were between 90 and 110 percent. Instances in which analytical spike recoveries were high or unusable are qualified with an “M1”, or “M3” flag, respectively. The “M1” flag was used on report W4J0384. The “M3” qualifier was used on report W4J04014. 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.

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 the fourth quarter 2014, one field sample, ANDERSON 396, was re-analyzed by SVL at the request of Clear Creek based on comparison to historical results. The October 6, 2014 sample sulfate concentration was reported as 99.0 mg/L which was lower than the previous July 11, 2014 sample result of 272 mg/L. The result of re-analysis of the sample was 102 mg/L, confirming the original sample result.

4.5.5 Blank Samples

During the first quarter 2014, six blank samples were collected, including three field blanks (FB20141006, FB20141014, FB20141021) and three field equipment blanks (EQB20141006, EQB20141014, and EQB20141021). None of the blank samples collected in the fourth quarter 2014 had sulfate concentrations above the reporting limit of 0.30 mg/L. The results demonstrate that the sulfate concentrations reported in the fourth quarter 2014 were not affected by sample collection and sample handling procedures. Field and equipment blank samples were collected in accordance with procedures described in Section 4.2.1.5 of the QAPP. Field and equipment blank samples were collected and submitted along with other samples to evaluate the potential for contaminant introduction under field conditions. As required by Section 4.2.1.5 of the QAPP, a minimum of one field blank and one equipment blank sample was collected for every twenty samples

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 fourth quarter 2014 groundwater sampling and analysis conducted by Clear Creek and CQB.

5.1 Precision

Precision indicates how well a measurement can be reproduced. Precision is quantified by calculating the RPD between 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 three field-filtered duplicate samples (DUP20141006, DUP20141014, and DUP20141021) were collected for analysis. The collection of six 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 1.43 and 3.94 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.

SVL Project No.	Well ID	Duplicate ID	Sample (mg/l)	Duplicate (mg/l)	RPD
W4J0414	BMO-2010-3B	DUP20141014	17.4	18.1	3.94%
W4J0257	Anderson 396	DUP20141006	99.0	102	2.99%
W4J0564	Ruiz	DUP20141021	209	212	1.43%

mg/L = milligrams per liter

RPD = Relative Percent Difference

For the QA/QC of water level monitoring, precision 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, so the DQI for precision is met.

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. Water level measurements for the fourth quarter 2014 were compared to previous quarters to ensure that the measurements were within the expected ranges. Based on this information, the overall accuracy of the data is judged sufficient for the purpose of aquifer characterization.

5.4 Representativeness

All samples and water level measurements were taken from locations specified in the revised groundwater monitoring program (ADEQ, 2010) following sampling procedures specified in the QAPP. Therefore, they provide a good representation of groundwater quality at the sampled

locations. The sampling procedures are representative of groundwater quality at the sampled locations because no or little sulfate was detected in the field or equipment blanks. The analytical data are representative of groundwater conditions because the analyses used standard procedures and methods that met QA/QC guidelines of the QAPP.

5.5 Comparability

All samples were collected using standardized procedures (HGC, 2008) and were analyzed by SVL 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 satisfy the QA/QC criteria for this project. The completeness of analytical results is 100 percent, which exceeds the minimum 90 percent completeness in Section 3.3.6 of the QAPP.

5.7 Sensitivity

The analytical method used to analyze the samples meets 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.

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.
- ADEQ. 2010. Correspondence from Cynthia Campbell, ADEQ, to Rebecca Sawyer, CQB, Re: Request to Modify Groundwater Monitoring Program, Mitigation Order on Consent No. P-127-07, Your Letter Dated January 25, 2010. April 22, 2010.
- Freeport-McMoRan Copper Queen Branch (CQB). 2010. Correspondence from Rebecca Sawyer, CQB, to Cynthia Campbell, ADEQ, Re: Request to Modify Groundwater Monitoring Program Mitigation Order on Consent No. P-121-07. January 25, 2010.
- 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 B
ANALYTICAL REPORTS



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4L0273**

Reported: 18-Dec-14 08:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
NWC-04	W4L0273-01	Ground Water	10-Dec-14 11:20	ML	11-Dec-2014	
NOTEMAN	W4L0273-02	Ground Water	10-Dec-14 12:30	ML	11-Dec-2014	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

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



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4L0273**

Reported: 18-Dec-14 08:55

Client Sample ID: **NWC-04**

SVL Sample ID: **W4L0273-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 10-Dec-14 11:20

Received: 11-Dec-14

Sampled By: ML

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

EPA 300.0	Sulfate as SO4	189	mg/L	3.00	0.50	10	W451085	JMW	12/16/14 16:56	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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4L0273**

Reported: 18-Dec-14 08:55

Client Sample ID: **NOTEMAN**

SVL Sample ID: **W4L0273-02 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 10-Dec-14 12:30

Received: 11-Dec-14

Sampled By: ML

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

EPA 300.0	Sulfate as SO4	366	mg/L	3.00	0.50	10	W451085	JMW	12/16/14 17:08	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 - Copper Queen Branch
 36 West Highway 92
 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
 Work Order: **W4L0273**
 Reported: 18-Dec-14 08:55

Quality Control - BLANK Data

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

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W451085	16-Dec-14	
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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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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	90 - 110	W451085	16-Dec-14	
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Quality Control - MATRIX SPIKE Data

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

EPA 300.0	Sulfate as SO4	mg/L	45.3	34.7	10.0	106	90 - 110	W451085	16-Dec-14	
EPA 300.0	Sulfate as SO4	mg/L	89.5	80.6	10.0	R > 4S	90 - 110	W451085	16-Dec-14	D2,M3

Quality Control - MATRIX SPIKE DUPLICATE Data

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

EPA 300.0	Sulfate as SO4	mg/L	45.8	45.3	10.0	110	1.1	20	W451085	16-Dec-14	
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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
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4K0392**

Reported: 04-Dec-14 13:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
NWC-04	W4K0392-01	Ground Water	14-Nov-14 10:28	BD	19-Nov-2014	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

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



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4K0392**

Reported: 04-Dec-14 13:09

Client Sample ID: **NWC-04**

SVL Sample ID: **W4K0392-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 14-Nov-14 10:28

Received: 19-Nov-14

Sampled By: BD

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

EPA 300.0	Sulfate as SO4	183	mg/L	3.00	0.50	10	W449095	JMW	12/03/14 13:03	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 - Copper Queen Branch
 36 West Highway 92
 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4K0392**

Reported: 04-Dec-14 13:09

Quality Control - BLANK Data

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

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W449095	03-Dec-14	
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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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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	9.94	10.0	99.4	90 - 110	W449095	03-Dec-14	
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Quality Control - MATRIX SPIKE Data

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

EPA 300.0	Sulfate as SO4	mg/L	26.2	15.0	10.0	112	90 - 110	W449095	03-Dec-14	M1
EPA 300.0	Sulfate as SO4	mg/L	24.0	12.7	10.0	113	90 - 110	W449095	03-Dec-14	M1

Quality Control - MATRIX SPIKE DUPLICATE Data

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

EPA 300.0	Sulfate as SO4	mg/L	26.0	26.2	10.0	110	0.6	20	W449095	03-Dec-14	
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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
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4K0384**

Reported: 24-Nov-14 09:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
BMO-2010-1M	W4K0384-01	Ground Water	12-Nov-14 12:15	CLS	19-Nov-2014	
BMO-2010-2M	W4K0384-02	Ground Water	12-Nov-14 13:00	CLS	19-Nov-2014	
BMO-2012-1M	W4K0384-03	Ground Water	13-Nov-14 08:45	CLS	19-Nov-2014	
HOBAN	W4K0384-04	Ground Water	13-Nov-14 09:40	CLS	19-Nov-2014	
COOPER C	W4K0384-05	Ground Water	13-Nov-14 10:30	CLS	19-Nov-2014	
BMO-2008-5M	W4K0384-06	Ground Water	13-Nov-14 11:45	CLS	19-Nov-2014	
BMO-2008-5B	W4K0384-07	Ground Water	13-Nov-14 12:10	CLS	19-Nov-2014	
BMO-2008-6M	W4K0384-08	Ground Water	13-Nov-14 13:35	CLS	19-Nov-2014	
BMO-2008-6B	W4K0384-09	Ground Water	13-Nov-14 14:25	CLS	19-Nov-2014	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

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



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4K0384**

Reported: 24-Nov-14 09:51

Client Sample ID: **BMO-2010-1M**

SVL Sample ID: **W4K0384-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 12-Nov-14 12:15

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	165	mg/L	3.00	0.50	10	W447276	JMW	11/20/14 23:38	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4K0384**

Reported: 24-Nov-14 09:51

Client Sample ID: **BMO-2010-2M**

SVL Sample ID: **W4K0384-02 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 12-Nov-14 13:00

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	939	mg/L	15.0	2.50	50	W447276	JMW	11/20/14 23:49	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: **W4K0384**

Reported: 24-Nov-14 09:51

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

SVL Sample ID: **W4K0384-03 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Nov-14 08:45

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	208	mg/L	3.00	0.50	10	W447276	JMW	11/20/14 23:59	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: **W4K0384**

Reported: 24-Nov-14 09:51

Client Sample ID: **HOBAN**

SVL Sample ID: **W4K0384-04 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Nov-14 09:40

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	1020	mg/L	15.0	2.50	50	W447276	JMW	11/21/14 00:10	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4K0384**

Reported: 24-Nov-14 09:51

Client Sample ID: **COOPER C**

SVL Sample ID: **W4K0384-05 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Nov-14 10:30

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	638	mg/L	7.50	1.25	25	W447276	JMW	11/21/14 00:21	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: **W4K0384**

Reported: 24-Nov-14 09:51

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

SVL Sample ID: **W4K0384-06 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Nov-14 11:45

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	139	mg/L	3.00	0.50	10	W447276	JMW	11/21/14 00:32	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



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4K0384**

Reported: 24-Nov-14 09:51

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

SVL Sample ID: **W4K0384-07 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Nov-14 12:10

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	228	mg/L	3.00	0.50	10	W447276	JMW	11/21/14 01:05	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: **W4K0384**

Reported: 24-Nov-14 09:51

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

SVL Sample ID: **W4K0384-08 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Nov-14 13:35

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	218	mg/L	3.00	0.50	10	W447276	JMW	11/21/14 01:16	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: **W4K0384**

Reported: 24-Nov-14 09:51

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

SVL Sample ID: **W4K0384-09 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Nov-14 14:25

Received: 19-Nov-14

Sampled By: CLS

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

EPA 300.0	Sulfate as SO4	14.9	mg/L	0.30	0.05		W447276	JMW	11/21/14 01:27	M1
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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: **W4K0384**
 Reported: 24-Nov-14 09:51

Quality Control - BLANK Data

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

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W447276	20-Nov-14	
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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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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	9.88	10.0	98.8	90 - 110	W447276	20-Nov-14	
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Quality Control - MATRIX SPIKE Data

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

EPA 300.0	Sulfate as SO4	mg/L	10.4	<0.30	10.0	104	90 - 110	W447276	20-Nov-14	
EPA 300.0	Sulfate as SO4	mg/L	26.0	14.9	10.0	111	90 - 110	W447276	21-Nov-14	M1

Quality Control - MATRIX SPIKE DUPLICATE Data

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

EPA 300.0	Sulfate as SO4	mg/L	10.5	10.4	10.0	105	1.0	20	W447276	20-Nov-14	
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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
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0564**
Reported: 05-Nov-14 11:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
EPPELE 641	W4J0564-01	Ground Water	21-Oct-14 09:36	DP	24-Oct-2014	
BANKS 986	W4J0564-02	Ground Water	21-Oct-14 12:37	DP	24-Oct-2014	
BURKE	W4J0564-03	Ground Water	21-Oct-14 15:08	DP	24-Oct-2014	
FB20141021	W4J0564-04	Water	21-Oct-14 16:19	DP	24-Oct-2014	
EQB20141021	W4J0564-05	Water	21-Oct-14 16:17	DP	24-Oct-2014	
RUIZ	W4J0564-06	Ground Water	21-Oct-14 16:38	DP	24-Oct-2014	
DUP20141021	W4J0564-07	Ground Water	21-Oct-14 12:00	DP	24-Oct-2014	
THOMPSON 341	W4J0564-08	Ground Water	22-Oct-14 08:54	DP	24-Oct-2014	
SCHWARTZ	W4J0564-09	Ground Water	22-Oct-14 11:06	DP	24-Oct-2014	
RAY	W4J0564-10	Ground Water	22-Oct-14 13:14	DP	24-Oct-2014	
EAST	W4J0564-11	Ground Water	22-Oct-14 14:17	DP	24-Oct-2014	
WEED	W4J0564-12	Ground Water	22-Oct-14 15:41	DP	24-Oct-2014	
ECHAVE	W4J0564-13	Ground Water	22-Oct-14 17:54	DP	24-Oct-2014	
PALMER	W4J0564-14	Ground Water	23-Oct-14 09:47	DP	24-Oct-2014	
BIMA	W4J0564-15	Ground Water	23-Oct-14 10:36	DP	24-Oct-2014	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

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



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **EPPELE 641**

SVL Sample ID: **W4J0564-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 21-Oct-14 09:36

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	32.2	mg/L	0.30	0.05		W444264	JMW	10/30/14 18:02	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **BANKS 986**

SVL Sample ID: **W4J0564-02 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 21-Oct-14 12:37

