FOURTH QUARTER 2013
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-MCMORAN CORPORATION
COPPER QUEEN BRANCH
36 West Highway 92
Bisbee, Arizona 85603

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January 14, 2014

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Approved by:

James R. Norris
Arizona Registered Geologist No. 30842

January 14, 2014

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1. INTRODUCTION

This report provides the results of groundwater monitoring conducted by Freeport-McMoRan Corporation Copper Queen Branch (CQB) in the fourth quarter 2013 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) to characterize sulfate in the vicinity of the CTSA (and subsequent modifications). 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 2013 and any additional wells where data was collected outside of the program. 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 third quarter 2013 to reflect the current well usage. Drinking water supply wells are monitored under the Well Inventory and all other wells monitor the plume extent.

A drinking water well, BURKE, was added to the quarterly groundwater sampling schedule in the fourth quarter 2013. The BURKE well was sampled from 2008 through 2010, at which time it was taken out of service. The well went back into service as a drinking water supply well in September 2013.

2. GROUNDWATER MONITORING RESULTS

2.1 Results of Monitoring

Analytical results and groundwater elevation data for the fourth quarter 2013 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 2013. 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 2013, 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 2013 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 2013 are of acceptable quality for use in activities conducted pursuant to the Mitigation Order.

3. FINDINGS

In the fourth quarter of 2013, groundwater samples were collected from 55 wells and depth to water measurements were collected in 54 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 2013 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 report and in the Aquifer Characterization Report (Clear Creek, 2010).

- Comparison of the fourth quarter 2013 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-03, AWC-04, AWC-05, NWC-02, and NWC-06. There is an increasing trend in the sulfate concentrations in NWC-04 since March 2008; however the concentrations are highly variable from month to month. The concentration has ranged between 197 and 228 mg/L in 2013.

- 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 1.33 feet per year in BMO-2010-3B, which has declined 4.25 feet between July 2010 and October 2013. 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 2.89 feet per year in BMO-2010-2M which has declined 9.13 feet between September 2010 and October 2013. Water level declines range from 0.8 to 3.0 feet per year

in BMO-2008-1G, BMO-2008-5M, BMO-2008-6M, BMO-2008-7M, BMO-2008-8M, BMO-2008-9M, BMO-2008-13M, BMO-2010-1M, and BMO-2010-3M. The groundwater elevations in bedrock wells BMO-2008-10GL, BMO-2008-10GU, and BMO-2008-11G display increasing trends.

4. REFERENCES

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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 NR	NR	✓	✓	✓	✓
HOWARD 312	221312	✓	✓	✓	✓
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	✓	✓	✓	✓
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 2013

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	N	Water level measured in October 2013. Unable to collect water quality sample because well is not operational.
ANDERSON 458	221458	Anderson	Well Inventory	734	Y	Y	Water quality sample collected in October 2013.
ASLD 435	616435	AZ State Land	Regional	340	Y	N	Well is not part of the groundwater monitoring plan. Water level measured in December 2013.
AWC-02	616586	Arizona Water Company	Well Inventory	330	Y	Y	Water quality sample collected in October 2013. AWC field staff reported well was not pumping for a minimum of 4 hours prior to water level measurement.
AWC-03	616585	Arizona Water Company	Well Inventory	269	Y	Y	Water quality sample collected in October 2013. AWC field staff reported well was not pumping for a minimum of 4 hours prior to water level measurement.
AWC-04	616584	Arizona Water Company	Well Inventory	250	Y	Y	Water quality sample collected in October 2013. AWC field staff reported well was not pumping for a minimum of 4 hours prior to water level measurement.
AWC-05	590620	Arizona Water Company	Well Inventory	1183	Y	Y	Water quality sample collected in October 2013. AWC field staff reported well was not pumping for a minimum of 4 hours prior to water level measurement.
BANKS 986	647986	Banks	Well Inventory	435	N	Y	Water quality sample collected in October 2013. Unable to measure water level because wellhead is inaccessible.
BANKS 987	647987	Banks	Plume	339	Y	N	Well identified for water level measurements only. Water level measured in October 2013.
BARTON 919	644919	Barton	Plume	130	N	N	Well is not scheduled for fourth quarter sampling.
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 2013. Unable to measure water level because of obstruction in well.
BMO-2008-1G	909474	Copper Queen Branch	Plume	310	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-3B	909147	Copper Queen Branch	Plume	260	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-4B	910096	Copper Queen Branch	Plume	610	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-5B	909653	Copper Queen Branch	Well Inventory	285	Y	Y	Water quality sample collected in November 2013.
BMO-2008-5M	909552	Copper Queen Branch	Plume	450	Y	Y	Water quality sample collected in November 2013.
BMO-2008-6B	909146	Copper Queen Branch	Plume	265	Y	Y	Water quality sample collected in November 2013.
BMO-2008-6M	909019	Copper Queen Branch	Plume	450	Y	Y	Water quality sample collected in November 2013.
BMO-2008-7M	908794	Copper Queen Branch	Plume	670	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-8B	910097	Copper Queen Branch	Plume	480	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-8M	909711	Copper Queen Branch	Plume	1210	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-9M	909255	Copper Queen Branch	Plume	775	N	N	Well is not scheduled for fourth quarter sampling.

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2013

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
BMO-2008-10GL	909435	Copper Queen Branch	Plume	810	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-10GU	909272	Copper Queen Branch	Plume	449	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-11G	909434	Copper Queen Branch	Plume	760	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-13B	909551	Copper Queen Branch	Plume	474	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2008-13M	909760	Copper Queen Branch	Plume	1030	N	N	Well is not scheduled for fourth quarter sampling.
BMO-2010-1M	219957	Copper Queen Branch	Plume	540	Y	Y	Water quality sample collected in November 2013.
BMO-2010-2M	219958	Copper Queen Branch	Plume	370	Y	Y	Water quality sample collected in November 2013.
BMO-2010-3B	219970	Copper Queen Branch	Plume	330	Y	Y	Water quality sample collected in October 2013.
BMO-2010-3M	219969	Copper Queen Branch	Plume	532	Y	Y	Water quality sample collected in October 2013.
BMO-2012-1M	221388	Copper Queen Branch	Plume	396	Y	Y	Water quality sample collected in November 2013.
BOOTH	914931	Booth	Well Inventory	240	Y	Y	Water quality sample collected in October 2013.
BURKE	212268	Weaver	Well Inventory	781	Y	Y	Water quality sample collected in October 2013.
CHAMBERS	629807	Chambers	Well Inventory	245	N	Y	Water quality sample collected in October 2013. 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 sampling.
COB MW-2	903984	City of Bisbee	Plume	170	N	N	Well is not scheduled for fourth quarter sampling.
COB MW-3	906823	City of Bisbee	Plume	269	N	N	Well is not scheduled for fourth quarter sampling.
COB WL	593116	City of Bisbee	Plume	150	N	N	Well is not scheduled for fourth quarter sampling.
COOPER	623564	Cooper	Well Inventory	325	N	Y	Water quality sample collected in October 2013. Unable to measure water level because wellhead is inaccessible.
COOPER C	637069	Copper Queen Branch	Plume	220	Y	Y	Water quality sample collected in November 2013.
DODSON	644927	Dodson	Well Inventory	200	Y	Y	Water quality sample collected in October 2013.
DOUGLASS 791	592791	Douglass	Plume	200	N	N	Well is not scheduled for fourth quarter sampling.
DOUGLASS 792	592792	Douglass	Plume	200	N	N	Well is not scheduled for fourth quarter sampling.
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 2013.

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2013

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
ECHAVE	219449	Echave	Well Inventory	345	N	Y	Water quality sample collected in October 2013. Unable to measure water level because of obstruction in well.
EPPELE 641	805641	Eppele	Well Inventory	265	Y	Y	Water quality sample collected in October 2013.
FLEMING	218386	Fleming	Plume	400	N	N	Well is not scheduled for fourth quarter sampling.
FRANCO 101	500101	Franco	Plume	200	Y	N	Water level measured in October 2013. 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 2013.
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	Y	N	Well identified for water level measurements only. Water level measured in October 2013.
GARNER 635	587635	Garner	Well Inventory	680	Y	Y	Water quality sample collected in October 2013.
GGOOSE 547	628547	Copper Queen Branch	Plume	800	N	N	Well abandoned October 2012.
GOAR RANCH	610695	Goar	Plume	250	N	N	Well is not scheduled for fourth quarter sampling.
HOBAN	805290	Copper Queen Branch	Plume	316	Y	Y	Water quality sample collected in November 2013.
HOWARD NR	NR	Howard	Plume	200	Y	Y	Water quality sample collected in October 2013.
HOWARD 312	221312	Howard	Well Inventory	980	Y	Y	Water quality sample collected in October 2013.
KEEFER	209744	Keefer	Well Inventory	245	Y	Y	Water quality sample collected in October 2013.
LADD 251	520251	Ladd	Regional	280	Y	N	Well is not part of the groundwater monitoring plan. Water level measured in December 2013.
LADD 538	503538	Ladd	Regional	282	Y	N	Well is not part of the groundwater monitoring plan. Water level measured in December 2013.
LADD 837	519837	AZ State Land	Regional	460	Y	N	Well is not part of the groundwater monitoring plan. Water level measured in December 2013.
LADD 977	642977	Ladd	Regional	165	Y	N	Well is not part of the groundwater monitoring plan. Water level measured in December 2013.
MARCELL	NR	Marcell	Well Inventory	220	N	N	Unable to measure water level because there is no port in the wellhead. Unable to collect water quality sample because well is not operational.
MCCONNELL 265	539265	McConnell	Plume	216	Y	Y	Water quality sample collected in October 2013.
MCCONNELL 459	221459	McConnell	Well Inventory	863	Y	Y	Water quality sample collected in October 2013.
METZLER	35-71891	Metzler	Plume	351	Y	N	Water level measured in October 2013. Unable to collect water quality sample because well is not operational.
MOORE	538847	Moore	Well Inventory	220	N	Y	Water quality sample collected in October 2013. Unable to measure water level because wellhead is inaccessible.
NESS	509127	Ness	Well Inventory	812	N	N	Well is not scheduled for fourth quarter sampling.