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	91.3	mg/L	3.00	0.50	10	W444264	JMW	10/30/14 18:14	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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **BURKE**

SVL Sample ID: **W4J0564-03 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 21-Oct-14 15:08

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	29.1	mg/L	0.30	0.05		W444264	JMW	10/30/14 18:27	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **FB20141021**

SVL Sample ID: **W4J0564-04 (Water)**

Sample Report Page 1 of 1

Sampled: 21-Oct-14 16:19

Received: 24-Oct-14

Sampled By: DP

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	0.05		W445039	JMW	11/03/14 20:30	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **EQB20141021**

SVL Sample ID: **W4J0564-05 (Water)**

Sample Report Page 1 of 1

Sampled: 21-Oct-14 16:17

Received: 24-Oct-14

Sampled By: DP

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	0.05		W445039	JMW	11/03/14 20:41	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **RUIZ**

SVL Sample ID: **W4J0564-06 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 21-Oct-14 16:38

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	209	mg/L	3.00	0.50	10	W444264	JMW	10/30/14 18:39	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **DUP20141021**

SVL Sample ID: **W4J0564-07 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 21-Oct-14 12:00

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	212	mg/L	3.00	0.50	10	W444264	JMW	10/30/14 18:52	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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **THOMPSON 341**

SVL Sample ID: **W4J0564-08 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 22-Oct-14 08:54

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	8.02	mg/L	0.30	0.05		W444264	JMW	10/30/14 19:04	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **SCHWARTZ**

SVL Sample ID: **W4J0564-09 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 22-Oct-14 11:06

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	119	mg/L	3.00	0.50	10	W444264	JMW	10/30/14 19:17	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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **RAY**

SVL Sample ID: **W4J0564-10 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 22-Oct-14 13:14

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	147	mg/L	3.00	0.50	10	W444264	JMW	10/30/14 19:29	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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **EAST**

SVL Sample ID: **W4J0564-11 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 22-Oct-14 14:17

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	20.7	mg/L	0.30	0.05		W444264	JMW	10/30/14 19:42	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **WEED**

SVL Sample ID: **W4J0564-12 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 22-Oct-14 15:41

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	13.7	mg/L	0.30	0.05		W444264	JMW	10/30/14 19:54	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **ECHAVE**

SVL Sample ID: **W4J0564-13 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 22-Oct-14 17:54

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	25.9	mg/L	0.30	0.05		W444264	JMW	10/30/14 20:32	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **PALMER**

SVL Sample ID: **W4J0564-14 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 23-Oct-14 09:47

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	17.5	mg/L	0.30	0.05		W444264	JMW	10/30/14 20:44	
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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: **W4J0564**

Reported: 05-Nov-14 11:57

Client Sample ID: **BIMA**

SVL Sample ID: **W4J0564-15 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 23-Oct-14 10:36

Received: 24-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	227	mg/L	7.50	1.25	25	W444264	JMW	10/30/14 20:57	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: **W4J0564**
 Reported: 05-Nov-14 11:57

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	0.05	0.30	W445039	03-Nov-14	
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W444264	30-Oct-14	
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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	9.99	10.0	99.9	90 - 110	W445039	03-Nov-14	
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W444264	30-Oct-14	
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Quality Control - MATRIX SPIKE Data

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

EPA 300.0	Sulfate as SO4	mg/L	2050	2080	10.0	R > 4S	90 - 110	W445039	03-Nov-14	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	2510	2570	10.0	R > 4S	90 - 110	W445039	04-Nov-14	D2,M3

Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	50.4	38.6	10.0	118	90 - 110	W444264	30-Oct-14	M1
EPA 300.0	Sulfate as SO4	mg/L	32.2	20.5	10.0	118	90 - 110	W444264	30-Oct-14	M1

Quality Control - MATRIX SPIKE DUPLICATE Data

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

EPA 300.0	Sulfate as SO4	mg/L	2030	2050	10.0	R > 4S	0.9	20	W445039	03-Nov-14	D2,M3
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	50.5	50.4	10.0	118	0.1	20	W444264	30-Oct-14	M1
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Freeport McMoRan - Bisbee
36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0564**

Reported: 05-Nov-14 11:57

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
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0455**
Reported: 30-Oct-14 12:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
PANAGAKOS	W4J0455-01	Ground Water	16-Oct-14 15:27	DP	21-Oct-2014	
DODSON	W4J0455-02	Ground Water	16-Oct-14 16:59	DP	21-Oct-2014	
CHAMBERS	W4J0455-03	Ground Water	17-Oct-14 09:23	DP	21-Oct-2014	
ROGERS, E	W4J0455-04	Ground Water	17-Oct-14 11:12	DP	21-Oct-2014	
RAMIREZ	W4J0455-05	Ground Water	17-Oct-14 12:48	DP	21-Oct-2014	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

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



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0455**

Reported: 30-Oct-14 12:04

Client Sample ID: **PANAGAKOS**

SVL Sample ID: **W4J0455-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 16-Oct-14 15:27

Received: 21-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	193	mg/L	7.50	1.25	25	W444068	JMW	10/27/14 20:00	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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0455**

Reported: 30-Oct-14 12:04

Client Sample ID: **DODSON**

SVL Sample ID: **W4J0455-02 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 16-Oct-14 16:59

Received: 21-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	53.2	mg/L	3.00	0.50	10	W444068	JMW	10/27/14 20:11	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0455**

Reported: 30-Oct-14 12:04

Client Sample ID: **CHAMBERS**

SVL Sample ID: **W4J0455-03 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 17-Oct-14 09:23

Received: 21-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	10.8	mg/L	0.30	0.05		W444068	JMW	10/27/14 20:22	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0455**

Reported: 30-Oct-14 12:04

Client Sample ID: **ROGERS, E**

SVL Sample ID: **W4J0455-04 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 17-Oct-14 11:12

Received: 21-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	5.81	mg/L	0.30	0.05		W444068	JMW	10/27/14 20:55	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0455**
Reported: 30-Oct-14 12:04

Client Sample ID: **RAMIREZ**

SVL Sample ID: **W4J0455-05 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 17-Oct-14 12:48
Received: 21-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	8.67	mg/L	0.30	0.05		W444068	JMW	10/27/14 21:06	
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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 - Copper Queen Branch
 36 West Highway 92
 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
 Work Order: **W4J0455**
 Reported: 30-Oct-14 12:04

Quality Control - BLANK Data

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

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W444068	27-Oct-14	
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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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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	9.74	10.0	97.4	90 - 110	W444068	27-Oct-14	
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Quality Control - MATRIX SPIKE Data

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

EPA 300.0	Sulfate as SO4	mg/L	39.5	29.4	10.0	101	90 - 110	W444068	27-Oct-14	
EPA 300.0	Sulfate as SO4	mg/L	66.1	57.4	10.0	R > 4S	90 - 110	W444068	28-Oct-14	D2,M3

Quality Control - MATRIX SPIKE DUPLICATE Data

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

EPA 300.0	Sulfate as SO4	mg/L	39.8	39.5	10.0	104	0.9	20	W444068	27-Oct-14	
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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
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0414**
Reported: 30-Oct-14 12:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
NWC-04	W4J0414-01	Ground Water	13-Oct-14 09:32	DP	17-Oct-2014	
NWC-06	W4J0414-02	Ground Water	13-Oct-14 10:33	DP	17-Oct-2014	
NWC-02	W4J0414-03	Ground Water	13-Oct-14 11:06	DP	17-Oct-2014	
ZANDER	W4J0414-04	Ground Water	13-Oct-14 14:19	DP	17-Oct-2014	
MOORE	W4J0414-05	Ground Water	13-Oct-14 16:19	DP	17-Oct-2014	
FB20141014	W4J0414-06	Distilled water	14-Oct-14 09:30	DP	17-Oct-2014	
EQB20141014	W4J0414-07	Distilled water	14-Oct-14 10:51	DP	17-Oct-2014	
BMO-2010-3B	W4J0414-08	Ground Water	14-Oct-14 12:51	DP	17-Oct-2014	
DUP20141014	W4J0414-09	Ground Water	14-Oct-14 16:00	DP	17-Oct-2014	
BMO-2010-3M	W4J0414-10	Ground Water	14-Oct-14 17:34	DP	17-Oct-2014	
AWC-05	W4J0414-11	Ground Water	15-Oct-14 10:14	DP	17-Oct-2014	
AWC-03	W4J0414-12	Ground Water	15-Oct-14 11:05	DP	17-Oct-2014	
AWC-04	W4J0414-13	Ground Water	15-Oct-14 11:59	DP	17-Oct-2014	
AWC-02	W4J0414-14	Ground Water	15-Oct-14 14:20	DP	17-Oct-2014	
TM-10	W4J0414-15	Ground Water	16-Oct-14 08:57	DP	17-Oct-2014	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

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



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **NWC-04**

SVL Sample ID: **W4J0414-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Oct-14 09:32

Received: 17-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	175	mg/L	3.00	0.50	10	W444054	JMW	10/28/14 12:08	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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0414**
Reported: 30-Oct-14 12:03

Client Sample ID: **NWC-06**

SVL Sample ID: **W4J0414-02 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Oct-14 10:33
Received: 17-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	8.51	mg/L	0.30	0.05		W444054	JMW	10/28/14 12:21	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0414**
Reported: 30-Oct-14 12:03

Client Sample ID: **NWC-02**

SVL Sample ID: **W4J0414-03 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Oct-14 11:06
Received: 17-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	7.04	mg/L	0.30	0.05		W444054	JMW	10/28/14 12:33	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0414**
Reported: 30-Oct-14 12:03

Client Sample ID: **ZANDER**

SVL Sample ID: **W4J0414-04 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Oct-14 14:19
Received: 17-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	6.24	mg/L	0.30	0.05		W444054	JMW	10/28/14 12:46	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0414**
Reported: 30-Oct-14 12:03

Client Sample ID: **MOORE**

SVL Sample ID: **W4J0414-05 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 13-Oct-14 16:19
Received: 17-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	6.72	mg/L	0.30	0.05		W444054	JMW	10/28/14 12:58	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **FB20141014**

SVL Sample ID: **W4J0414-06 (Distilled water)**

Sample Report Page 1 of 1

Sampled: 14-Oct-14 09:30

Received: 17-Oct-14

Sampled By: DP

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	0.05		W444117	JMW	10/28/14 15:56	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0414**
Reported: 30-Oct-14 12:03

Client Sample ID: **EQB20141014**

SVL Sample ID: **W4J0414-07 (Distilled water)**

Sample Report Page 1 of 1

Sampled: 14-Oct-14 10:51
Received: 17-Oct-14
Sampled By: DP

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	0.05		W444117	JMW	10/28/14 16:07	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **BMO-2010-3B**

SVL Sample ID: **W4J0414-08 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 14-Oct-14 12:51

Received: 17-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	17.4	mg/L	1.50	0.25	5	W444054	JMW	10/28/14 13:36	D1
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **DUP20141014**

SVL Sample ID: **W4J0414-09 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 14-Oct-14 16:00

Received: 17-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	18.1	mg/L	0.30	0.05		W444054	JMW	10/28/14 13:48	
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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



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **BMO-2010-3M**

SVL Sample ID: **W4J0414-10 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 14-Oct-14 17:34

Received: 17-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	10.8	mg/L	0.30	0.05		W444054	JMW	10/28/14 14:01	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0414**
Reported: 30-Oct-14 12:03

Client Sample ID: **AWC-05**

SVL Sample ID: **W4J0414-11 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 15-Oct-14 10:14
Received: 17-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	20.8	mg/L	0.30	0.05		W444054	JMW	10/28/14 14:14	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **AWC-03**

SVL Sample ID: **W4J0414-12 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 15-Oct-14 11:05

Received: 17-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	63.4	mg/L	3.00	0.50	10	W444054	JMW	10/28/14 14:39	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



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **AWC-04**

SVL Sample ID: **W4J0414-13 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 15-Oct-14 11:59

Received: 17-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	21.4	mg/L	0.30	0.05		W444068	JMW	10/27/14 19:27	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **AWC-02**

SVL Sample ID: **W4J0414-14 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 15-Oct-14 14:20

Received: 17-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	18.9	mg/L	0.30	0.05		W444068	JMW	10/27/14 19:38	
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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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0414**

Reported: 30-Oct-14 12:03

Client Sample ID: **TM-10**

SVL Sample ID: **W4J0414-15 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 16-Oct-14 08:57

Received: 17-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	4.16	mg/L	0.30	0.05		W444068	JMW	10/27/14 19:49	
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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 - Copper Queen Branch
 36 West Highway 92
 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
 Work Order: **W4J0414**
 Reported: 30-Oct-14 12:03

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	0.05	0.30	W444117	28-Oct-14	
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W444054	27-Oct-14	
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W444068	27-Oct-14	

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	9.84	10.0	98.4	90 - 110	W444117	28-Oct-14	
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W444054	27-Oct-14	
EPA 300.0	Sulfate as SO4	mg/L	9.74	10.0	97.4	90 - 110	W444068	27-Oct-14	

Quality Control - MATRIX SPIKE Data

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

EPA 300.0	Sulfate as SO4	mg/L	219	153	10.0	R > 4S	90 - 110	W444117	28-Oct-14	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	128	121	10.0	R > 4S	90 - 110	W444117	28-Oct-14	D2,M3

Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	39.5	29.4	10.0	101	90 - 110	W444068	27-Oct-14	
EPA 300.0	Sulfate as SO4	mg/L	20.3	8.67	10.0	116	90 - 110	W444054	28-Oct-14	M1
EPA 300.0	Sulfate as SO4	mg/L	66.1	57.4	10.0	R > 4S	90 - 110	W444068	28-Oct-14	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	73.8	63.4	10.0	104	90 - 110	W444054	28-Oct-14	D2,M3

Quality Control - MATRIX SPIKE DUPLICATE Data

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

EPA 300.0	Sulfate as SO4	mg/L	160	219	10.0	R > 4S	30.8	20	W444117	28-Oct-14	D2,M3
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	20.1	20.3	10.0	114	0.7	20	W444054	28-Oct-14	M1
EPA 300.0	Sulfate as SO4	mg/L	39.8	39.5	10.0	104	0.9	20	W444068	27-Oct-14	



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0414**
Reported: 30-Oct-14 12:03

Notes and Definitions

D1	Sample required dilution due to matrix.
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
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0359**
Reported: 22-Oct-14 11:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
TVI 875	W4J0359-01	Ground Water	09-Oct-14 16:19	DP	15-Oct-2014	
HOWARD 312	W4J0359-02	Ground Water	10-Oct-14 09:53	DP	15-Oct-2014	
HOWARD NR	W4J0359-03	Ground Water	10-Oct-14 11:02	DP	15-Oct-2014	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

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



Freeport McMoRan - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0359**
Reported: 22-Oct-14 11:21

Client Sample ID: **TVI 875**

SVL Sample ID: **W4J0359-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 09-Oct-14 16:19
Received: 15-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	245	mg/L	7.50	1.25	25	W442366	JMW	10/18/14 00:57	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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0359**
Reported: 22-Oct-14 11:21

Client Sample ID: **HOWARD 312**

SVL Sample ID: **W4J0359-02 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 10-Oct-14 09:53
Received: 15-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	66.8	mg/L	3.00	0.50	10	W442366	JMW	10/18/14 01:08	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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0359**
Reported: 22-Oct-14 11:21

Client Sample ID: **HOWARD NR**

SVL Sample ID: **W4J0359-03 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 10-Oct-14 11:02
Received: 15-Oct-14
Sampled By: DP

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

EPA 300.0	Sulfate as SO4	413	mg/L	7.50	1.25	25	W442366	JMW	10/18/14 01:19	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



Freeport McMoRan - Copper Queen Branch
 36 West Highway 92
 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
 Work Order: **W4J0359**
 Reported: 22-Oct-14 11:21

Quality Control - BLANK Data

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

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W442366	17-Oct-14	
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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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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	90 - 110	W442366	17-Oct-14	
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Quality Control - MATRIX SPIKE Data

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

EPA 300.0	Sulfate as SO4	mg/L	232	223	10.0	R > 4S	90 - 110	W442366	17-Oct-14	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	10.6	<0.30	10.0	106	90 - 110	W442366	18-Oct-14	

Quality Control - MATRIX SPIKE DUPLICATE Data

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

EPA 300.0	Sulfate as SO4	mg/L	231	232	10.0	R > 4S	0.2	20	W442366	18-Oct-14	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
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W4J0257**
Reported: 24-Oct-14 15:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
ANDERSON 458	W4J0257-01	Ground Water	06-Oct-14 15:11	DP	10-Oct-2014	
FB20141006	W4J0257-02	Distilled Water	06-Oct-14 15:30	DP	10-Oct-2014	
EQB20141006	W4J0257-03	Distilled Water	06-Oct-14 15:36	DP	10-Oct-2014	
ANDERSON 396	W4J0257-04	Ground Water	06-Oct-14 16:00	DP	10-Oct-2014	
DUP20141006	W4J0257-05	Ground Water	06-Oct-14 16:05	DP	10-Oct-2014	
PARRA	W4J0257-06	Ground Water	06-Oct-14 17:30	DP	10-Oct-2014	
PIONKE517	W4J0257-07	Ground Water	07-Oct-14 12:25	DP	10-Oct-2014	
McCONNELL265	W4J0257-08	Ground Water	07-Oct-14 14:45	DP	10-Oct-2014	
McCONNELL459	W4J0257-09	Ground Water	07-Oct-14 17:03	DP	10-Oct-2014	
COOPER	W4J0257-10	Ground Water	08-Oct-14 10:59	DP	10-Oct-2014	
KEEFER	W4J0257-11	Ground Water	08-Oct-14 12:48	DP	10-Oct-2014	
FRANCO383	W4J0257-12	Ground Water	08-Oct-14 15:18	DP	10-Oct-2014	
WEISKOPF897	W4J0257-13	Ground Water	09-Oct-14 09:26	DP	10-Oct-2014	
WEISKOPF802	W4J0257-14	Ground Water	09-Oct-14 12:12	DP	10-Oct-2014	

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.

Case Narrative

10/24/14 (jk) - Revised Report. Client requested reanalysis for Sulfate for Sample 4. Original results were confirmed. Original and reanalysis (in duplicate) results are reported.



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **ANDERSON 458**

SVL Sample ID: **W4J0257-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 06-Oct-14 15:11

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	26.0	mg/L	0.30	0.05		W442366	JMW	10/17/14 20:35	
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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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **FB20141006**

SVL Sample ID: **W4J0257-02 (Distilled Water)**

Sample Report Page 1 of 1

Sampled: 06-Oct-14 15:30

Received: 10-Oct-14

Sampled By: DP

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	0.05		W442318	JMW	10/16/14 22:39	
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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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **EQB20141006**

SVL Sample ID: **W4J0257-03 (Distilled Water)**

Sample Report Page 1 of 1

Sampled: 06-Oct-14 15:36

Received: 10-Oct-14

Sampled By: DP

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	0.05		W442318	JMW	10/16/14 22:49	
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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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **ANDERSON 396**

SVL Sample ID: **W4J0257-04 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 06-Oct-14 16:00

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	99.0	mg/L	7.50	1.25	25	W442366	JMW	10/17/14 20:46	D2
EPA 300.0	Sulfate as SO4	100	mg/L	7.50	1.25	25	W443252	JMW	10/23/14 16:04	D2,N10
EPA 300.0	Sulfate as SO4	96.9	mg/L	7.50	1.25	25	W443252	JMW	10/23/14 16:15	D2,N10

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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **DUP20141006**

SVL Sample ID: **W4J0257-05 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 06-Oct-14 16:05

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	102	mg/L	1.50	0.25	5	W442366	JMW	10/20/14 14:11	D2
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **PARRA**

SVL Sample ID: **W4J0257-06 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 06-Oct-14 17:30

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	413	mg/L	7.50	1.25	25	W442366	JMW	10/17/14 21:08	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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **PIONKE517**

SVL Sample ID: **W4J0257-07 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 07-Oct-14 12:25

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	14.0	mg/L	0.30	0.05		W442366	JMW	10/17/14 21:19	
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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



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **McCONNELL265**

SVL Sample ID: **W4J0257-08 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 07-Oct-14 14:45

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	968	mg/L	15.0	2.50	50	W442366	JMW	10/17/14 21:29	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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **McCONNELL459**

SVL Sample ID: **W4J0257-09 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 07-Oct-14 17:03

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	34.1	mg/L	0.30	0.05		W442366	JMW	10/17/14 22:02	
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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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **COOPER**

SVL Sample ID: **W4J0257-10 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 08-Oct-14 10:59

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	31.1	mg/L	0.30	0.05		W442366	JMW	10/17/14 22:13	
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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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **KEEFER**

SVL Sample ID: **W4J0257-11 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 08-Oct-14 12:48

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	6.35	mg/L	0.30	0.05		W442366	JMW	10/17/14 22:24	
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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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **FRANCO383**

SVL Sample ID: **W4J0257-12 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 08-Oct-14 15:18

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	335	mg/L	7.50	1.25	25	W442366	JMW	10/17/14 22:35	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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **WEISKOPF897**

SVL Sample ID: **W4J0257-13 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 09-Oct-14 09:26

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	17.7	mg/L	0.30	0.05		W442366	JMW	10/17/14 22:46	
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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: **W4J0257**

Reported: 24-Oct-14 15:29

Client Sample ID: **WEISKOPF802**

SVL Sample ID: **W4J0257-14 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 09-Oct-14 12:12

Received: 10-Oct-14

Sampled By: DP

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

EPA 300.0	Sulfate as SO4	405	mg/L	15.0	2.50	50	W442366	JMW	10/17/14 22:57	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: **W4J0257**
 Reported: 24-Oct-14 15:29

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	0.05	0.30	W442318	16-Oct-14	
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W442366	17-Oct-14	
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W443252	23-Oct-14	

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	9.96	10.0	99.6	90 - 110	W442318	16-Oct-14	
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	90 - 110	W442366	17-Oct-14	
EPA 300.0	Sulfate as SO4	mg/L	10.2	10.0	102	90 - 110	W443252	23-Oct-14	

Quality Control - MATRIX SPIKE Data

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

EPA 300.0	Sulfate as SO4	mg/L	28.2	18.0	10.0	102	90 - 110	W442318	16-Oct-14	
EPA 300.0	Sulfate as SO4	mg/L	32.5	21.8	10.0	107	90 - 110	W442318	17-Oct-14	

Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	232	223	10.0	R > 4S	90 - 110	W442366	17-Oct-14	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	10.6	<0.30	10.0	106	90 - 110	W442366	18-Oct-14	
EPA 300.0	Sulfate as SO4	mg/L	20.5	9.27	10.0	112	90 - 110	W443252	23-Oct-14	M1
EPA 300.0	Sulfate as SO4	mg/L	14.1	3.06	10.0	110	90 - 110	W443252	24-Oct-14	

Quality Control - MATRIX SPIKE DUPLICATE Data

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

EPA 300.0	Sulfate as SO4	mg/L	28.2	28.2	10.0	102	0.0	20	W442318	16-Oct-14	
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Dissolved Anions by Ion Chromatography

EPA 300.0	Sulfate as SO4	mg/L	231	232	10.0	R > 4S	0.2	20	W442366	18-Oct-14	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	20.5	20.5	10.0	113	0.2	20	W443252	23-Oct-14	M1



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

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W4J0257**

Reported: 24-Oct-14 15:29

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.
N10	After reanalysis original results are confirmed.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

APPENDIX C
GROUNDWATER SAMPLING FORMS

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/6/14
 Well ID: Anderson 396 Weather: cloudy 75°
 ADWR No: _____ Sampler: DEP

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>152.7</u>	2	0.16
Casing Volume (gal): <u>345</u> x3 = <u>1035</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						
3:50	DP						
3:50				7.13	27.5	974	
							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)
Anderson 396	4:00 16:00	Poly	250ml	1	300.0	NP	Y

WATER LEVEL MEASUREMENT COLLECTION

Water level measurement collected.

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

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other: _____

WELL PURGING INFORMATION

Purged 3 well volumes and field parameters stabilized.

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

Purged well until field parameters stabilized.

Other: _____

Additional Comments: Duplicate 2014 1006 @ ~~16:05~~ DP 16:05
labeled as DUP 2014 1006

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/6/14
 Well ID: Anderson 458 Weather: Cloudy 70°-80°F
 ADWR No: 221458 Sampler: DEA

WELL DATA		
Well Depth (ft bls): <u>28500 734</u>	Casing Capacity	
Casing Diameter (in): <u>800 5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>157.31'</u>	2	0.16
Casing Volume (gal): <u>589 x 3 = 1767</u>	4	0.65
Total Volume Purged (gal): <u>640</u>	⑤	①.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>13:45</u>	<u>Pump On</u>						
<u>14:05</u>	<u>20m</u>	<u>8</u>	<u>160</u>	<u>8.03</u>	<u>24.7</u>	<u>393</u>	
<u>14:25</u>	<u>40m</u>	<u>8</u>	<u>1600</u>	<u>8.04</u>	<u>25.6</u>	<u>387</u>	
<u>14:45</u>	<u>60m</u>	<u>8</u>	<u>1600</u>	<u>8.05</u>	<u>25.4</u>	<u>383</u>	
<u>15:05</u>	<u>80m</u>	<u>8</u>	<u>1600</u>	<u>8.06</u>	<u>25.6</u>	<u>384</u>	
			<u>640</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 near pressure tanks in shed</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Anderson 458</u>	<u>15:11</u>	<u>Poly</u>	<u>500mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

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

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>Purge minimum 1 well volume, and stable parameters</u>

Additional Comments: _____

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/15/14
 Well ID: AWC-02 Weather: Mostly Sunny, high 70's
 ADWR No: 616586 Sampler: DEP

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>122.52</u>	2	0.16
Casing Volume (gal): <u>3403</u> x3 = <u>10,209</u>	4	0.65
Total Volume Purged (gal): <u>11,500</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>12:35</u>	<u>Pump On</u>						
<u>12:55</u>	<u>20 m</u>	<u>115</u>	<u>2300</u>	<u>7.24</u>	<u>23.2</u>	<u>52.8</u>	
<u>13:15</u>	<u>40 m</u>	<u>115</u>	<u>4600</u>	<u>7.28</u>	<u>22.4</u>	<u>51.7</u>	
<u>13:35</u>	<u>60 m</u>	<u>115</u>	<u>6900</u>	<u>7.29</u>	<u>23.1</u>	<u>52.2</u>	
<u>13:55</u>	<u>80 m</u>	<u>115</u>	<u>9200</u>	<u>7.27</u>	<u>22.9</u>	<u>51.9</u>	
<u>14:15</u>	<u>100 m</u>	<u>115</u>	<u>11500</u>	<u>7.26</u>	<u>23.2</u>	<u>52.0</u>	
							<u>Pump Off</u>