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2013

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
NOTEMAN	212483	Bailey	Well Inventory	400	N	Y	Water quality sample collected in October 2013. Unable to measure water level because wellhead is inaccessible.
NSD-02	527587	Naco Sanitary District	Regional	120	Y	N	Well is not part of the groundwater monitoring plan. Water level measured in December 2013.
NSD-03	527586	Naco Sanitary District	Regional	100	Y	N	Well is not part of the groundwater monitoring plan. Water level measured in December 2013.
NWC-02	562944	Naco Water Company	Well Inventory	312	N	Y	Water quality sample collected in October 2013. Unable to measure water level because port in wellhead is corroded and cannot be opened.
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	Y	N	Well identified for water level measurements only. Water level measured in October 2013.
NWC-04	551849	Naco Water Company	Well Inventory Sulfate Trend	795	N	Y	Water quality samples collected in October, November, and December 2013. Unable to measure water level because port in wellhead is corroded and cannot be opened.
NWC-06	575700	Naco Water Company	Well Inventory	410	N	Y	Water quality sample collected in October 2013. Unable to measure water level because port in wellhead is corroded and cannot be opened.
OSBORN	643436	Osborn	Well Inventory	258	N	N	Well is not scheduled for fourth quarter sampling.
PALMER	578819	Palmer	Well Inventory	220	N	Y	Water quality sample collected in October 2013. Unable to measure water level because wellhead is inaccessible.
PANAGAKOS	35-76413	Panagakos	Well Inventory	200	Y	Y	Water quality sample collected in October 2013.
PARRA	576415	Parra	Plume	355	N	Y	Water quality sample collected in October 2013. Unable to measure water level because wellhead is inaccessible.
PIONKE 395	613395	Pionke	Plume	300	Y	N	Water level measured in October 2013. 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 2013.
POOL	509518	Pool	Well Inventory	313	N	N	Unable to contact well owner for access.
RAMIREZ	216425	Ramirez	Well Inventory	300	N	Y	Water quality sample collected in October 2013. Unable to measure water level because of obstruction in well.
RAY	803772	Ray	Well Inventory	100	Y	Y	Water quality sample collected in October 2013.
ROGERS 596	573596	Rogers, David	Plume	290	Y	N	Well is turned off. Rogers residence uses ROGERS 803. Water level measured in October 2013.
ROGERS 803	641803	Rogers, David	Well Inventory	140	N	Y	Water quality sample collected in October 2013. Unable to measure water level because wellhead is inaccessible.
ROGERS E	216018	Rogers, Ernest	Well Inventory	290	N	Y	Water quality sample collected in October 2013. Unable to measure water level because of obstruction in well.
RUIZ	531770	Ruiz	Well Inventory	312	Y	Y	Water quality sample collected in October 2013.
SCHWARTZ	210865	Schwartz	Well Inventory	305	Y	Y	Water quality sample collected in October 2013.
STEPHENS	808560	Stephens	Plume	NR	N	N	Well is not scheduled for fourth quarter sampling.
SUNBELT	201531	Sunbelt Marketing, Inc.	Plume	380	N	N	Well is not scheduled for fourth quarter sampling.

TABLE 2
Summary of Groundwater Monitoring Program for Fourth Quarter 2013

Well Name	ADWR 55 Registry Number	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
SWAN	NR	Swan	Well Inventory	NR	N	N	Well is not scheduled for fourth quarter sampling.
THOMPSON 151	612151	Thompson	Plume	NR	Y	N	Well identified for water level measurements only. Water level measured in October 2013.
THOMPSON 341	218341	Thompson	Well Inventory	285	N	Y	Water quality sample collected in October 2013. Unable to measure water level because there is no port in the wellhead.
TM-02A	522574	Copper Queen Branch	Plume	925	N	N	Well is not scheduled for fourth quarter sampling.
TM-06 MILLER	522695	Miller	Plume	200	N	N	Well is not scheduled for fourth quarter sampling.
TM-07	522576	Copper Queen Branch	Plume	350	N	N	Well is not scheduled for fourth quarter sampling.
TM-10 USBP	522696	USBP	Regional	290	Y	Y	Water quality sample collected in November 2013.
TM-15 MILLER	522699	Miller	Plume	325	N	N	Well is not scheduled for fourth quarter sampling.
TM-16	522578	Copper Queen Branch	Plume	115	N	N	Well is not scheduled for fourth quarter sampling.
TM-19A	522580	Copper Queen Branch	Plume	700	N	N	Well is not scheduled for fourth quarter sampling.
TM-42	562554	Copper Queen Branch	Plume	250	N	N	Well is not scheduled for fourth quarter sampling.
TVI 236	802236	Turquoise Valley, Inc.	Well Inventory	222	N	N	Well is not scheduled for fourth quarter sampling.
TVI 713	567713	Turquoise Valley, Inc.	Well Inventory	200	Y	N	Well identified for water level measurements only. Water level measured in October 2013.
TVI 875	568875	Turquoise Valley, Inc.	Plume	330	N	Y	Water quality sample collected in October 2013. Unable to measure water level because wellhead is inaccessible.
WEED	544535	Weed	Well Inventory	320	N	Y	Water quality sample collected in October 2013. Unable to measure water level because there is no port in the wellhead.
WEISKOPF 802	641802	Weiskopf	Plume	200	Y	Y	Water quality sample collected in October 2013.
WEISKOPF 897	221897	Weiskopf	Well Inventory	947	Y	Y	Water quality sample collected in October 2013.
ZANDER	205126	Zander	Well Inventory	280	Y	Y	Water quality sample collected in October 2013.

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	1414	574
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
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

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	49.0
		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	51.0
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	24.0
		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

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	17.0
		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
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
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

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)
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
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
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
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

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-2008-4B	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	9.84
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
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

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
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
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

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-2008-8B	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
BMO-2008-8M	909711	12/9/08	7.16	23.4	852	197
		2/19/09	7.27	23.5	758	147
		2/19/09 DUP	7.27	23.5	758	149
		5/5/09	7.19	25.1	680	122
		8/10/09	7.49	24.8	673	107
		11/5/09	7.30	25.4	675	104
		3/3/10	7.70	24.1	641	99.5
		4/16/10	7.29	24.5	541	97.0
		7/1/10	6.99	25.0	502	94.7
		1/24/11	7.05	23.4	595	98.2
		7/15/11	6.89	22.1	590	79.9
		1/30/12	7.36	23.9	565	77.6
		7/12/12	7.15	24.2	554	73.1
		7/12/12 DUP	7.15	24.2	554	73.2
		2/14/13	7.1	24.3	565	64.9
		8/12/13	7.19	24.6	585	65.0
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
		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
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
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

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-2008-11G	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
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
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
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
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

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
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	9.38
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
BOOTH	914931	1/5/13	7.67	18.5	574.3	91.4
		6/14/13	7.61	51.1	604.2	95
		6/14/13 DUP	7.61	51.1	604.2	92.5
		7/17/13	7.75	23.2	497.6	75
		10/18/13	7.66	19.3	597.6	92.6
BURKE	212268	2/7/08	7.17	23.0	411	29.5
		4/22/08	7.13	27.0	423	26
		8/5/08	7.06	26.8	496	21.9
		10/20/08	7.57	26.0	466	20.5
		2/11/09	7.23	25.0	363	23.9
		4/28/09	7.16	26.1	369	24.2
		8/19/09	7.36	26.7	486	22.5
		12/16/09	7.28	25.7	488	26
		3/2/10	7.56	12.3	432	23.8
		4/22/10	7.49	16.4	452	24.8
		7/21/10	7.56	25.6	423.7	33.1
		10/10/13	7.87	21.9	469.6	27.5

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
CHAMBERS	629807	3/6/08	7.73	17.8	408	7.7
		5/5/08	7.15	22.1	421	6
		7/14/08	7.43	23.2	434	5.8
		10/15/08	7.41	22.5	420	4
		1/27/09	7.57	21.5	312	5.3
		4/14/09	7.42	22.4	384	6.8
		7/15/09	7.83	23.4	414	4.3
		10/13/09	7.41	22.6	410	6.5
		1/26/10	7.31	21.3	416	5.7
		4/23/10	7.47	20.9	427.5	8.34
		7/21/10	7.49	23.1	430	7.75
		10/19/10	8.00	23.0	440	7.04
		1/18/11	7.47	22.4	390	7.30
		4/11/11	7.18	22.0	427.3	7.74
		7/18/11	7.18	23.8	420.2	8.18
		10/12/11	7.33	22.6	425.8	7.8
		2/6/12	7.43	21.8	434.6	9.08
		4/23/12	7.46	22.7	460	8.84
		7/17/12	7.31	22.4	410	8.41
		10/8/12	7.44	22.4	430.0	10.1
		1/10/13	7.57	21.5	440.8	9.64
		4/18/13	7.49	21.7	434.1	9.78
		7/15/13	7.40	22.7	434.6	9.81
		7/15/13 DUP	7.40	22.7	434.6	10.2
		10/10/13	7.51	21.8	439.7	10.3
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
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

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-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
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
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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
COOPER C	637069	3/20/08	6.93	21.3	2081	880
		5/5/08	6.78	22.4	2139	990
		7/15/08	6.86	22.3	2162	1040
		7/15/08 DUP	6.86	22.3	2162	960
		10/16/08	6.80	21.4	2078	1020
		1/27/09	6.92	20.5	1489	950
		4/14/09	6.85	21.6	1833	930
		7/14/09	6.75	22.1	1972	910
		10/12/09	6.70	21.8	1858	830
		1/27/10	7.27	19.6	1930	620
		4/22/10	6.76	19.5	1921	884
		7/21/10	6.84	22.9	1761	921
		10/20/10	7.16	20.9	1980	829
		1/17/11	6.95	20.5	1880	756
		4/11/11	6.82	21.0	1942	834
		8/26/11	6.84	21.8	1800	847
		2/1/12	7.13	20.5	2024	867
		4/25/12	6.83	21.5	1960	817
		7/11/12	6.48	22.8	2030	834
		10/10/12	6.98	21.2	1985	863
		2/27/13	6.58	20.9	1805	821
		5/8/13	6.41	20.7	1744	798
		8/13/13	6.69	21.2	1739	756
		11/1/13	6.61	21.2	1624	738
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	1825	53.6
		10/9/13	7.24	20.2	1612	63.3
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
ECHAVE	219449	2/1/12	7.39	20.7	390.0	26.7
		4/23/12	7.50	22.5	440.0	26.4
		7/17/12	7.44	22.2	430	26.1
		10/9/12	7.69	21.9	404.7	26.1
		10/9/12 DUP	7.69	21.9	404.7	26.0
		1/18/13	7.61	21.7	408.5	25.4
		5/14/13	7.74	22.2	400.2	25.2
		7/17/13	7.81	22.1	406.4	24.3
		10/8/13	7.66	21.4	404.3	24.5
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
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