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

SAMPLE INFORMATION

* Sample Collection Point: Spigot in pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>AWC-02</u>	<u>14:20</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

* Spigot near well head



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/15/14
 Well ID: AWC-03 Weather: Sunny 70^s
 ADWR No: 616585 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>270</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>16</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>119.6</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>1530 x3 = 4590</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>6570</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>10:53</u>	<u>3 m</u>	<u>730</u>	<u>2190</u>	<u>7.38</u>	<u>22.4</u>	<u>513</u>	
<u>10:56</u>	<u>6 m</u>	<u>730</u>	<u>4380</u>	<u>7.40</u>	<u>22.2</u>	<u>516</u>	
<u>10:59</u>	<u>9 m</u>	<u>730</u>	<u>6570</u>	<u>7.38</u>	<u>22.2</u>	<u>506</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: Spigot in pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>AWC-03</u>	<u>11:05</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:

* Spigot off main pipe after check valve

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/15/14
 Well ID: AWC-04 Weather: Sunny 70°
 ADWR No: 616584 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>337</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>16</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>114.29</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>2283 x3 = 6849</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>9240</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>11:44</u>	<u>Pump On</u>						
<u>11:47</u>	<u>3m</u>	<u>770</u>	<u>2310</u>	<u>6.97</u>	<u>22.2</u>	<u>347.16</u>	<u>← 687</u>
<u>11:50</u>	<u>6m</u>	<u>770</u>	<u>4620</u>	<u>6.98</u>	<u>21.6</u>	<u>686</u>	
<u>11:53</u>	<u>9m</u>	<u>770</u>	<u>6930</u>	<u>6.98</u>	<u>21.5</u>	<u>692</u>	
<u>11:56</u>	<u>12m</u>	<u>770</u>	<u>9240</u>	<u>7.01</u>	<u>21.9</u>	<u>688</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: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>AWC-04</u>	<u>11:59</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:

* spigot off main pipe near pump

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 10/15/14
 Well ID: AWC-05 Weather: Sunny 70^s
 ADWR No: 590620 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>1183</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>16</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>316.16</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>8739 x3 = 26,217</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>9:25</u>	<u>Pump On</u>						
<u>9:40</u>	<u>15m</u>	<u>600</u>	<u>9000</u>	<u>7.29</u>	<u>22.1</u>	<u>473</u>	
<u>9:55</u>	<u>30m</u>	<u>600</u>	<u>18000</u>	<u>7.34</u>	<u>22.5</u>	<u>451</u>	
<u>10:10</u>	<u>45m</u>	<u>600</u>	<u>27000</u>	<u>7.38</u>	<u>23.0</u>	<u>452</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: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>AWC-05</u>	<u>10:14</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:
 * Spigot off main pipe after check valve.



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/21/14
 Well ID: Banks 986 Weather: Sunny 70^s
 ADWR No: 647986 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>435</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>6</u> \leftarrow <u>233.96</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>Use 228.85 from Banks 987</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>303</u> $\times 3 = 909$	8	2.61
	10	4.08
Total Volume Purged (gal): <u>920</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>10:45</u>	<u>15m</u>	<u>8</u>	<u>120</u>	<u>7.41</u>	<u>21.8</u>	<u>1184</u>	
<u>11:00</u>	<u>30m</u>	<u>8</u>	<u>240</u>	<u>7.42</u>	<u>21.9</u>	<u>1185</u>	
<u>11:15</u>	<u>45m</u>	<u>8</u>	<u>360</u>	<u>7.39</u>	<u>22.0</u>	<u>1179</u>	
<u>11:30</u>	<u>60m</u>	<u>8</u>	<u>480</u>	<u>7.41</u>	<u>21.7</u>	<u>1161</u>	
<u>11:45</u>	<u>75m</u>	<u>8</u>	<u>600</u>	<u>7.37</u>	<u>22.1</u>	<u>1164</u>	
<u>12:00</u>	<u>90m</u>	<u>8</u>	<u>720</u>	<u>7.37</u>	<u>22.3</u>	<u>1157</u>	
<u>12:15</u>	<u>105m</u>	<u>8</u>	<u>840</u>	<u>7.33</u>	<u>23.3</u>	<u>1165</u>	
<u>12:25</u>	<u>125m</u>	<u>8</u>	<u>920</u>	<u>7.37</u>	<u>22.7</u>	<u>1158</u>	
	<u>115m</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>Wellhead spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Banks 986</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
<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 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: 10/21/14
 Well ID: Banks 987 Weather: Sunny 70°
 ADWR No: 647987 Sampler: DEP

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>233.96</u>	2	0.16
Casing Volume (gal): <u>x3 = 0</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						
	Pump Off						

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

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

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

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

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/23/14
 Well ID: Bima Weather: Sunny 70^s
 ADWR No: 577927 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>460</u>	Casing Capacity	
Casing Diameter (in): <u>4</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp):	4	0.65
	5	1.02
Casing Volume (gal): <u>x3 =</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>No purge</u>	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
<u>10:28</u>				<u>6.25</u>	<u>23.9</u>	<u>1704</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: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Bima</u>		<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field paremeters stabilized.
- Purged well until field parameters stabilized.
- Other: No purge per owner request, 1 field reading

Additional Comments:
Decon spigot

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: # Date: 11-13-14
 Well ID: Bma-2008-5B Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Slavum

WELL DATA

Well Depth (ft bls): <u>285</u> Casing Diameter (In): <u>5"</u> Static Water Level (ft bmp): <u>150.78</u> Casing Volume (gal): <u>137</u> x3 = <u>411</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>1150</u>	<u>Pump On</u>						
<u>1155</u>	<u>5</u>	<u>27</u>	<u>138</u>	<u>6.90</u>	<u>21.9</u>	<u>757</u>	
<u>1205</u>	<u>15</u>	<u>27</u>	<u>405</u>	<u>6.89</u>	<u>21.8</u>	<u>756</u>	
<u>1210</u>	<u>25</u>	<u>27</u>	<u>675</u>	<u>6.92</u>	<u>21.9</u>	<u>755</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-2008-5B</u>	<u>1210</u>	<u>PI</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>IC</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: 134.3

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 11-13-14
 Well ID: BMO-2008-5M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): <u>450</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>152.27</u> Casing Volume (gal): <u>304 x3 = 912</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>1050</u>	Pump On						
<u>1055</u>	<u>5</u>	<u>18</u>	<u>90</u>	<u>7.15</u>	<u>22.6</u>	<u>611</u>	
<u>1125</u>	<u>25</u>	<u>18</u>	<u>450</u>	<u>7.17</u>	<u>22.7</u>	<u>619</u>	
<u>1135</u>	<u>45</u>	<u>18</u>	<u>810</u>	<u>7.14</u>	<u>22.7</u>	<u>610</u>	
<u>1145</u>	<u>55</u>	<u>18</u>	<u>990</u>	<u>7.18</u>	<u>22.8</u>	<u>612</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>1145</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>10%</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:

298

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 11-13-14
 Well ID: BMO-2008-LB Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Swann

WELL DATA		
Well Depth (ft bls): <u>265</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>195.74</u>	2	0.16
Casing Volume (gal): <u>70.6 x3 = 212</u>	4	0.65
Total Volume Purged (gal): <u>225</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1340</u>	<u>Pump On</u>						
<u>1345</u>	<u>5</u>	<u>5.1</u>	<u>25</u>	<u>7.25</u>	<u>21.5</u>	<u>312</u>	
<u>1355</u>	<u>15</u>	<u>5.1</u>	<u>75</u>	<u>7.22</u>	<u>21.4</u>	<u>309</u>	
<u>1410</u>	<u>30</u>	<u>5.1</u>	<u>150</u>	<u>7.27</u>	<u>21.5</u>	<u>307</u>	
<u>1425</u>	<u>45</u>	<u>5.1</u>	<u>225</u>	<u>7.23</u>	<u>21.6</u>	<u>305</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>1425</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Free</u>	<u>X</u>

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

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

Additional Comments:

19.3

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 11-13-14
 Well ID: BMO-2008-6M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Stevens

WELL DATA

Well Depth (ft bbs): <u>450</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>196.32</u> Casing Volume (gal): <u>258.7 x3 = 776</u> Total Volume Purged (gal): _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Casing Capacity</th> </tr> <tr> <th style="text-align: center;">Nominal Size (inches)</th> <th style="text-align: center;">Gallons per Linear Foot</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">2</td><td style="text-align: center;">0.16</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">0.65</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">1.02</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">1.47</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">2.61</td></tr> <tr><td style="text-align: center;">10</td><td style="text-align: center;">4.08</td></tr> </tbody> </table> <p style="text-align: center;">Casing Volume = gallons/foot * water column (feet)</p>	Casing Capacity		Nominal Size (inches)	Gallons per Linear Foot	2	0.16	4	0.65	5	1.02	6	1.47	8	2.61	10	4.08
Casing Capacity																	
Nominal Size (inches)	Gallons per Linear Foot																
2	0.16																
4	0.65																
5	1.02																
6	1.47																
8	2.61																
10	4.08																

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>1255</u>	<u>Pump On</u>						
<u>1305</u>	<u>10</u>	<u>21</u>	<u>210</u>	<u>7.15</u>	<u>22.0</u>	<u>742</u>	
<u>1315</u>	<u>20</u>	<u>21</u>	<u>420</u>	<u>7.12</u>	<u>22.1</u>	<u>741</u>	
<u>1325</u>	<u>30</u>	<u>21</u>	<u>630</u>	<u>7.10</u>	<u>22.0</u>	<u>740</u>	
<u>1335</u>	<u>40</u>	<u>21</u>	<u>840</u>	<u>7.14</u>	<u>22.0</u>	<u>740</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>1335</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</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: _____

253.7

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 11-12-14
 Well ID: BMO-2010-1M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Sherman

WELL DATA

Well Depth (ft bbs): <u>550</u> Casing Diameter (in): <u>5 1/4</u> Static Water Level (ft bmp): <u>219.47</u> Casing Volume (gal): <u>337 x3 = 1011</u> Total Volume Purged (gal): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
	4	0.65
	6	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>0740</u>	Pump On						
<u>0755</u>	<u>15</u>	<u>10</u>	<u>150</u>	<u>7.22</u>	<u>22.8</u>	<u>74</u>	
<u>0840</u>	<u>60</u>	<u>5</u>	<u>375</u>	<u>7.42</u>	<u>23.1</u>	738 <u>738</u>	
<u>0940</u>	<u>120</u>	<u>3</u>	<u>555</u>	<u>7.43</u>	<u>23.3</u>	734 <u>734</u>	
<u>1040</u>	<u>180</u>	<u>3</u>	<u>735</u>	<u>7.45</u>	<u>23.5</u>	<u>729</u>	
<u>1140</u>	<u>240</u>	<u>3</u>	<u>915</u>	<u>7.44</u>	<u>23.2</u>	<u>736</u>	
<u>1215</u>	270 <u>215</u>	<u>3</u>	<u>1020</u>	<u>7.43</u>	<u>23.4</u>	<u>733</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>1215</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>ECO</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: 330.5



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 11-12-14
 Well ID: BMO-2010-2M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Sturmer

WELL DATA

Well Depth (ft bls): <u>380</u> Casing Diameter (in): <u>5 1/4</u> Static Water Level (ft bmp): <u>263.19</u> Casing Volume (gal): <u>119</u> x3 = <u>357</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>1230</u>	Pump On						
<u>1240</u>	<u>10</u>	<u>27</u>	<u>270</u>	<u>6.55</u>	<u>21.3</u>	<u>2210</u>	
<u>1250</u>	<u>20</u>	<u>27</u>	<u>540</u>	<u>6.58</u>	<u>21.4</u>	<u>2210</u>	
<u>1300</u>	<u>30</u>	<u>27</u>	<u>810</u>	<u>6.59</u>	<u>21.3</u>	<u>2210</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-2010-2M</u>	<u>1300</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>FeC</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:

117

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/14/14
 Well ID: BMO-2010-3B Weather: Sunny 70^s
 ADWR No: 219970 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>330</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>119.16</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>214 x3 = 642</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>650</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>10:35</u>	<u>Pump On</u>						
<u>10:55</u>	<u>20m</u>	<u>5</u>	<u>100</u>	<u>7.33</u>	<u>22.1</u>	<u>423</u>	
<u>11:15</u>	<u>40m</u>	<u>5</u>	<u>200</u>	<u>7.48</u>	<u>22.0</u>	<u>396</u>	
<u>11:35</u>	<u>60m</u>	<u>5</u>	<u>300</u>	<u>7.49</u>	<u>22.1</u>	<u>397</u>	
<u>11:55</u>	<u>80m</u>	<u>5</u>	<u>400</u>	<u>7.46</u>	<u>22.2</u>	<u>398</u>	
<u>12:15</u>	<u>100m</u>	<u>5</u>	<u>500</u>	<u>7.45</u>	<u>22.3</u>	<u>398</u>	
<u>12:35</u>	<u>120m</u>	<u>5</u>	<u>600</u>	<u>7.47</u>	<u>22.6</u>	<u>396</u>	
<u>12:45</u>	<u>130m</u>	<u>5</u>	<u>650</u>	<u>7.48</u>	<u>22.6</u>	<u>395</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: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2010-3B</u>	<u>12:51</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP 20141014</u>	<u>16:00</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:

* Spigot on wellhead under vault

* Duplicate taken at same time as 3B (false time)

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/14/14
 Well ID: BMO-2010-3M Weather: Sunny 70^s
 ADWR No: 219969 Sampler: DEP

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>121.87</u>	2	0.16
Casing Volume (gal): <u>418</u> x3 = <u>1255</u>	4	0.65
Total Volume Purged (gal): <u>DP-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>13:09</u>	<u>Pump On</u>			<u>Initial: rust color, sulphur odor</u>			
<u>13:29</u>	<u>20m</u>	<u>5</u>	<u>100</u>	<u>7.72</u>	<u>23.8</u>	<u>342</u>	<u>Faint Yellow, Faint sulphur</u>
<u>13:49</u>	<u>40m</u>	<u>5</u>	<u>200</u>	<u>7.58</u>	<u>24.4</u>	<u>370</u>	<u>Faint Yellow, odorless</u>
<u>14:09</u>	<u>60m</u>	<u>5</u>	<u>300</u>	<u>7.61</u>	<u>24.1</u>	<u>372</u>	<u>Clear, odorless</u>
<u>14:29</u>	<u>80m</u>	<u>5</u>	<u>400</u>	<u>7.62</u>	<u>24.4</u>	<u>364</u>	<u>Clear, odorless</u>
<u>14:39</u>	<u>90m</u>	<u>5</u>	<u>450</u>				
<u>14:49</u>	<u>100m</u>	<u>5</u>	<u>500</u>	<u>7.61</u>	<u>24.6</u>	<u>368</u>	<u>Clear, odorless</u>
<u>15:09</u>	<u>120m</u>	<u>5</u>	<u>600</u>	<u>7.55</u>	<u>24.5</u>	<u>368</u>	<u>Clear, odorless</u>
<u>15:29</u>	<u>140m</u>	<u>5</u>	<u>700</u>	<u>7.57</u>	<u>24.9</u>	<u>367</u>	<u>Clear, odorless</u>
<u>15:49</u>	<u>160m</u>	<u>5</u>	<u>800</u>	<u>7.56</u>	<u>24.8</u>	<u>368</u>	<u>Pump Off DP 11</u>

DP

See page 2

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

SAMPLE INFORMATION

* Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>BMO-2010-3M</u>	<u>17:34</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:

* Spigot on wellhead under vault



Groundwater Sampling Form

page 2 of

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: BMO-2010-3M Date: _____
 Well ID: see page 1 Weather: see page 1
 ADWR No: see page 1 Sampler: _____

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
Casing Diameter (in): _____	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
Pump On Continued from Page 1							
16:09	180m	5	900	7.56	24.4	368	Clear, odorless
16:29	200m	5	1000	7.57	24.3	367	Clear, odorless
16:49	220m	5	1100	7.60	23.8	367	Clear, odorless
17:09	240m	5	1200	7.59	24.1	369	Clear, odorless
17:29	260m	5	1300	7.57	24.1	367	Clear, odorless
							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: see page 1

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>see page 1</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: 11-13-14
 Well ID: BMO-2012-1M Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Skarmon

WELL DATA		
Well Depth (ft bis): <u>405</u>	Casing Capacity	
Casing Diameter (in): <u>5"</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>225.37</u>	2	0.16
Casing Volume (gal): <u>183 x3 = 549</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>0710</u>	<u>Pump On</u>						
<u>0720</u>	<u>10</u>	<u>6</u>	<u>60</u>	<u>7.09</u>	<u>22.6</u>	<u>834</u>	
<u>0740</u>	<u>30</u>	<u>6</u>	<u>180</u>	<u>7.11</u>	<u>22.8</u>	<u>830</u>	
<u>0810</u>	<u>60</u>	<u>6</u>	<u>360</u>	<u>7.12</u>	<u>22.7</u>	<u>837</u>	
<u>0845</u>	<u>95</u>	<u>6</u>	<u>570</u>	<u>7.10</u>	<u>22.6</u>	<u>839</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>0845</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>Dea</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:
179.6



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/21/14
 Well ID: Burke Weather: Sunny 70°
 ADWR No: 212268 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>781</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>594.68</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
<u>14:45</u>	<u>Pump On</u>						
<u>14:50</u>	<u>5m</u>	<u>~3</u>	<u>15</u>	<u>8.01</u>	<u>24.8</u>	<u>469</u>	
<u>14:55</u>	<u>10m</u>	<u>~3</u>	<u>30</u>	<u>8.03</u>	<u>21.5</u>	<u>461</u>	
<u>15:00</u>	<u>15m</u>	<u>~3</u>	<u>45</u>	<u>8.05</u>	<u>22.0</u>	<u>459</u>	
<u>15:05</u>	<u>20m</u>	<u>~3</u>	<u>60</u>	<u>8.06</u>	<u>22.2</u>	<u>456</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>Spiget near pressure tank at large green tank</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Burke</u>	<u>15:08</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>Purge from 20,000 gall tank, and stable parameters</u>

Additional Comments: _____

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/17/14
 Well ID: Chambers Weather: Sunny 70^s start 60^s
 ADWR No: 629807 Sampler: DEP

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
	4	0.65
	5	1.02
	6	1.47
Static Water Level (ft bmp): _____	8	2.61
Casing Volume (gal): _____ x3 = _____	10	4.08
Total Volume Purged (gal): <u>* 144</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>9:00</u>	<u>Pump On</u>						
<u>09:03</u>	<u>3m</u>	<u>12</u>	<u>36</u>	<u>7.04</u>	<u>21.6</u>	<u>547</u>	<u>* Storage/Calibration solution not cleaned properly</u>
<u>09:06</u>	<u>6m</u>	<u>12</u>	<u>72</u>	<u>7.26</u>	<u>22.2</u>	<u>466</u>	
<u>09:09</u>	<u>9m</u>	<u>12</u>	<u>108</u>	<u>7.29</u>	<u>22.4</u>	<u>457</u>	
<u>09:12</u>	<u>12m</u>	<u>12</u>	<u>144</u>	<u>7.31</u>	<u>22.5</u>	<u>456</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 in yard south of house east side</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Chambers</u>	<u>09:23</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input checked="" type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input type="checkbox"/> No water level measurement collected. Obstruction in well. <input type="checkbox"/> No water level measurement collected. Well is pumping. <input type="checkbox"/> Other: _____
WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input checked="" type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other: _____

Additional Comments: * Previous sampling spigot, sink, counter no longer exists.

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/8/14
 Well ID: Cooper Weather: Mostly cloudy ~ 70°F
 ADWR No: 623564 Sampler: DEF

WELL DATA		
Well Depth (ft bls):	<u>325</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
Total Volume Purged (gal):	<u>120</u>	4
		5
		6
		8
		10
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>10:40</u>	<u>Pump On</u>						
<u>10:45</u>	<u>5m</u>	<u>8</u>	<u>40</u>	<u>7.08</u>	<u>23.0</u>	<u>496</u>	
<u>10:50</u>	<u>10m</u>	<u>8</u>	<u>80</u>	<u>7.34</u>	<u>23.1</u>	<u>406</u>	
<u>10:55</u>	<u>15m</u>	<u>8</u>	<u>120</u>	<u>7.37</u>	<u>23.5</u>	<u>408</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 north side of house</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Cooper</u>	<u>10:59</u>	<u>Poly</u>	<u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 11-13-11
 Well ID: Cooper C Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Shering

WELL DATA

Well Depth (ft bls): <u>220</u> Casing Diameter (in): <u>6"</u> Static Water Level (ft bmp): <u>162.48</u> Casing Volume (gal): <u>84</u> x3 = <u>252</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
<u>1000</u>	<u>Pump On</u>						
<u>1010</u>	<u>10</u>	<u>8.5</u>	<u>85</u>	<u>6.88</u>	<u>22.2</u>	<u>1520</u>	
<u>1020</u>	<u>20</u>	<u>8.5</u>	<u>170</u>	<u>6.85</u>	<u>22.5</u>	<u>1521</u>	
<u>1030</u>	<u>30</u>	<u>8.5</u>	<u>255</u>	<u>6.87</u>	<u>22.4</u>	<u>1520</u>	
							<u>Pump Off</u>

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

SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Cooper C</u>	<u>1030</u>	<u>PL</u>	<u>250</u>	<u>1</u>	<u>300</u>	<u>Ice</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:

575

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/16/14
 Well ID: Dobson³⁰ Dodson Weather: Sunny high 70s
 ADWR No: 644927 Sampler: DEP

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>97.22</u>	2	0.16
Casing Volume (gal): <u>154 x3=461</u>	4	0.65
Total Volume Purged (gal): <u>650</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>16:05</u>	<u>Pump On</u>						
<u>16:15</u>	<u>10m</u>	<u>13</u>	<u>130</u>	<u>7.02</u>	<u>22.3</u>	<u>1861</u>	
<u>16:25</u>	<u>20m</u>	<u>13</u>	<u>260</u>	<u>7.06</u>	<u>22.0</u>	<u>1812</u>	
<u>16:35</u>	<u>30m</u>	<u>13</u>	<u>390</u>	<u>7.10</u>	<u>21.8</u>	<u>1758</u>	}
<u>16:45</u>	<u>40m</u>	<u>13</u>	<u>520</u>	<u>7.08</u>	<u>21.6</u>	<u>1729</u>	
<u>16:55</u>	<u>50m</u>	<u>13</u>	<u>650</u>	<u>7.12</u>	<u>21.3</u>	<u>1706</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>wellhead spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Dodson</u>	<u>16:59</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: 055038 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 12/9/14
 Well ID: DUGAZO Weather: Sunny, 70s
 ADWR No: NR Sampler: VH

WELL DATA		
Well Depth (ft bis):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in):	2	0.16
Static Water Level (ft bmp):	4	0.65
Casing Volume (gal):	5	1.02
	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						
							No sample
	Pump Off						

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

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

WATER LEVEL MEASUREMENT COLLECTION

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

Additional Comments: Well is disconnected, no purge
Unable to get scumder down well as port is
rusted shut.

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/22/14
 Well ID: East Weather: Sunny 70^s
 ADWR No: 599769 Sampler: DEP

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>67.75</u>	2	0.16
Casing Volume (gal): <u>84</u> x3 = <u>252</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal): <u>260</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>13:45</u>	<u>Pump On</u>						
<u>13:53</u>	<u>8m</u>	<u>10</u>	<u>80</u>	<u>7.25</u>	<u>21.1</u>	<u>614</u>	
<u>14:01</u>	<u>16m</u>	<u>10</u>	<u>160</u>	<u>7.21</u>	<u>20.9</u>	<u>606</u>	
<u>14:11</u>	<u>26m</u>	<u>10</u>	<u>260</u>	<u>7.23</u>	<u>22.8</u>	<u>601</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: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>East</u>	<u>14:17</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: 10/22/14
 Well ID: Echave Weather: sunny 70^s
 ADWR No: 219449 Sampler: DEP

WELL DATA

Well Depth (ft bls): <u>345</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>Use 218.41 from 6/18/13</u>	2	0.16
Casing Volume (gal): <u>186 x3 = 558</u>	4	0.65
Total Volume Purged (gal): <u>560</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA

DP
 16:30
 DP
 17:10

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>16:30</u>	<u>Pump On</u>						
<u>16:50</u>	<u>20m</u>	<u>7</u>	<u>140</u>	<u>7.32</u>	<u>22.5</u>	<u>421</u>	
<u>17:10</u>	<u>40m</u>	<u>7</u>	<u>280</u>	<u>7.39</u>	<u>21.7</u>	<u>405</u>	
<u>17:30</u>	<u>60m</u>	<u>7</u>	<u>420</u>	<u>7.41</u>	<u>21.5</u>	<u>403</u>	
<u>17:50</u>	<u>80m</u>	<u>7</u>	<u>560</u>	<u>7.43</u>	<u>21.4</u>	<u>406</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: Wellhead spigot, hand filter

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Echave</u>	<u>17:54</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y(hand)</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:

Place tank fill hose end high so tank doesn't siphon.