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)
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
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
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
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
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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
KEEFER	209744	2/6/08	7.70	19.0	378	6.8
		5/6/08	7.19	20.3	512	9
		7/16/08	7.21	21.4	539	8
		10/28/08	7.32	20.1	534	21.2
		1/28/09	7.42	19.5	356	6.1
		4/16/09	7.29	20.0	452	7.7
		7/14/09	7.35	22.1	533	7
		10/13/09	7.24	20.7	516	8.7
		1/26/10	7.15	18.8	483	7.3
		4/20/10	7.44	20.5	540.9	8.77
		7/15/10	7.50	22.2	535.8	8.84
		10/19/10	6.72	20.2	470	7.89
		1/18/11	7.45	20.6	450	7.24
		4/6/11	7.48	19.1	546.2	8.04
		7/18/11	7.19	23.2	492.3	7.79
		10/11/11	7.39	20.7	486.9	7.98
		2/6/12	7.36	20.3	482.0	6.84
		4/23/12	7.23	21.6	500	7.14
		7/17/12	7.40	21.0	500	7.29
		10/9/12	7.58	20.1	506.6	8.47
		1/10/13	7.55	19.3	466.3	6.37
		4/18/13	7.58	20	475.9	7.3
		7/11/13	7.67	20.8	485.1	7.23
		7/11/13 DUP	7.67	20.8	485.1	7.24
		10/7/13	7.53	20.6	458.9	6.39
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
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

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
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

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
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	44
NSD-03	527586	2/5/08	ND	ND	ND	70.7
		7/7/08	7.64	21.0	570	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
NWC-03	203321	3/4/08	ND	ND	ND	560
		6/9/08	ND	ND	ND	524
		10/27/08	7.07	21.9	1374	489
		2/12/09	7.06	20.2	1023	412
		4/23/09	6.98	21.9	1129	466
		4/23/09 DUP	6.98	21.9	1129	460
		7/21/09	7.21	22.9	1194	458
		10/21/09	6.94	21.8	1224	444
		2/3/10	7.24	20.7	1214	444
		4/21/10	7.22	21.6	1178	433
		7/20/10	7.04	22.8	1229	477
		10/19/10	7.22	21.3	1172	432
		1/18/11	7.09	22.8	1120	386
		4/6/11	7.19	21.7	1114	361
		7/15/11	6.91	21.8	1094	386
		10/13/11	7.23	21.6	960	353
		1/30/12	7.15	21.5	1061	379
		4/25/12	7.17	21.6	920	346
		4/25/12 DUP	7.17	21.6	920	347
		7/18/12	7.05	22.1	1080	354
		10/10/12	7.31	21.1	1029	354
		10/10/12 DUP	7.31	21.1	1029	353
		1/10/13	7.18	20.8	1051	370

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
NWC-04	551849	3/4/08	ND	ND	ND	240
		6/9/08	ND	ND	ND	231
		10/27/08	7.32	25.0	856	162
		1/22/09	7.23	22.9	688	184
		2/12/09	7.20	19.8	699	181
		2/12/09 DUP	7.20	19.8	699	198
		3/11/09	7.15	23.4	846	197
		4/23/09	7.21	24.1	797	188
		5/28/09	7.01	24.1	933	210
		6/24/09	6.93	25.6	792	169
		7/21/09	7.48	24.3	859	193
		8/19/09	7.12	24.5	906	183
		9/23/09	7.16	23.8	953	202
		10/21/09	7.18	24.3	875	191
		11/18/09	7.24	22.9	909	191
		12/16/09	7.28	22.3	926	193
		2/3/10	7.49	22.3	844	167
		3/8/10	7.33	22.5	880	182
		4/21/10	7.34	22.8	913	218
		5/18/10	7.68	25.8	901.3	210
		6/15/10	7.31	24.5	917.5	212
		7/20/10	7.28	28.3	873.2	188
		8/25/10	7.55	24.8	820.9	196
		9/29/10	7.38	24.5	920.2	205
		10/19/10	7.34	23.6	870.2	195
		11/4/10	7.53	23.9	853.2	197
		12/14/10	7.41	23.6	856.8	182
		1/18/11	7.31	24.1	860	194
		2/17/11	7.46	22.3	848.6	169
		3/17/11	7.44	24.1	888.1	182
		4/5/11	7.32	23.4	878.7	196
		5/11/11	7.32	23.1	868.1	175
		6/17/11	7.28	23.7	856.3	204
		7/15/11	7.06	23.5	875.1	202
		8/25/11	7.32	25.1	780	195
		9/26/11	6.56	26.2	875.4	198
		9/26/11 DUP	6.56	26.2	875.4	199
		10/13/11	7.46	23.3	770	198
		11/22/11	7.36	22.9	853.5	201
		12/8/11	7.33	22.3	872.2	207
		1/30/12	7.34	23.4	914.4	217
		2/17/12	7.45	22.9	898.1	203
		3/15/12	7.39	23.9	888.2	207
		4/25/12	7.16	23.4	870	204
		5/22/12	7.25	23.9	970	178
		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

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-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
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
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

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
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

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
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
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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
RAY	803772	2/15/08	7.30	19.1	1540	159
		4/21/08[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
ROGERS 596	573596	10/19/09	6.89	23.3	1360	590
		11/5/09	6.79	21.9	1418	540
		2/25/10	6.99	19.6	1603	520
		4/22/10	7.21	18.2	1641	710
ROGERS 803	641803	2/7/08	7.45	18.6	601	138
		4/21/08[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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
ROGERS E	216018	2/4/08	7.40	21.0	435	4.6
		5/7/08	7.18	22.2	415	5.9
		7/17/08	7.28	23.0	446	7.1
		10/27/08	7.38	21.4	434	15.7
		2/10/09	7.51	20.7	322	5.4
		4/16/09	7.48	22.0	361	4.9
		7/13/09	7.34	22.6	420	3.8
		10/6/09	7.31	22.3	407	5.8
		1/25/10	7.52	20.6	414	5.1
		4/21/10	7.44	21.1	421	6.04
		7/21/10	7.37	23.8	430	6.47
		10/19/10	7.80	22.8	460	5.92
		1/18/11	7.39	21.5	390	5.50
		4/11/11	7.19	22.7	427.2	6.13
		7/18/11	7.12	24.3	418.5	6.00
		10/13/11	7.52	22.2	370	5.99
		1/30/12	7.38	20.8	427.2	6.22
		4/10/12	7.37	22.1	421.8	6.31
		7/17/12	7.32	22.7	420	5.85
		10/17/12	7.55	21.7	429.0	6.04
		1/17/13	7.46	21.5	431.5	6.01
		4/18/13	7.63	21.3	433.5	6.26
		7/17/13	7.59	22.1	427.7	6.05
		7/17/13 DUP	7.59	22.1	427.7	6.28
		10/10/13	7.51	21.9	436.9	5.80
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

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
SCHWARTZ	210865	2/8/08	7.52	21.5	506	158
		4/21/08[1]	7.23	21.7	563	122
		5/19/08[1]	7.38	22.4	629	130
		6/23/08[1]	7.02	22.1	674	129
		7/29/08[1]	7.25	22.4	955	245
		8/28/08[1]	M	22.3	669	131
		9/23/08[1]	7.27	22.2	607	124
		10/22/08[1]	7.31	22.0	653	135
		11/19/08[1]	7.38	21.1	612	140
		12/17/08[1]	6.78	21.6	472	144
		1/29/09[1]	7.08	22.0	475	124
		2/23/09[1]	7.33	22.1	610	123
		4/17/09	7.46	22.2	520	120
		7/10/09	7.52	22.8	651	116
		7/10/09 DUP	7.52	22.8	651	117
		10/6/09	7.27	22.5	613	120
		1/22/10	7.79	19.5	664	133
		4/21/10	7.50	20.9	638	129
		7/21/10	7.43	22.0	650	134
		10/19/10	7.76	21.2	710	147
		1/17/11	7.15	21.2	620	116
		4/11/11	7.20	21.5	656.9	128
		7/18/11	7.36	23.7	612.4	116
		10/12/11	7.35	22.4	635.8	124
		2/6/12	7.32	21.3	629.7	116
		2/6/12 DUP	7.32	21.3	629.7	114
		4/10/12	7.48	21.6	626.1	120
		7/16/12	7.31	21.9	710	117
		10/17/12	7.48	21.6	645	121
		3/13/13	7.57	20.7	623.6	118
		5/14/13	7.61	21.5	629.7	112
		7/15/13	7.49	22.1	770.2	198
		10/14/13	7.55	20.9	633.3	109
SRC	211345	4/23/08	7.57	25.8	380	19
		8/5/08	7.40	27.2	452	15.4
SWAN	NR	2/13/08	7.28	20.7	467	24.1
		5/14/08	7.24	21.2	479	23.7
		7/24/08	7.35	22.4	506	18
		10/16/08	7.32	20.7	488	19
		1/20/09	7.05	20.4	391	19.8
		4/7/09	7.21	21.5	447	19.9
		7/8/09	7.18	23.1	473	18.5
		10/5/09	7.18	21.4	496	19.7
		1/21/10	7.49	19.5	501	18.4
		4/21/10	7.42	20.3	512.1	20.9
		7/19/10	7.13	23.8	518.6	22.2
		1/18/11	7.19	17.8	483.6	18.7
		7/12/11	7.05	22.4	478.2	19.1
		2/3/12	7.40	20.5	484.5	20.1
		2/3/12 DUP	7.40	20.5	484.5	19.5
		7/10/12	7.00	22.7	370	19.4
		1/11/13	7.38	20.0	489.0	19.3
		7/8/13	7.45	22.8	489.7	19.4
THOMPSON 341	218341	5/29/13	7.22	24.4	415.9	7.32
		8/9/13	7.57	22.2	420.0	7.62
		10/9/13	7.49	21.6	425.2	7.54
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