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/21/14
 Well ID: Eppelle 641 Weather: Sunny 60°
 ADWR No: 805641 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>265</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>24.56</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>626 x3 = 1878</u>	6	1.47
	8	2.61
Total Volume Purged (gal): <u>600</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>08:30</u>	<u>Pump On</u>						
<u>08:45</u>	<u>15m</u>	<u>10</u>	<u>150</u>	<u>7.07</u>	<u>22.0</u>	<u>673</u>	
<u>08:00</u>	<u>30m</u>	<u>10</u>	<u>300</u>	<u>7.15</u>	<u>21.9</u>	<u>668</u>	
<u>09:15</u>	<u>45m</u>	<u>10</u>	<u>450</u>	<u>7.14</u>	<u>21.7</u>	<u>660</u>	
<u>09:30</u>	<u>60m</u>	<u>10</u>	<u>600</u>	<u>7.22</u>	<u>22.2</u>	<u>659</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: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>DEP Eppelle</u>	<u>09:36</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

- Water level measurement collected.
- No water level measurement collected. No access to wellhead/No port in wellhead
- No water level measurement collected. Obstruction in well.
- No water level measurement collected. Well is pumping.
- Other: Purge minimum 1 well volume, and stable parameters

WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Purge minimum 1 well volume, and stable parameters

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/8/14
 Well ID: Franco 101 Weather: Mostly cloudy, windy, 72°F
 ADWR No: 500101 Sampler: DEP

WELL DATA		
Well Depth (ft bis): <u>200</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>197.91</u>	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
	10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
	Pump On						
							<div style="font-size: 2em; opacity: 0.5; transform: rotate(-45deg); position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%);">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)
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:

Additional Comments: WLO

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/8/14
 Well ID: Franco 383 Weather: Cloudy, 68° F
 ADWR No: _____ Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>711</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>196.86</u>	2	0.16
Casing Volume (gal): <u>524 x3 = 1573</u>	4	0.65
Total Volume Purged (gal): <u>640</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>14:10</u>	<u>Pump On</u>						
<u>14:25</u>	<u>14</u>	<u>15m</u>	<u>210</u>	<u>7.39</u>	<u>24.2</u>	<u>949</u>	
<u>14:40</u>	<u>14</u>	<u>30m</u>	<u>420</u>	<u>7.43</u>	<u>23.8</u>	<u>956</u>	
<u>14:55</u>	<u>14</u>	<u>45m</u>	<u>630</u>	<u>7.41</u>	<u>23.5</u>	<u>955</u>	
<u>15:10</u>	<u>14</u>	<u>60m</u>	<u>840</u>	<u>7.47</u>	<u>23.5</u>	<u>954</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 near pressure tanks in shed</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Franco 383</u>	<u>15:18</u>	<u>Poly</u>	<u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

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

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>Purge minimum 1 volume, and stable parameters</u>

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: _____ Date: 11-13-14
 Well ID: Hoban Weather: Sunny
 ADWR No: _____ Sampler: Christopher L. Skurman

WELL DATA

Well Depth (ft bis): <u>300</u> Casing Diameter (in): <u>5"</u> Static Water Level (ft bmp): <u>170.87</u> Casing Volume (gal): <u>132 x3 = 396</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>0910</u>	<u>Pump On</u>						
<u>0920</u>	<u>10</u>	<u>17.6</u>	<u>176</u>	<u>6.90</u>	<u>21.6</u>	<u>1970</u>	
<u>0930</u>	<u>20</u>	<u>17.6</u>	<u>352</u>	<u>6.86</u>	<u>21.7</u>	<u>1961</u>	
<u>0940</u>	<u>30</u>	<u>17.6</u>	<u>528</u>	<u>6.88</u>	<u>21.7</u>	<u>1965</u>	
							<u>Pump Off</u>

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

SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Hoban</u>	<u>0940</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:

129

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/10/14
 Well ID: Howard 312 Weather: Clear, 60^s, fog in valley
 ADWR No: 221312 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>980</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>206.36</u>	2	0.16
Casing Volume (gal): <u>788</u> x3 = <u>2365</u>	4	0.65
Total Volume Purged (gal): <u>800</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>08:05</u>	<u>Pump On</u>						
<u>08:25</u>	<u>20m</u>	<u>8</u>	<u>160</u>	<u>7.90</u>	<u>23.1</u>	<u>636</u>	
<u>08:45</u>	<u>40m</u>	<u>8</u>	<u>320</u>	<u>8.00</u>	<u>24.3</u>	<u>630</u>	
<u>08:05</u>	<u>60m</u>	<u>8</u>	<u>480</u>	<u>8.01</u>	<u>25.8</u>	<u>629</u>	
<u>09:25</u>	<u>80m</u>	<u>8</u>	<u>640</u>	<u>7.99</u>	<u>26.7</u>	<u>628</u>	
<u>09:45</u>	<u>100m</u>	<u>8</u>	<u>800</u>	<u>7.99</u>	<u>26.4</u>	<u>621</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 near pressure tank in shed</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Howard 312</u>	<u>09:53</u>	<u>Poly</u>	<u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

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

WELL PURGING INFORMATION
<input type="checkbox"/> Purged 3 well volumes and field parameters stabilized. <input type="checkbox"/> Purged 3 well volumes based on previous water level and field parameters stabilized. <input type="checkbox"/> Purged well until field parameters stabilized. <input checked="" type="checkbox"/> Other: <u>Purge minimum 1 well volume, and stable parameters</u>

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/10/14
 Well ID: Howard NR Weather: Clear, 60^s to low 70^s
 ADWR No: NR Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>220</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>157.68</u>	2	0.16
Casing Volume (gal): <u>91</u> x3 = <u>274</u>	4	0.65
Total Volume Purged (gal): <u>440</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>10:15</u>	<u>Pump On</u>						<u>Faint yellow, odorless</u>
<u>10:25</u>	<u>10m</u>	<u>11</u>	<u>110</u>	<u>6.99</u>	<u>22.3</u>	<u>1244</u>	<u>clear, odorless</u>
<u>10:35</u>	<u>20m</u>	<u>11</u>	<u>220</u>	<u>6.97</u>	<u>22.9</u>	<u>1289</u>	
<u>10:45</u>	<u>30m</u>	<u>11</u>	<u>330</u>	<u>6.95</u>	<u>23.3</u>	<u>1312</u>	
<u>10:55</u>	<u>40m</u>	<u>11</u>	<u>440</u>	<u>6.93</u>	<u>23.2</u>	<u>1339</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>Wellhead spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Howard NR</u>	<u>11:02</u>	<u>Poly</u>	<u>500ml</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: DP

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/8/14
 Well ID: Kefer Weather: Partly cloudy ~ 73°F
 ADWR No: _____ Sampler: DEP

WELL DATA		
Well Depth (ft bis): <u>245</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>141.45</u>	2	0.16
Casing Volume (gal): <u>151 x3 = 454</u>	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>12:00</u>	<u>Pump On</u>						
<u>12:15</u>	<u>15m</u>	<u>10</u>	<u>150</u>	<u>7.26</u>	<u>22.6</u>	<u>418</u>	
<u>12:30</u>	<u>30m</u>	<u>10</u>	<u>300</u>	<u>7.25</u>	<u>22.7</u>	<u>426</u>	
<u>12:45</u>	<u>45m</u>	<u>10</u>	<u>450</u>	<u>7.32</u>	<u>22.3</u>	<u>429</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>well head spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Kefer</u>	<u>12:48</u>	<u>Poly</u>	<u>500ml</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: 10/7/14
 Well ID: McConnell 265 Weather: Mostly Cloudy 80°
 ADWR No: 539265 Sampler: DEF

WELL DATA		
Well Depth (ft bls): <u>216</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>163.89</u>	2	0.16
Casing Volume (gal): <u>76</u> x3 = <u>229</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>14:05</u>	<u>Pump On</u>						<u>Yellow tint, sulphur odor</u>
<u>14:15</u>	<u>10 m</u>	<u>9</u>	<u>90</u>	<u>6.78</u>	<u>23.5</u>	<u>2016</u>	<u>Clear, odorless</u>
<u>14:25</u>	<u>20 m</u>	<u>9</u>	<u>180</u>	<u>6.83</u>	<u>22.6</u>	<u>1985</u>	<u>Clear, odorless</u>
<u>14:35</u>	<u>30 m</u>	<u>9</u>	<u>270</u>	<u>6.84</u>	<u>22.2</u>	<u>1976</u>	<u>Clear, odorless</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>Well head spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>McConnell 265</u>	<u>14:45</u>	<u>Poly</u>	<u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

Water level measurement collected.

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

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

WELL PURGING INFORMATION

Purged 3 well volumes and field parameters stabilized.

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

Purged well until field parameters stabilized.

Other: Purge minimum 1 well volume, and stable parameters DP

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/7/14
 Well ID: McCConnell 459 Weather: Thunder storm - off/on 74°
 ADWR No: 221459 Sampler: DEP

WELL DATA				
Well Depth (ft bls):	Casing Diameter (in):	863	Casing Capacity	
			Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):		5	2	0.16
Casing Volume (gal):		167.24	4	0.65
Total Volume Purged (gal):		710 x3 = 2130	5	1.02
		960	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
15:35	Pump On						
15:55	20m	12	240	7.87	24.1	476	Clear, odorless
16:15	40m	12	480	7.95	25.1	468	
16:35	60m	12	720	7.95	25.4	476	
16:55	80m	12	960	7.94	25.7	478	
							Pump Off

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

SAMPLE INFORMATION							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Sample Collection Point: <u>well head spigot spigot near pressure tanks in shed</u>							
McCConnell 459	17:03	Poly	500ml	1	300.0	NP	Y

WATER LEVEL MEASUREMENT COLLECTION

Water level measurement collected.

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

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

WELL PURGING INFORMATION

Purged 3 well volumes and field parameters stabilized.

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

Purged well until field parameters stabilized.

Other: Purge minimum 1 well volume, and stable parameters

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/8/14
 Well ID: Metzler Weather: Partly cloudy ~ 72° F
 ADWR No: 35-71891 Sampler: DEP

WELL DATA		
Well Depth (ft bls):	<u>351</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>293.62</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: <u>✓</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: 10/13/14
 Well ID: Moore Weather: Sunny high 70^s
 ADWR No: 538847 Sampler: DEP

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>No access</u>	2	0.16
Casing Volume (gal): <u>419 (from previous x3 =)</u>	4	0.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>15:35</u>	<u>Pump On</u>						
<u>15:45</u>	<u>10m</u>	<u>12</u>	<u>120</u>	<u>7.40</u>	<u>23.2</u>	<u>436</u>	
<u>15:55</u>	<u>20m</u>	<u>12</u>	<u>240</u>	<u>7.46</u>	<u>22.2</u>	<u>434</u>	
<u>16:05</u>	<u>30m</u>	<u>12</u>	<u>360</u>	<u>7.45</u>	<u>22.1</u>	<u>431</u>	
<u>16:15</u>	<u>40m</u>	<u>12</u>	<u>480</u>	<u>7.47</u>	<u>22.0</u>	<u>433</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>old fashion pump handle spigot NEC of pump house</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Moore</u>	<u>16:19</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<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>Purge minimum 1 well volume, and stable parameters</u>

Additional Comments:

Groundwater Sampling Form

Project No: 055038 Client: Freeport Copper Queen Branch
 Task No: 1.0 Date: 12/10/14
 Well ID: NOTEMAN Weather: SUNNY 60's
 ADWR No: _____ Sampler: MML

WELL DATA		
Well Depth (ft bls): <u>470</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>N/A</u> : on 2/25/09 - 327.64	2	0.16
Casing Volume (gal): <u>145</u> x3 = <u>435</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>1145</u>	Pump On						
<u>1155</u>	<u>10</u>	<u>11</u>	<u>110</u>	<u>6.63</u>	<u>22.9</u>	<u>1571</u>	
<u>1205</u>	<u>20</u>		<u>220</u>	<u>6.61</u>	<u>22.9</u>	<u>1568</u>	
<u>1215</u>	<u>30</u>		<u>330</u>	<u>6.68</u>	<u>22.7</u>	<u>1545</u>	
<u>1225</u>	<u>40</u>		<u>440</u>	<u>6.66</u>	<u>22.8</u>	<u>1528</u>	
							Pump Off

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

SAMPLE INFORMATION							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NOTEMAN</u>	<u>12:30</u>	<u>Poly</u>	<u>250 mL</u>	<u>1</u>	<u>300.0</u>	<u>No</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: sampling from here under fake rock in front yard

Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Dec 22, 2014
Well ID:	NSD-02	Weather:	Sunny, 40s
ADWR No:	527587	Sampler:	VNH

WELL DATA

Well Depth (ft bls):	120			Casing Capacity	
		Nominal Size (inches)	Gallons per Linear Foot		
		2	0.16		
Casing Diameter (in):	12			4	0.65
		5	1.02		
Static Water Level (ft bmp):	101.30			6	1.47
		8	2.61		
Casing Volume (gal):	x3 =	0		10	4.08
Total Volume Purged (gal):	Casing Volume = gallons/foot * water column (feet)				

FIELD SAMPLING DATA

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

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 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: Pumped dry, stable parameters

Additional Comments: WLO

Groundwater Sampling Form

Project No:	287030	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	Dec 22, 2014
Well ID:	NSD-03	Weather:	Sunny, 40s
ADWR No:	527586	Sampler:	VNH

WELL DATA

Well Depth (ft bls):	100			Casing Capacity	
		Nominal Size (inches)		Gallons per Linear Foot	
		2		0.16	
Casing Diameter (in):	12			4	0.65
		5		1.02	
Static Water Level (ft bmp):	86.80			6	1.47
		8		2.61	
Casing Volume (gal):	x3 =	0		10	4.08
Total Volume Purged (gal):				Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA

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

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, and 100 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: Pumped dry, stable parameters

Additional Comments: **WLO**

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/13/14
 Well ID: NWC-02 Weather: Sunny 70^s
 ADWR No: 562944 Sampler: DEP

WELL DATA		
Well Depth (ft bis): <u>312</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): _____	2	0.16
Casing Volume (gal): _____ 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						
<u>10:50</u>				<u>7.50</u>	<u>23.0</u>	<u>426</u>	
<u>10:55</u>				<u>7.48</u>	<u>23.1</u>	<u>424</u>	
<u>11:00</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>Hand filter from wellhead spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC-06-02</u> <u>DP</u>	<u>11:06</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y(hand)</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: 10/13/14
 Well ID: NWC-04 Weather: Clear, 60s
 ADWR No: 551849 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>462</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>10</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): _____	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
<u>09:10</u>	<u>Pump On</u>				<u>3</u>		
<u>09:15</u>				<u>7.27</u>	<u>24.8</u>	<u>821</u>	
<u>09:20</u>				<u>7.36</u>	<u>24.9</u>	<u>800</u>	
<u>09:25</u>				<u>7.39</u>	<u>24.5</u>	<u>802</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>Hand filter from wellhead spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC-04</u>	<u>09:32</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y (hand)</u>

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

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

Additional Comments: _____



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1.0 Date: 11/14/19
 Well ID: NWC-04 Weather: Sunny 70's
 ADWR No: _____ Sampler: Ben D

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): _____	4	0.65
Casing Volume (gal): _____ x3 =	-5	1.02
	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>10:10</u>	<u>Pump On</u>						
<u>10:15</u>	<u>5</u>	<u>20</u>	<u>100</u>	<u>7.26</u>	<u>22.9</u>	<u>838.8</u>	
<u>10:20</u>	<u>10</u>	<u>20</u>	<u>200</u>	<u>7.45</u>	<u>22.8</u>	<u>842.7</u>	
<u>10:25</u>	<u>15</u>	<u>20</u>	<u>300</u>	<u>7.46</u>	<u>22.9</u>	<u>835.4</u>	
							<u>Pump Off</u>

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

SAMPLE INFORMATION

Sample Collection Point: _____

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC-04</u>	<u>10:28</u>	<u>Pol</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>φ</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 has been pumping on and off

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1.0 Date: 12/10/14
 Well ID: NWC-04 Weather: Sunny, low's
 ADWR No: 551849 Sampler: MML

WELL DATA

Well Depth (ft bis): _____ Casing Diameter (in): _____ Static Water Level (ft bmp): <u>N/A</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						
<u>1108</u>	—	—	—	<u>7.43</u>	<u>23.3</u>	<u>835.4</u>	
<u>1113</u>				<u>7.38</u>	<u>22.9</u>	<u>836.5</u>	
<u>1118</u>				<u>7.33</u>	<u>23.3</u>	<u>840.7</u>	<u>faint odor</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-04</u>	<u>1120</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>N</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: 10/13/14
 Well ID: NWC-06 Weather: Clear, low 70^s
 ADWR No: 575700 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>340</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	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>10:15</u>	<u>Pump On</u>						
<u>10:20</u>				<u>7.56</u>	<u>23.0</u>	<u>401</u>	
<u>10:25</u>				<u>7.59</u>	<u>22.9</u>	<u>388</u>	
<u>10:30</u>				<u>7.59</u>	<u>23.4</u>	<u>393</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>Hand filter from well head spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>NWC-06</u>	<u>10:33</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y(hand)</u>

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

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

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/23/14
 Well ID: Palmer Weather: sunny 70°
 ADWR No: 578819 Sampler: DEP

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): _____	2	0.16
Casing Volume (gal): <u>x3 =</u>	4	0.65
Total Volume Purged (gal): <u>90</u>	5	1.02
	6	1.47
	8	2.61
	10	4.08
	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>09:20</u>	<u>Pump On</u>						
<u>09:25</u>	<u>5m</u>	<u>6</u>	<u>30</u>	<u>7.94</u>	<u>18.8</u>	<u>521</u>	
<u>09:30</u>	<u>10m</u>	<u>6</u>	<u>60</u>	<u>7.82</u>	<u>19.3</u>	<u>536</u>	
<u>09:35</u>	<u>15m</u>	<u>6</u>	<u>90</u>	<u>7.86</u>	<u>19.6</u>	<u>536</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: spigot on east side of house

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Palmer</u>	<u>09:47</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: 10/16/14
 Well ID: Panagakos Weather: Sunny 80's
 ADWR No: 35-76413 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>200</u>	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): <u>8</u>	2	0.16
	4	0.65
Static Water Level (ft bmp): <u>159.28</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>105 x3 = 316</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>315</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>14:35</u>	<u>Pump On</u>						
<u>14:50</u>	<u>15m</u>	<u>7</u>	<u>105</u>	<u>6.82</u>	<u>22.3</u>	<u>1048</u>	
<u>15:05</u>	<u>30m</u>	<u>7</u>	<u>210</u>	<u>6.87</u>	<u>22.1</u>	<u>1084</u>	
<u>15:20</u>	<u>45m</u>	<u>7</u>	<u>315</u>	<u>6.90</u>	<u>22.1</u>	<u>1104</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 ~50' SE of wellhead</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Panagakos</u>	<u>15:27</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: Returned ball valve to off

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/6/14
 Well ID: Pana 415-0A Weather: Cloudy 75°F
 ADWR No: 55-576415 Sampler: DEP

WELL DATA		
Well Depth (ft bls):	<u>355</u>	Casing Capacity
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)
Static Water Level (ft bmp):	<u>281 from 7/20/09</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>109 x3 = 327</u>	2 4 5 6 8 10
Total Volume Purged (gal):	<u>360</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>16:45</u>	<u>Pump On</u>						
<u>16:55</u>	<u>10 m</u>	<u>9</u>	<u>90</u>	<u>7.05</u>	<u>22.9</u>	<u>1142</u>	
<u>15:05</u>	<u>20m</u>	<u>9</u>	<u>180</u>	<u>7.06</u>	<u>22.0</u>	<u>1139</u>	
<u>15:15</u>	<u>30m</u>	<u>9</u>	<u>270</u>	<u>7.10</u>	<u>21.8</u>	<u>1136</u>	
<u>15:25</u>	<u>40m</u>	<u>9</u>	<u>360</u>	<u>7.12</u>	<u>21.5</u>	<u>1133</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>well head spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Pana</u>	<u>5:30</u> <u>17:30</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: DP

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/7/14
 Well ID: Pionke 395 Weather: Partly Cloudy
 ADWR No: 55-613395 Sampler: DEP ~ 74°F

WELL DATA		
Well Depth (ft bls):	<u>330</u>	Casing Capacity
Casing Diameter (in):	<u>8</u>	Nominal Size (inches) Gallons per Linear Foot
Static Water Level (ft bmp):	<u>156.47</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						
<i>Pump not working No sample</i>							
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point:

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

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/7/14
 Well ID: Pionke 517 Weather: partly cloudy ~72°F
 ADWR No: 221517 Sampler: DEF

WELL DATA		
Well Depth (ft bls): <u>604</u>	Casing Capacity	
Casing Diameter (in): <u>5</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>153.31</u>	2	0.16
Casing Volume (gal): <u>460 x3 = 1379</u>	4	0.65
Total Volume Purged (gal): <u>1440</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>10:15</u>	<u>Pump On</u>						
<u>10:35</u>	<u>20m</u>	<u>12</u>	<u>240</u>	<u>7.14</u>	<u>24.8</u>	<u>418</u>	
<u>10:55</u>	<u>40m</u>	<u>12</u>	<u>480</u>	<u>7.46</u>	<u>25.0</u>	<u>402</u>	
<u>11:15</u>	<u>60m</u>	<u>12</u>	<u>720</u>	<u>7.45</u>	<u>25.3</u>	<u>407</u>	
<u>11:35</u>	<u>80m</u>	<u>12</u>	<u>960</u>	<u>7.47</u>	<u>25.7</u>	<u>402</u>	
<u>11:55</u>	<u>100m</u>	<u>12</u>	<u>1200</u>	<u>7.55</u>	<u>24.7</u>	<u>401</u>	
<u>12:15</u>	<u>120m</u>	<u>12</u>	<u>1440</u>	<u>7.46</u>	<u>25.8</u>	<u>406</u>	
<u>12:35</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: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Pionke 517</u>	<u>12:25</u>	<u>Poly</u>	<u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NF</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: Purge minimum 1 well volume, and stable parameters DD

WELL PURGING INFORMATION

- Purged 3 well volumes and field parameters stabilized.
- Purged 3 well volumes based on previous water level and field parameters stabilized.
- Purged well until field parameters stabilized.
- Other: Purge minimum 1 well volume, and stable parameters

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/8/14
 Well ID: Power 639 Weather: partly cloudy 65°F
 ADWR No: 222639 Sampler: DEP

WELL DATA			
Well Depth (ft bls):	<u>480</u>	Casing Capacity	
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	<u>294.49</u>	2	0.16
Casing Volume (gal):	<u>273</u> x3 = <u>818</u>	4	0.65
Total Volume Purged (gal):	<u>800</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>08:30</u>	<u>Pump On</u>						
<div style="font-size: 2em; opacity: 0.5; transform: rotate(-15deg); position: absolute; top: 50%; left: 50%;">No flow</div>							
							<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>Wellhead spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<div style="font-size: 1.5em; opacity: 0.5;">NO sample collected</div>							

WATER LEVEL MEASUREMENT COLLECTION

Water level measurement collected.

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

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

WELL PURGING INFORMATION

Purged 3 well volumes and field parameters stabilized.

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

Purged well until field parameters stabilized.

Other: * No power to house

Additional Comments:
Immediately north of Parva
 * When spigot turned on very little water flow then zero flow. Contacted April Power she said electricity is turned off.



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/17/14
 Well ID: Ramirez Weather: Clouds moving in 70s
 ADWR No: 216425 Sampler: DEP *light sprinkle for 5 min.*

WELL DATA		
Well Depth (ft bls): <u>300</u>	Casing Capacity	
Casing Diameter (in): <u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
	2	0.16
Static Water Level (ft bmp): <u>Use 164.85 from 4/14/14</u>	4	0.65
	5	1.02
Casing Volume (gal): <u>199 x3 = 597</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>11:45</u>	<u>Pump On</u>						
<u>12:00</u>	<u>15m</u>	<u>10</u>	<u>150</u>	<u>7.37</u>	<u>23.2</u>	<u>413</u>	
<u>12:15</u>	<u>30m</u>	<u>10</u>	<u>300</u>	<u>7.36</u>	<u>23.3</u>	<u>416</u>	
<u>12:30</u>	<u>45m</u>	<u>10</u>	<u>450</u>	<u>7.35</u>	<u>23.1</u>	<u>421</u>	
<u>12:45</u>	<u>60m</u>	<u>10</u>	<u>600</u>	<u>7.36</u>	<u>23.0</u>	<u>422</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>Wellhead spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Ramirez</u>	<u>12:48</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 type="checkbox"/> Purged well until field parameters stabilized. <input type="checkbox"/> Other:

Additional Comments:
Beehive in NWC of shed next to well shed ! ! !
Be bee aware, in Bisbee



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/22/14
 Well ID: Ray Weather: Sunny 70^s
 ADWR No: 803772 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>100</u>	Casing Capacity	
Casing Diameter (in): <u>8</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>44.65</u>	2	0.16
Casing Volume (gal): <u>148</u> x3 = <u>444</u>	4	0.65
Total Volume Purged (gal): <u>455</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>12:05</u>	<u>Pump On</u>						
<u>12:18</u>	<u>13m</u>	<u>7</u>	<u>91</u>	<u>6.90</u>	<u>21.8</u>	<u>1453</u>	
<u>12:31</u>	<u>26m</u>	<u>7</u>	<u>182</u>	<u>6.92</u>	<u>21.4</u>	<u>1431</u>	
<u>12:44</u>	<u>39m</u>	<u>7</u>	<u>273</u>	<u>6.90</u>	<u>21.4</u>	<u>1429</u>	
<u>12:57</u>	<u>52m</u>	<u>7</u>	<u>364</u>	<u>6.91</u>	<u>21.5</u>	<u>1435</u>	
<u>13:10</u>	<u>65m</u>	<u>7</u>	<u>455</u>	<u>6.88</u>	<u>21.6</u>	<u>1422</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>Wellhead spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Ray</u>	<u>13:14</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

Water level measurement collected.

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

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

WELL PURGING INFORMATION

Purged 3 well volumes and field parameters stabilized.

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

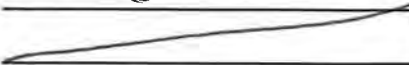
Purged well until field parameters stabilized.

Other:

Additional Comments: _____

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/15/14
 Well ID: Rogers 596 Weather: Sunny high 70^s
 ADWR No: 573596 Sampler: DEP

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):		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: No measurement No sample from Rogers 803

WELL PURGING INFORMATION

- Purged 3 well volumes 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: Gates Locked
Called David Rogers 15:24 10/15/14. David said he does not own this property anymore. Also David said Brian Luna owns property now.