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-03	522575	5/20/08	7.51	22.2	778	110
		8/6/08	7.08	21.6	828	97
		11/12/08	7.47	20.5	590	128
		2/26/09	7.21	21.8	737	107
		2/26/09 DUP	7.21	21.8	737	102
		5/13/09	7.47	22.2	695	109
		8/18/09	7.48	22.4	822	98
		11/10/09	7.55	21.8	761	106
		3/2/10	7.56	21.6	748	99
		4/14/10	7.55	20.6	635	103
		7/7/10	7.19	21.4	566	103
		2/1/12	7.48	21.1	744	112
TM-06 MILLER	522695	2/27/08	7.44	19.6	457	13.9
		5/20/08	7.50	20.7	506	32.7
		8/4/08	7.41	20.7	529	31.3
		10/29/08	7.55	20.2	531	34.5
		2/26/09	7.18	20.4	574	32.7
		5/13/09	7.35	20.9	465	30.6
		8/18/09	7.50	20.9	560	30.9
		8/18/09 DUP	7.50	20.9	560	29.9
		11/12/09	7.53	20.4	530	31.1
		4/14/10	7.35	19.4	461	29.0
		7/2/10	7.24	20.1	438	29.8
		7/21/11	7.1	20.1	516	31.7
		7/9/12	6.82	20.8	505	33.5
		2/14/13	6.92	19.6	527	31.1
		8/19/13	7.21	19.9	556	32.5
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
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
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	7.20	22.8	412	14.8

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
TM-16	522578	3/5/08	7.17	20.6	1351	497
		5/22/08	7.05	20.5	1304	522
		8/6/08	6.67	20.9	1410	466
		11/5/08	7.14	19.8	1162	547
		2/20/09	6.90	21.1	1292	492
		5/13/09	6.93	21.1	1179	484
		8/19/09	7.08	21.2	1354	468
		11/10/09	7.02	21.0	1310	505
		3/2/10	7.13	20.4	1313	451
		4/14/10	6.90	19.9	987	484
		7/2/10	6.81	20.8	858	474
		7/14/11	6.97	20.5	1285	511
		7/16/11	6.97	20.5	1285	513
		7/9/12	6.95	21.0	1292	544
		8/15/13	6.86	20.3	1374	539
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
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
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

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
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

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
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
WMD-2011-03M	913037	2/2/12	6.66	22.0	1190	391
ZANDER	205126	2/4/08	7.24	19.7	392	5.7
		5/6/08	7.26	21.2	404	6.3
		7/16/08	6.92	22.9	441	6.9
		10/28/08	7.40	21.2	415	15
		2/10/09	7.50	20.4	317	6
		4/16/09	7.47	21.7	352	5.5
		7/14/09	7.36	22.9	418	4.5
		10/13/09	7.41	21.7	407	6.3
		1/26/10	7.49	20.3	411	5.7
		4/2/10	7.55	20.0	416	6.70
		7/21/10	7.38	22.7	388.2	6.78
		10/19/10	6.78	21.3	430	6.56
		1/18/11	7.59	18.9	380	6.14
		1/18/11 DUP	7.59	18.9	380	6.06
		4/6/11	7.20	19.7	425.8	6.12
		7/13/11	7.29	22.9	410.10	6.43
		10/12/11	7.35	22.2	426.2	6.38
		1/31/12	7.29	20.3	420	6.59
		4/10/12	7.49	21.9	420.1	6.90
		4/10/12 DUP	7.49	21.9	420.1	6.65
		7/17/12	7.34	22.2	430	6.38
		10/8/12	7.58	20.8	431.4	7.03
		1/10/13	7.58	20.7	436.1	6.52
		4/18/13	7.65	20.8	436.7	6.66
		7/15/13	7.55	21.8	431.1	6.49
		10/7/13	7.59	21.5	430.2	6.41

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
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
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
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	4422.64
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
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	4424.48

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
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	4400.51
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
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
BF-01	539783	604169.077	3472151.593	4835.23	3/4/08	348.99	4486.24
					5/23/08	348.80	4486.43
					8/5/08	348.66	4486.57
					11/5/08	348.94	4486.29
					2/20/09	348.78	4486.45
					5/6/09	348.73	4486.50
					8/17/09	348.73	4486.50
					11/4/09	348.65	4486.58
					3/1/10	348.84	4486.39
					4/7/10	348.70	4486.53
					7/6/10	348.69	4486.54
					7/13/11	348.67	4486.56
					2/1/12	347.84	4487.39
					8/13/12	343.95	4491.28

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
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

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
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

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
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

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
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
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

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
BMO-2008-9M	909255	604668.669	3471121.675	4762.61	8/8/08	287.17	4475.44
					11/5/08	287.65	4474.96
					2/26/09	285.65	4476.96
					5/12/09	285.28	4477.33
					8/17/09	286.09	4476.52
					11/3/09	286.55	4476.06
					3/4/10	287.45	4475.16
					4/6/10	287.81	4474.80
					7/1/10	288.26	4474.35
					2/10/11	289.77	4472.84
					5/13/11	290.47	4472.14
					7/15/11	290.95	4471.66
					2/1/12	293.44	4469.17
					7/12/12	294.65	4467.96
					2/13/13	296.67	4465.94
					8/12/13	297.63	4464.98
BMO-2008-10GL	909435	605264.072	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

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
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

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
					2/15/13	212.13	4435.02
					9/6/13	212.52	4434.63
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
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
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

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-2010-3M	219969	599970.801	3468353.543	4550.53	7/30/10	118.63	4431.90
					11/10/10	118.75	4431.78
					1/20/11	118.32	4432.21
					4/7/11	119.09	4431.44
					8/25/11	120.74	4429.79
					10/13/11	120.67	4429.86
					2/2/12	119.91	4430.62
					4/24/12	120.93	4429.60
					7/5/12	122.05	4428.48
					10/18/12	122.06	4428.47
					1/16/13	121.86	4428.67
					4/16/13	122.26	4428.27
					7/23/13	122.97	4427.56
					10/8/13	121.91	4428.62
BMO-2012-1M	221388	606097.384	3469746.747	4719.76	11/13/12	231.90	4487.86
					2/27/13	233.20	4486.56
					5/8/13	233.97	4485.79
					8/14/13	233.96	4485.80
					11/1/13	230.44	4489.32
BOOTH	914931	601132.466	3468049.945	4568.21	1/15/13	131.47	4436.74
					4/19/13	132.04	4436.17
					10/18/13	132.56	4435.65
BURKE	212268	602230.087	3473029.816	4856.30	4/22/08	606.55	4249.75
					8/5/08	605.86	4250.44
					10/28/08	604.88	4251.42
					2/19/09	603.91	4252.39
					4/28/09	603.70	4252.60
					8/19/09	602.66	4253.64
					10/10/13	601.06	4255.24
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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
COB MW-2	903984	600973.257	3468114.836	4566.21	2/22/08	122.85	4443.36
					5/20/08	123.00	4443.21
					7/30/08	123.53	4442.68
					10/23/08	124.02	4442.19
					2/12/09	123.39	4442.82
					4/23/09	124.16	4442.05
					7/22/09	124.91	4441.30
					10/22/09	125.33	4440.88
					3/3/10	124.93	4441.28
					4/26/10	125.47	4440.74
					7/13/10	126.54	4439.67
					1/20/11	126.46	4439.75
					7/14/11	128.17	4438.04
					1/31/12	128.04	4438.17
					7/12/12	129.58	4436.63
					1/9/13	129.28	4436.93
					7/25/13	130.21	4436.00
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
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

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)
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
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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
DOUGLASS 791	592791	607632.993	3470222.677	4703.27	2/13/08	22.11	4681.16
					5/13/08	24.60	4678.67
					7/22/08	27.00	4676.27
					10/16/08	23.60	4679.67
					1/19/09	26.51	4676.76
					4/8/09	28.53	4674.74
					7/7/09	31.04	4672.23
					10/5/09	31.49	4671.78
					1/21/10	34.55	4668.72
					4/19/10	36.40	4666.87
					7/12/10	36.74	4666.53
					1/18/11	25.96	4677.31
					1/30/12	27.72	4675.55
					4/11/12	29.99	4673.28
					7/5/12	32.67	4670.60
					1/9/13	27.24	4676.03
					7/8/13	32.70	4670.57
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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
EAST	599796	607076.365	3468712.215	4626.01	2/8/08	50.20	4575.81
					5/14/08	52.45	4573.56
					7/23/08	52.16	4573.85
					10/14/08	52.19	4573.82
					1/20/09	50.52	4575.49
					4/8/09	51.91	4574.10
					7/13/09	56.93	4569.08
					10/8/09	60.95	4565.06
					1/25/10	59.35	4566.66
					4/21/10	58.88	4567.13
					7/14/10	61.86	4564.15
					10/20/10	61.20	4564.81
					1/18/11	59.79	4566.22
					4/5/11	59.73	4566.28
					7/12/11	63.79	4562.22
					10/12/11	63.64	4562.37
					1/31/12	63.82	4562.19
					4/11/12	65.72	4560.29
					7/9/12	70.50	4555.51
					10/4/12	73.34	4552.67
					1/17/13	75.04	4550.97
					4/9/13	78.05	4547.96
					7/9/13	78.37	4547.64
					10/15/13	72.38	4553.63
ECHAVE	219449	599701	3470168	4648	2/1/12	216.71	4431.29
					1/18/13	218.41	4429.59
EPPELE 641	805641	607165.354	3469229.942	4642.86	3/11/08	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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
FLEMING	218386	605565.701	3469342.523	4693.68	2/18/09	299.30	4394.38
					4/8/09	301.81	4391.87
					7/7/09	304.60	4389.08
					10/6/09	307.84	4385.84
					1/21/10	311.73	4381.95
					4/20/10	315.26	4378.42
					7/15/10	318.32	4375.36
					11/4/10	349.62	4344.06
					1/19/11	356.89	4336.79
					7/12/11	364.72	4328.96
					2/3/12	370.84	4322.84
					7/9/12	373.86	4319.82
					1/18/13	373.96	4319.72
					7/17/13	374.88	4318.80
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
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
FULTZ	212447	607153.306	3469063.892	4642.92	10/22/08	40.59	4602.33
					1/21/09	40.66	4602.26
					4/9/09	42.88	4600.04
					7/13/09	54.94	4587.98
					10/8/09	56.16	4586.76
					1/25/10	53.45	4589.47
					4/20/10	63.82	4579.10
					7/14/10	119.86	4523.06
GARNER 557	558557	602659.240	3468962.415	4638.45	2/21/08	191.05	4447.40
					5/5/08	191.28	4447.17
					7/15/08	191.44	4447.01
					10/16/08	191.83	4446.62
					1/28/09	191.92	4446.53
					4/15/09	192.09	4446.36
					7/16/09	192.52	4445.93
					10/14/09	192.82	4445.63
					2/2/10	193.33	4445.12
					4/22/10	193.49	4444.96
					7/20/10	193.93	4444.52
					10/19/10	194.29	4444.16
					1/19/11	194.61	4443.84
					4/6/11	194.86	4443.59
					7/15/11	195.25	4443.20
					10/11/11	195.72	4442.73
					2/2/12	196.09	4442.36
					4/13/12	196.30	4442.15
					7/11/12	196.72	4441.73
					10/5/12	197.08	4441.37
					1/11/13	197.51	4440.94
					4/15/13	197.76	4440.69
					7/10/13	197.87	4440.58
					10/11/13	198.27	4440.18

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
GGOOSE 547	628547	606256.657	3469820.260	4717.11	5/21/08	220.91	4496.20
					8/15/08	238.48	4478.63
					10/29/08	235.90	4481.21
					2/24/09	236.13	4480.98
					5/14/09	236.17	4480.94
					8/19/09	236.01	4481.10
					8/19/09	236.01	4481.10
					11/11/09	237.66	4479.45
					3/9/10	238.84	4478.27
					4/27/10	239.17	4477.94
GL-03	539782	604386.940	3473747.943	4924.31	5/22/08	660.15	4264.16
					8/4/08	659.79	4264.52
					12/2/08	658.25	4266.06
					2/26/09	658.62	4265.69
					5/5/09	657.23	4267.08
					8/12/09	656.56	4267.75
					8/12/09	656.56	4267.75
					11/10/09	655.31	4269.00
					3/2/10	655.52	4268.79
					4/9/10	655.35	4268.96
					7/7/10	655.05	4269.26
					2/1/12	651.72	4272.59

TABLE 4
Compilation of Groundwater Elevation Data

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

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
HOWARD 312	221312	601308.920	3468772.630	4594.9356	8/14/12	188.36	4406.58
					10/16/12	193.33	4401.61
					2/6/13	193.74	4401.20
					4/9/13	195.30	4399.64
					7/12/13	198.27	4396.67
					10/16/13	201.08	4393.86
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
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

TABLE 4
Compilation of Groundwater Elevation Data

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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
MCCONNELL 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
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
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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
NESS	509127	607866.391	3471419.494	4761.23	7/24/08	557.90	4203.33
					10/16/08	549.30	4211.93
					2/25/09	536.40	4224.83
					5/11/09	544.64	4216.59
					8/11/09	566.87	4194.36
					11/12/09	537.34	4223.89
					2/2/10	531.85	4229.38
					4/21/10	568.11	4193.12
					7/19/10	573.02	4188.21
					1/18/11	541.80	4219.43
					7/12/11	597.71	4163.52
					2/3/12	591.24	4169.99
					1/9/13	551.35	4209.88
NOTEMAN	212483	606053.800	3471576.400	4800.68	5/13/08	339.77	4460.91
					8/27/08	344.34	4456.34
					11/22/08	322.26	4478.42
					2/25/09	327.54	4473.14
NSD-02	527587	598820.051	3468821.474	4531.38	10/7/09	101.17	4430.21
					3/16/10	99.43	4431.95
					5/25/10	101.63	4429.75
					8/25/10	102.38	4429.00
					3/17/11	102.68	4428.70
					6/17/11	109.29	4422.09
					12/7/11	104.41	4426.97
					3/6/12	104.30	4427.08
					12/14/12	107.24	4424.14
					3/22/13	107.20	4424.18
					6/24/13	113.50	4417.88
					9/23/13	105.00	4426.38
					12/19/13	103.45	4427.93
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
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
					4/17/13	136.32	4436.50
					7/12/13	136.78	4436.04
					10/10/13	136.78	4436.04
NWC-04	551849	605829.808	3469071.959	4690.77	12/2/08	352.11	4338.66
					4/29/09[2]	328	4362.77
					9/10/09[2]	324	4366.77
					4/2010[2]	216	4474.77
					3/1/2013[2]	216	4474.77
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
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
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

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Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
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
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
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

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 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
ROGERS 750[3]	641750	600977.690	3468417.386	4579.02	2/7/08	129.85	4449.17
					7/29/08	131.86	4447.16
					10/22/08	132.08	4446.94
					2/10/09	130.62	4448.40
					4/29/09	131.33	4447.69
					8/3/09	135.07	4443.95
ROGERS E	216018	600449.648	3467636.029	4590.66	7/17/08	149.65	4441.01
					11/3/08	150.15	4440.51
					2/10/09	149.02	4441.64
					4/16/09	149.53	4441.13
					7/13/09	150.31	4440.35
					10/6/09	150.76	4439.90
					1/25/10	150.64	4440.02
					4/21/10	150.97	4439.69
					8/25/10	151.15	4439.51
					10/19/10	151.57	4439.09
					10/13/11	153.79	4436.87
					1/30/12	153.56	4437.10
					4/10/12	154.13	4436.53
					7/17/12	155.10	4435.56
					1/17/13	154.56	4436.10
					4/18/13	155.66	4435.00
					7/17/13	155.71	4434.95
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

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
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

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
SUNBELT	201531	605998.250	3471735.149	4806.52	2/6/08	352.10	4454.42
					5/15/08	358.97	4447.55
					8/5/08	Dry	<4426
					10/16/08	347.00	4459.52
					1/21/09	344.78	4461.74
					4/10/09	349.64	4456.88
					7/8/09	356.99	4449.53
					10/5/09	Dry	<4426
					1/21/10	Dry	<4426
					4/19/10	Dry	<4426
					7/12/10	Dry	<4426
					1/19/11	Dry	<4426
					8/25/11	Dry	<4426
					2/3/12	Dry	<4426
					7/9/12	Dry	<4426
					9/13/12	Dry	<4426
					1/17/13	Dry	<4426
					7/9/13	Dry	<4426
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
THOMPSON 151	612151	599543.561	3467387.294	4597.62	8/9/13	167.86	4429.76
					10/10/13	167.68	4429.94
TM-02A	522574	604152.059	3472008.794	4808.43	3/4/08	346.62	4461.81
					5/23/08	346.16	4462.27
					8/15/08	353.91	4454.52
					10/30/08	349.45	4458.98
					2/24/09	348.64	4459.79
					5/6/09	349.38	4459.05
					8/12/09	349.13	4459.30
					11/4/09	348.97	4459.46
					3/10/10	348.19	4460.24
					4/6/10	353.86	4454.57
					7/6/10	349.20	4459.23
					2/10/11	347.60	4460.83
					7/13/11	348.14	4460.29
					2/2/12	346.94	4461.49
					8/13/12	344.53	4463.90
					2/14/13	343.50	4464.93
					8/27/13	343.84	4464.59

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-03	522575	606366.130	3473711.046	4897.85	3/12/08	127.14	4770.71
					5/20/08	127.40	4770.45
					8/6/08	128.02	4769.83
					11/12/08	128.00	4769.85
					2/26/09	126.94	4770.91
					5/13/09	113.86	4783.99
					8/18/09	128.80	4769.05
					11/10/09	125.38	4772.47
					3/2/10	128.02	4769.83
					4/14/10	130.56	4767.29
					7/7/10	131.25	4766.60
					2/1/12	135.04	4762.81
TM-06 MILLER	522695	606055.975	3468376.658	4707.88	2/26/08	158.78	4549.10
					5/20/08	158.76	4549.12
					8/4/08	158.80	4549.08
					10/29/08	158.85	4549.03
					2/16/09	159.28	4548.60
					5/13/09	158.81	4549.07
					8/18/09	158.91	4548.97
					11/12/09	158.96	4548.92
					3/8/10	158.99	4548.89
					4/14/10	159.02	4548.86
					7/2/10	159.13	4548.75
					7/21/11	159.88	4548.00
					7/9/12	161.40	4546.48
					2/14/13	161.05	4546.83
					8/19/13	161.30	4546.58
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
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

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-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
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
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

TABLE 4
Compilation of Groundwater Elevation Data

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

Notes:

35-71891 = ADWR 35 Database

ADWR = Arizona Department of Water Resources

ft amsl = feet above mean sea level

NR = No Record

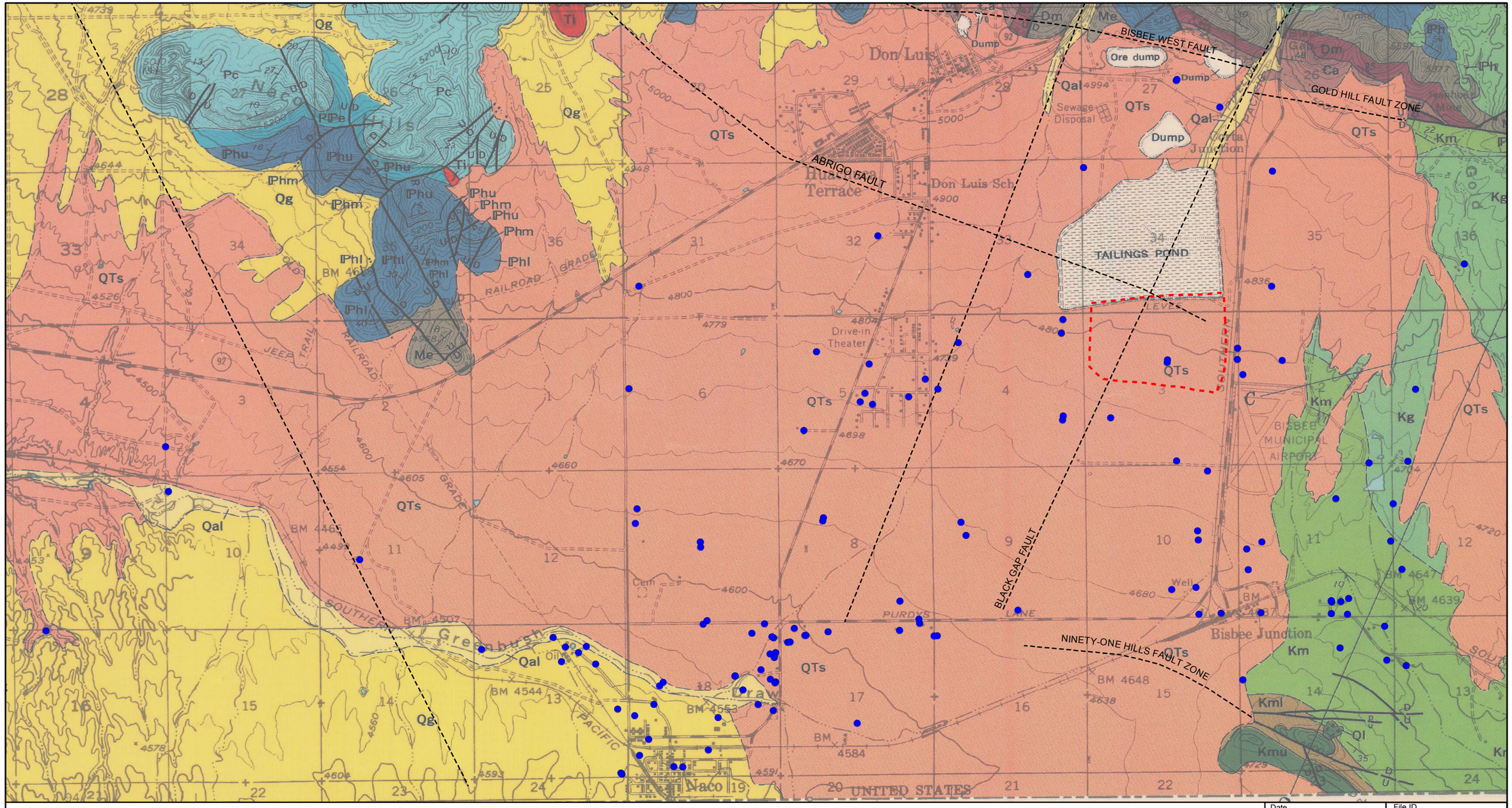
UTM = Universal Transverse Mercator Zone 12, North American Datum 1983 (NAD83)