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/17/14
 Well ID: Rogers, E Weather: Sunny low 80^s
 ADWR No: 216018 Sampler: DEP

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>Use 155.97 from 4/14/14</u>	4	0.65
	5	1.02
	6	1.47
	8	2.61
Casing Volume (gal): <u>190 x3 = 570</u>	10	4.08
Total Volume Purged (gal): <u>600</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>10:05</u>	<u>Pump On</u>						
<u>10:20</u>	<u>15m</u>	<u>10</u>	<u>150</u>	<u>7.37</u>	<u>22.2</u>	<u>447</u>	
<u>10:35</u>	<u>30m</u>	<u>10</u>	<u>300</u>	<u>7.34</u>	<u>22.4</u>	<u>452</u>	
<u>10:50</u>	<u>45m</u>	<u>10</u>	<u>450</u>	<u>7.33</u>	<u>22.4</u>	<u>450</u>	
<u>11:05</u>	<u>60m</u>	<u>10</u>	<u>600</u>	<u>7.31</u>	<u>22.6</u>	<u>452</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>well head spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Rogers, E</u>	<u>11:12</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 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: 10/21/14
 Well ID: Ruiz Weather: Sunny 70°
 ADWR No: 531770 Sampler: DEP

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>300.38</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>18</u> x3 = <u>54</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>60</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>16:25</u>	<u>Pump On</u>						
<u>16:30</u>	<u>5m</u>	<u>4</u>	<u>20</u>	<u>7.09</u>	<u>21.8</u>	<u>895</u>	
<u>16:35</u>	<u>10m</u>	<u>4</u>	<u>40</u>	<u>7.08</u>	<u>21.6</u>	<u>888</u>	
<u>16:40</u>	<u>15m</u>	<u>4</u>	<u>60</u>	<u>7.09</u>	<u>21.4</u>	<u>886</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: Wellhead Spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Ruiz</u>	<u>16:38</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>
<u>DUP20141021</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:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/22/14
 Well ID: Schwartz Weather: sunny 70^s
 ADWR No: 210865 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>305</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>129.66</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>257</u> x3 = <u>772</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>800</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>10:00</u>	<u>20m</u>	<u>10</u>	<u>200</u>	<u>7.24</u>	<u>21.9</u>	<u>650</u>	
<u>10:20</u>	<u>40m</u>	<u>10</u>	<u>400</u>	<u>7.24</u>	<u>21.9</u>	<u>646</u>	
<u>10:40</u>	<u>60m</u>	<u>10</u>	<u>600</u>	<u>7.28</u>	<u>21.8</u>	<u>645</u>	
<u>11:00</u>	<u>80m</u>	<u>10</u>	<u>800</u>	<u>7.28</u>	<u>22.0</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: <u>Wellhead Spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Schwartz</u>	<u>11:06</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: No problem with sounder



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/22/14
 Well ID: Thompson 151 Weather: sunny 60^s
 ADWR No: 612151 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>210</u>	Casing Capacity	
Casing Diameter (in): <u>7</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp): <u>167.56</u>	2	0.16
Casing Volume (gal): <u>x3 =</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						
							Pump Off

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

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

WATER LEVEL MEASUREMENT COLLECTION

Water level measurement collected.

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

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other: _____

WELL PURGING INFORMATION

Purged 3 well volumes and field parameters stabilized.

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

Purged well until field parameters stabilized.

Other: _____

Additional Comments: _____

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/22/14
 Well ID: Thompson 341 Weather: sunny 60^s
 ADWR No: 218341 Sampler: DEP

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
	4	0.65
Static Water Level (ft bmp): <u>167.56 from Thompson 151 (10/22/14)</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>234 x3 = 702</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>08:40</u>				<u>7.22</u>	<u>22.3</u>	<u>432</u>	
<u>08:43</u>				<u>7.21</u>	<u>22.4</u>	<u>425</u>	
<u>08:46</u>				<u>7.23</u>	<u>22.3</u>	<u>430</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>Wellhead spigot, hand filter</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Thompson 341</u>	<u>08:54</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y(hand)</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>Intermittent purge as tank is very full</u>

Additional Comments:
Owner request we do not overfill tank during
purge: intermittent pumping.



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/16/14
 Well ID: TM-10 Weather: Sunny 60^s
 ADWR No: 522696 Sampler: DEP

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>235.11</u>	2	0.16
Casing Volume (gal): <u>36</u> x3 = <u>108</u>	④	①.65
Total Volume Purged (gal):	5	1.02
	6	1.47
	8	2.61
	10	4.08
Casing Volume = gallons/foot * water column (feet)		

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>08:35</u>	Pump On						
<u>08:40</u>	<u>5m</u>	<u>10</u>	<u>50</u>	<u>7.45</u>	<u>21.9</u>	<u>440</u>	
<u>08:45</u>	<u>10m</u>	<u>10</u>	<u>100</u>	<u>7.50</u>	<u>22.0</u>	<u>435</u>	
<u>08:50</u>	<u>15m</u>	<u>10</u>	<u>150</u>	<u>7.57</u>	<u>22.0</u>	<u>439</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>Spigot near pressure tanks in shed</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TM-10</u>	<u>08:57</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y(hand)</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 type="checkbox"/> Other:

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

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/9/14
 Well ID: TVI 713 Weather: Mostly Cloudy, breezy, ~68°
 ADWR No: 567713 Sampler: DEP

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>132.29</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: WLO

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/9/14
 Well ID: TVI 875 Weather: Mostly Cloudy, breezy, ~68°F
 ADWR No: 568875 Sampler: DEP

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):		Gallons per Linear Foot
Casing Volume (gal):	x3 =	2
Total Volume Purged (gal):	<u>4,500</u>	4
		5
		6
		8
		10
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>16:00</u>	<u>Pump On</u>						
<u>16:03</u>	<u>3 m</u>	<u>500</u>	<u>1500</u>	<u>7.12</u>	<u>21.7</u>	<u>1003</u>	
<u>16:06</u>	<u>6 m</u>	<u>500</u>	<u>3000</u>	<u>7.13</u>	<u>21.3</u>	<u>971</u>	
<u>16:09</u>	<u>9 m</u>	<u>500</u>	<u>4500</u>	<u>7.12</u>	<u>21.2</u>	<u>963</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 under green box</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>TVI 875</u>	<u>16:19</u>	<u>Poly</u>	<u>500ml</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: 10/22/14
 Well ID: Weed Weather: Sunny high 70^s
 ADWR No: 544535 Sampler: DEP

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

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>15:15</u>	<u>Pump On</u>						
<u>15:20</u>	<u>5m</u>	<u>15</u>	<u>75</u>	<u>7.49</u>	<u>22.7</u>	<u>393</u>	
<u>15:25</u>	<u>10m</u>	<u>15</u>	<u>150</u>	<u>7.49</u>	<u>22.4</u>	<u>394</u>	
<u>15:30</u>	<u>15m</u>	<u>15</u>	<u>225</u>	<u>7.50</u>	<u>22.7</u>	<u>394</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>15:41</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/9/14
 Well ID: Weiskopf 802 Weather: Partly cloudy, breezy, ~70°F
 ADWR No: 641802 Sampler: DEP

WELL DATA			
Well Depth (ft bls):	<u>200</u>	Casing Capacity	
Casing Diameter (in):	<u>6</u>	Nominal Size (inches)	Gallons per Linear Foot
Static Water Level (ft bmp):	<u>150.89</u>	2	0.16
Casing Volume (gal):	<u>72 x3 = 217</u>	4	0.65
Total Volume Purged (gal):	<u>DA 360 480</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>10:05</u>	<u>Pump On</u>						
<u>10:20</u>	<u>15m</u>	<u>4</u>	<u>60</u>	<u>7.42</u>	<u>29.8</u>	<u>331</u>	<u>Noticably warmer</u>
<u>10:35</u>	<u>30m</u>	<u>4</u>	<u>120</u>	<u>7.45</u>	<u>26.8</u>	<u>361</u>	
<u>10:50</u>	<u>45m</u>	<u>4</u>	<u>180</u>	<u>7.30</u>	<u>25.8</u>	<u>541</u>	
<u>11:05</u>	<u>60m</u>	<u>4</u>	<u>240</u>	<u>7.18</u>	<u>25.8</u>	<u>758</u>	
<u>11:20</u>	<u>75m</u>	<u>4</u>	<u>300</u>	<u>7.12</u>	<u>25.2</u>	<u>911</u>	
<u>11:35</u>	<u>90m</u>	<u>4</u>	<u>360</u>	<u>7.06</u>	<u>25.3</u>	<u>1009</u>	
<u>11:50</u>	<u>105m</u>	<u>4</u>	<u>420</u>	<u>7.07</u>	<u>25.0</u>	<u>1060</u>	
<u>12:05</u>	<u>120m</u>	<u>4</u>	<u>480</u>	<u>7.08</u>	<u>24.5</u>	<u>1094</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 off garage, near wellhead</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Weiskopf 802</u>	<u>12:12</u>	<u>Poly</u>	<u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

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

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

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/9/14
 Well ID: Weiskopf 897 Weather: Partly cloudy, breezy, 65°F
 ADWR No: 221897 Sampler: DEP

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>150.34</u>	Gallons per Linear Foot
Casing Volume (gal):	<u>897 x3 = 2691</u>	2
Total Volume Purged (gal):	<u>840</u>	4
		5
		6
		8
		10
		Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>08:20</u>	<u>Pump On</u>						
<u>08:35</u>	<u>15m</u>	<u>14</u>	<u>210</u>	<u>7.48</u>	<u>21.5</u>	<u>400</u>	
<u>08:50</u>	<u>30m</u>	<u>14</u>	<u>420</u>	<u>7.65</u>	<u>22.1</u>	<u>393</u>	
<u>09:05</u>	<u>45m</u>	<u>14</u>	<u>630</u>	<u>7.66</u>	<u>22.9</u>	<u>394</u>	
<u>09:20</u>	<u>60m</u>	<u>14</u>	<u>840</u>	<u>7.69</u>	<u>22.8</u>	<u>392</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 near pressure tanks in shed</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Weiskopf 897</u>	<u>09:26</u>	<u>Poly</u>	<u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION

Water level measurement collected.

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

No water level measurement collected. Obstruction in well.

No water level measurement collected. Well is pumping.

Other:

WELL PURGING INFORMATION

Purged 3 well volumes and field parameters stabilized.

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

Purged well until field parameters stabilized.

Other: Purge 1 well volume, and stable parameters

Additional Comments:

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/13/14
 Well ID: Zander Weather: Sunny 70^s
 ADWR No: 205126 Sampler: DEP

WELL DATA		
Well Depth (ft bls): <u>280</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>* from Q3 152.02</u>	5	1.02
	6	1.47
Casing Volume (gal): <u>188 x3 = 564</u>	8	2.61
	10	4.08
Total Volume Purged (gal): <u>600</u>	Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
<u>13:15</u>	<u>Pump On</u>						
<u>13:30</u>	<u>15m</u>	<u>10</u>	<u>150</u>	<u>7.53</u>	<u>24.6</u>	<u>428</u>	
<u>13:45</u>	<u>30m</u>	<u>10</u>	<u>300</u>	<u>7.54</u>	<u>23.7</u>	<u>425</u>	
<u>14:00</u>	<u>45m</u>	<u>10</u>	<u>450</u>	<u>7.57</u>	<u>23.6</u>	<u>426</u>	
<u>14:15</u>	<u>60m</u>	<u>10</u>	<u>600</u>	<u>7.52</u>	<u>23.8</u>	<u>422</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>Wellhead Spigot</u>							
Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
<u>Zander</u>	<u>14:19</u>	<u>Poly</u>	<u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>Y</u>

WATER LEVEL MEASUREMENT COLLECTION
<input type="checkbox"/> Water level measurement collected. <input type="checkbox"/> No water level measurement collected. No access to wellhead/No port in wellhead <input checked="" type="checkbox"/> No water level measurement collected. Obstruction in well. ← <input type="checkbox"/> No water level measurement collected. Well is pumping. <input checked="" type="checkbox"/> Other: <u>No water level measurement collected - Obstruction @ 25'</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 type="checkbox"/> Other:

* Additional Comments:
Not able to lower sounder past ~25' obstruction.

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/14/14
 Well ID: EQB 2014 10 14 Weather: Sunny 70°
 ADWR No: _____ Sampler: DEP

WELL DATA		
Well Depth (ft bls): _____ Casing Diameter (in): _____ Static Water Level (ft bmp): _____ 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)
<u>EQB2014 10 14</u>	<u>10:51</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>N</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: _____



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: _____
 Well ID: FB 2014 10 14 Weather: _____
 ADWR No: _____ Sampler: _____

WELL DATA		
Well Depth (ft bls): _____ Casing Diameter (in): _____ Static Water Level (ft bmp): _____ 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)
<u>FB 2014101409:30</u>	<u>09:30</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>N</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: _____



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/21/14
 Well ID: Field Blank & EQ Blank Weather: Sunny 70^s
 ADWR No: _____ Sampler: DEP

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): _____	4	0.65
Casing Volume (gal): _____ x3 = _____	5	1.02
	6	1.47
Total Volume Purged (gal): _____	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>FB20141021</u>	<u>16:19</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>N</u>
<u>EQB20141021</u>	<u>16:17</u>	<u>Poly</u>	<u>250ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>N</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: _____
EQ Blank EQB 2014 1021
Field Blank FB 2014 1021



Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/6/14
 Well ID: FB2014 1006 Weather: Cloudy 75°
 ADWR No: _____ Sampler: DEP

WELL DATA		
Well Depth (ft bls): _____	Casing Capacity	
Casing Diameter (in): _____	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						
	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>FB2014 1006</u>	<u>3:30</u> <u>15:30</u>	<u>Poly</u>	<u>250mL</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>N</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:
Field Blank

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch
 Task No: 1 Date: 10/6/14
 Well ID: EQB 2014 10 06 Weather: Cloudy 75°
 ADWR No: _____ Sampler: DEP

WELL DATA		
Well Depth (ft bls):	Casing Capacity	
	Nominal Size (inches)	Gallons per Linear Foot
Casing Diameter (in): _____	2	0.16
Static Water Level (ft bmp): _____	4	0.65
Casing Volume (gal): _____ x3 =	5	1.02
	6	1.47
Total Volume Purged (gal): _____	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>EQB 2014 10 06</u>	<u>3:36 pm</u> <u>15:36</u>	<u>Poly</u>	<u>250ml</u> <u>500ml</u>	<u>1</u>	<u>300.0</u>	<u>NP</u>	<u>N</u>

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:
Equipment Blank