[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

- Monitoring Location
- Former Evaporation Ponds
- Faults (dashed where inferred)

Geologic Unit - Hayes and Landis (1964)

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

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

Paleozoic Sedimentary Formations
- Pc - Colina Limestone
- PPe - Earp Formation
- Phu, Phm, Phl - Horquilla Limestone

See Figure 2 for Monitor Location Names

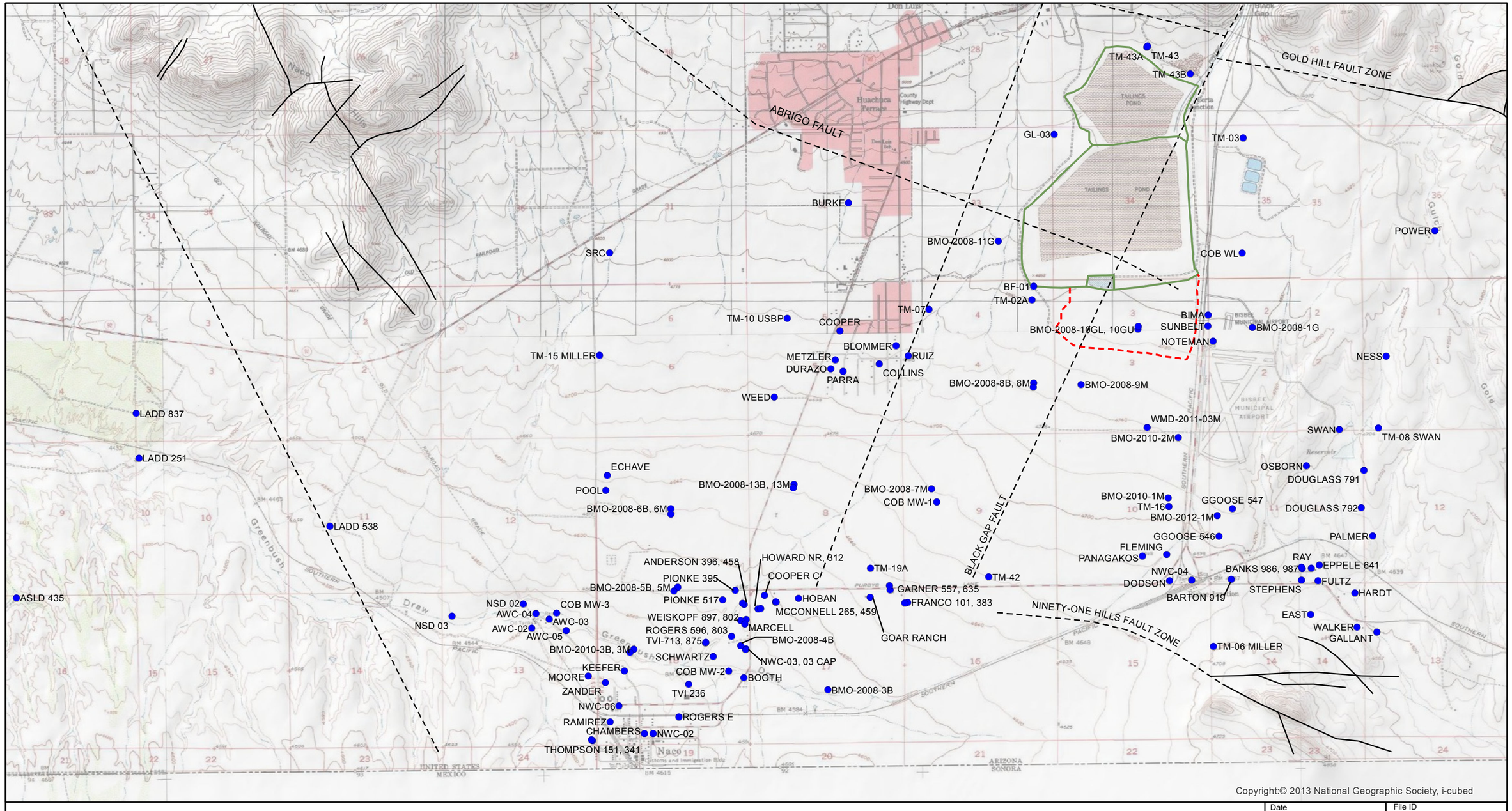
Scale (Feet)
0 3,000 6,000

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

Date: 9/25/13
File ID: 055038-336

CLEAR CREEK ASSOCIATES

FIGURE 1
GEOLOGIC MAP
WITH MONITORING LOCATIONS



Legend

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

Scale (Feet)

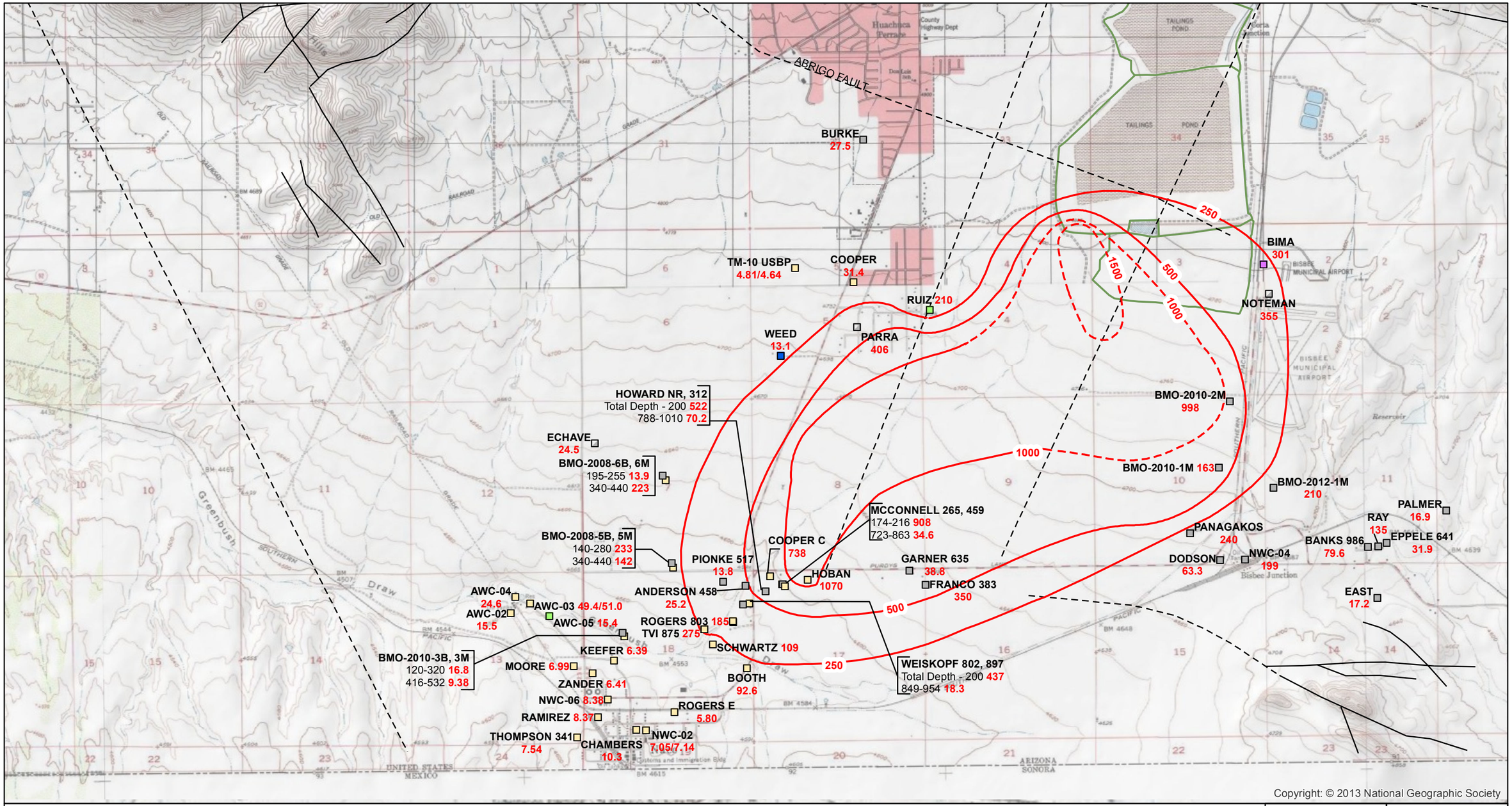
0 3,000 6,000

Projection: UTM Zone 12N NAD83

Date	File ID
9/25/13	055038-324

CLEAR CREEK ASSOCIATES

FIGURE 2
MONITORING LOCATIONS



Legend

- RAY / 135 — Well ID / SO4 Concentration (mg/L)
- SO4 Concentration Contours (dashed where inferred)
- Faults (dashed where inferred)
- CTSA Facility

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

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

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

Scale (Feet)
0 3,000 6,000

Notes:
Projection: UTM Zone 12N NAD83
mg/L = milligrams per liter
ft bgs = feet below ground surface

Date 12/13/13 | File ID 055038-340

CLEAR CREEK ASSOCIATES

FIGURE 3
SULFATE CONCENTRATIONS IN GROUNDWATER FOR FOURTH QUARTER 2013

BURKE
4255.24

TM-10 USBP
4486.98

4450

4440

METZLER
4435.67

RUIZ
4435.11

HOWARD NR, 312
?-200 4436.39
788-1010 4393.86

ANDERSON 396, 458
110-236 4436.10
597-740 4429.13

4430

BMO-2008-6B, 6M
195-255 4431.67
340-440 4430.37

COOPER C 4437.07

MCCONNELL 265, 459
174-216 4437.09
708-870 4434.42

BMO-2010-2M
4472.90

BMO-2010-1M 4494.14

BMO-2012-1M
4489.32

RAY
4603.58

EPPELE 641
4614.36

BANKS 987
4408.70

PANAGAKOS
4526.91

DODSON
4593.65

EAST
4553.63

GARNER 635
4440.47

GARNER 557
4440.18

FRANCO 101
4440.10

FRANCO 383
4440.58

HOBAN
4437.06

PIONKE 395
4435.74

PIONKE 517
4433.94

BMO-2008-5B, 5M
140-280 4434.33
340-440 4432.49

LADD 977
4428.92

NSD 02
4427.93

AWC-03
4417.52

4420

4410

AWC-04 4424.48

NSD 03
4429.17

AWC-02
4422.64

AWC-05
4400.51

ROGERS 596 4436.85

TVI 713 4434.12

SCHWARTZ
4434.34

NWC-03 CAP
4436.04

KEEFER 4430.40

ZANDER 4429.29

BOOTH
4435.65

BMO-2010-3B, 3M
120-320 4430.96
416-532 4428.62

THOMPSON 151
4429.94

WEISKOPF 802, 897
?-200 4436.20
849-954 4435.32

LADD 837
4209.26

LADD 251
4226.39

LADD 538
4275.69

ASLD 435
4220.55

4250

4300

4350

4400

4410

4420

AREA OF WIDELY
VARYING WATER LEVELS

Legend

RAY — Well ID
4603.58 — Groundwater Elevation (ft amsl)

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

Screened Formation

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

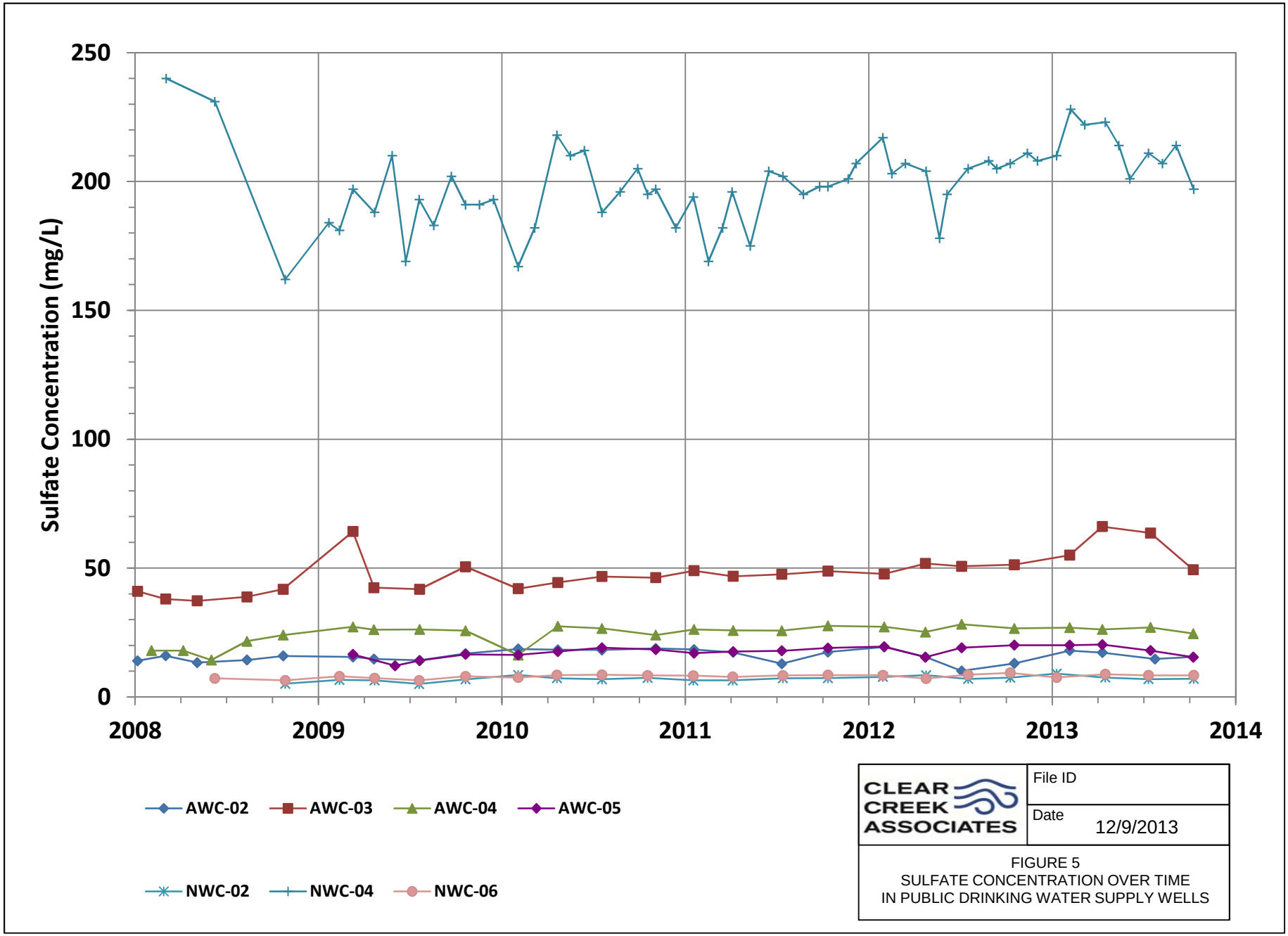
Scale (Feet)
0 3,000 6,000

Projection: UTM Zone 12N NAD83
ft amsl = feet above mean sea level
bls = below land surface
Groundwater elevation contours are based on third quarter 2013 data and adjusted with current data.

Date: 12/19/13
File ID: 055038-339

CLEAR CREEK ASSOCIATES

FIGURE 4
GROUNDWATER ELEVATIONS
FOR FOURTH QUARTER 2013



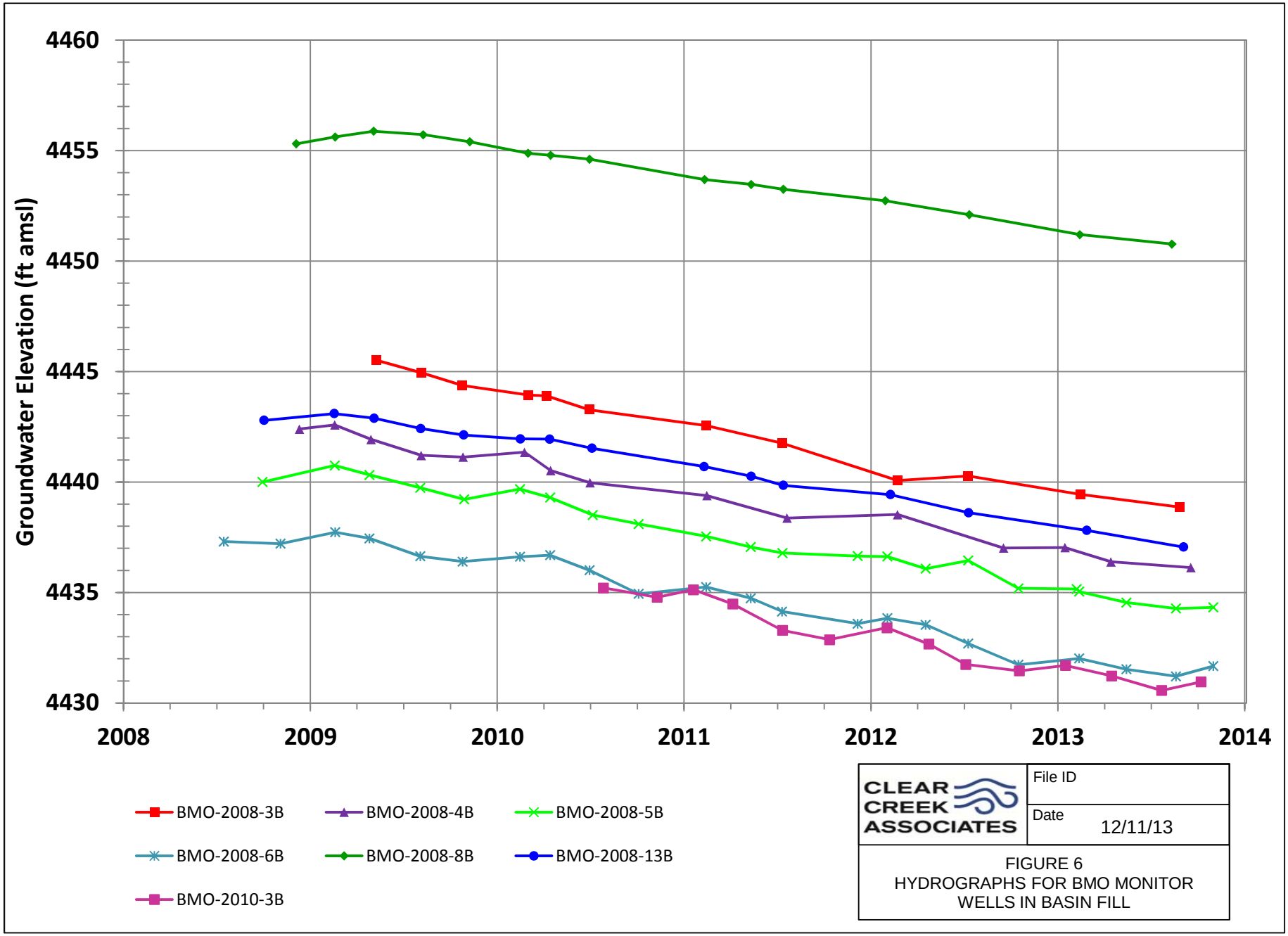
CLEAR CREEK ASSOCIATES

File ID

Date 12/9/2013

FIGURE 5
SULFATE CONCENTRATION OVER TIME
IN PUBLIC DRINKING WATER SUPPLY WELLS

N:\Projects\G & K\055038_Copper Queen Branch Mitigation Order\Groundwater Monitoring\Groundwater Monitoring Reports\2013 Q4 CQB Groundwater Monitoring Report\SO4 and GW elev Time Series for Select Q4 2013



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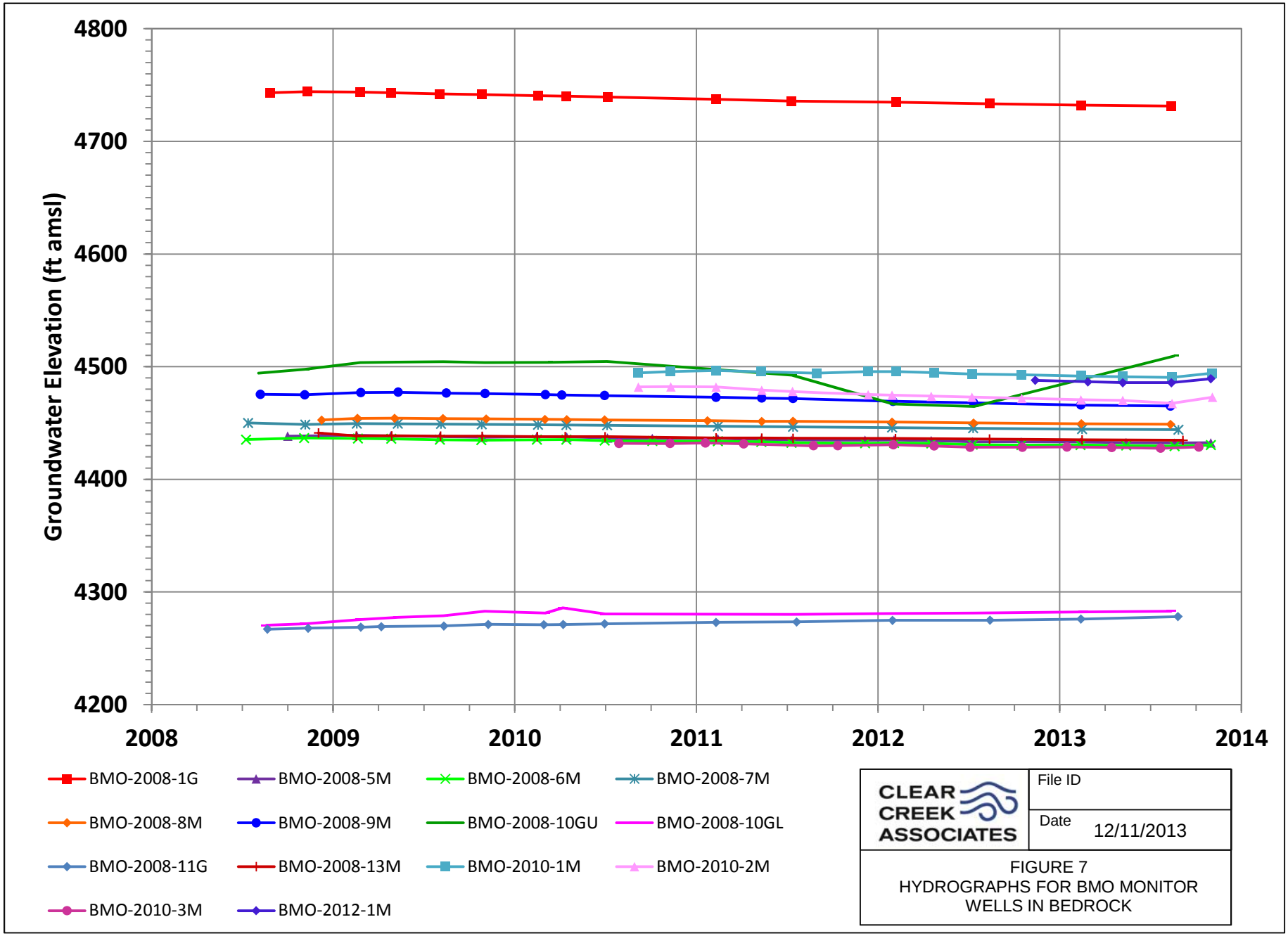

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APPENDIX A

DATA VERIFICATION REPORT

APPENDIX A

DATA VERIFICATION REPORT

FOURTH QUARTER 2013
GROUNDWATER MONITORING REPORT

Prepared for:

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

Prepared by:

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

January 14, 2014

TABLE OF CONTENTS

1. INTRODUCTION

This report summarizes the data verification review of groundwater samples collected and analyzed during the fourth quarter 2013 by Clear Creek Associates (Clear Creek) and Freeport-McMoRan Corporation Copper Queen Branch (CQB) 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 2013 were provided to Clear Creek by SVL Analytical, Inc. (SVL) of Kellogg, Idaho for preparation of the fourth quarter 2013 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 2013 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 67 samples collected by Clear Creek and CQB in fourth quarter 2013 are contained in 7 reports with the SVL laboratory identification numbers listed in the following table.

Number of wells sampled: 55 Number of well samples collected (including duplicates and multiple samples from one well): 60 Number of duplicate samples collected: 3 Number of field and equipment blanks collected: 7 Total number of samples collected: 67	
W3J0305	MOORE, ZANDER, KEEFER, RAMIREZ, COOPER, BMO-2010-3B, BMO-2010-3M, TVI 875, ECHAVE, AWC-05, AWC-03, AWC-02, AWC-04, THOMPSON 341, DODSON, NWC-04, NWC-06, NWC-02, CHAMBERS, ROGERS E, DUP20131009, DUP20131010, FB20131010, EQB20131010
W3J0349	GARNER 135 (GARNER 635), BIMH (BIMA), BURKE
W3J0439	SCHWARTZ, EQB20131014, FB20131014, MCCONNELL 459, MCCONNELL 265, NOTEMAN, PALMER, EQB20131017, PIONKE 517, ROGERS 803, ANDERSON 458, EAST, RAY, BANKS 986, EPPELE 641, HOWARD 312, FRANCO 383, HOWARD NR, PANAGAKOS, FB20131017, WEISKOPF 802, WEISKOPF 897
W3J0498	RUIZ, PARRA, BOOTH, WEED
W3K0119	NWC-04, TM-10, DUP20131106
W3K0181	FIELD BLANK, BMO-2012-1M, HOBAN, COOPER C, BMO-2008-5M, BMO-2008-5B, BMO-2008-6M, BMO-2008-6B, BMO-2010-1M, BMO-2010-2M
W3L0061	NWC-04

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 [µS/cm], and temperature in degrees Celsius [°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 pH[1] and SC[2] 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 probe to ensure accurate measurement. 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 deionized 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 deionized 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 degrees Celsius for temperature and 100 microSiemens/centimeter for specific conductance as described in Section 4.2.1.2 of the QAPP.

During this monitoring period 60 groundwater samples (duplicate and multiple samples included) were collected for analysis from 55 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 a small amount of Alconox® detergent and deionized water. After washing, the equipment was rinsed with deionized 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 2013 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	0.07	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 reports W3J0439, W3K0119, and W3K0181. The "M3" qualifier was used on reports W3J0305, W3J0349, W3J0439, W3J0498, and, W3K0181. 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 quality 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 2013, two field samples, NOTEMAN and EPPELE 641, were re-analyzed by SVL at the request of Clear Creek based on comparison to historical results. The October 14, 2013 NOTEMAN sample concentration was reported as 355 mg/L which was the highest reported concentration at that well since the third quarter 2008. The October 15, 2013 EPPELE 641 sample was reported as 31.9 mg/L which was the highest reported concentration at that well since sampling began in the first quarter 2008. The original sample results were confirmed in both cases and are reported in tables and figures.

4.5.5 Blank Samples

During the fourth quarter 2013, seven blank samples were collected, including four field blanks (FB20131010, FB20131014, FB20131017, and FIELD BLANK) and three field equipment blanks (EQB20131010, EQB20131014, and EQB20131017). None of the blank samples collected in the fourth quarter 2013 had sulfate concentrations above the reporting limit of 0.30 mg/L. The results demonstrate that the sulfate concentrations reported in the fourth quarter 2013 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 third quarter 2013 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 (DUP20131009, DUP20131010, and DUP20131116) were collected by Clear Creek for analysis. The collection of three 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 1.27 and 3.60 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
W3J0305	AWC-03	DUP20131009	49.4	51.0	3.19%
W3J0305	NWC-02	DUP20131010	7.05	7.14	1.27%
W3K0119	TM-10	DUP20131106	4.81	4.64	3.60%

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 contribute sulfate to the results. Water level measurements for the fourth quarter 2013 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 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

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3L0061**
Reported: 11-Dec-13 15:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
NWC-04	W3L0061-01	Ground Water	03-Dec-13 08:58	VH	04-Dec-2013

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3L0061**
Reported: 11-Dec-13 15:22

Client Sample ID: **NWC-04**
SVL Sample ID: **W3L0061-01 (Ground Water)**

Sampled: 03-Dec-13 08:58
Received: 04-Dec-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	199	mg/L	3.00	0.21	10	W350110	AEW	12/11/13 14:09	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3L0061**
Reported: 11-Dec-13 15:22

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.02	0.30	W350110	11-Dec-13	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	10.1	10.0	101	90 - 110	W350110	11-Dec-13	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	58.2	50.4	10.0	R > 4S	90 - 110	W350110	11-Dec-13	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	70.7	61.1	10.0	96.7	90 - 110	W350110	11-Dec-13	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
Dissolved Anions by Ion Chromatography											
EPA 300.0	Sulfate as SO4	mg/L	57.0	58.2	10.0	R > 4S	2.1	20	W350110	11-Dec-13	D2,M3

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
FIELD BLANK	W3K0181-01	Water	01-Nov-13 07:30	CL	08-Nov-2013
BMO-2012-1M	W3K0181-02	Ground Water	01-Nov-13 08:00	CL	08-Nov-2013
HOBAN	W3K0181-03	Ground Water	01-Nov-13 09:30	CL	08-Nov-2013
COOPER C	W3K0181-04	Ground Water	01-Nov-13 10:15	CL	08-Nov-2013
BMO-2008-5M	W3K0181-05	Ground Water	01-Nov-13 11:25	CL	08-Nov-2013
BMO-2008-5B	W3K0181-06	Ground Water	01-Nov-13 12:45	CL	08-Nov-2013
BMO-2008-6M	W3K0181-07	Ground Water	01-Nov-13 13:40	CL	08-Nov-2013
BMO-2008-6B	W3K0181-08	Ground Water	01-Nov-13 14:30	CL	08-Nov-2013
BMO-2010-1M	W3K0181-09	Ground Water	04-Nov-13 11:00	CL	08-Nov-2013
BMO-2010-2M	W3K0181-10	Ground Water	04-Nov-13 11:40	CL	08-Nov-2013

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **FIELD BLANK**
SVL Sample ID: **W3K0181-01 (Water)**

Sampled: 01-Nov-13 07:30
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.02		W347078	AEW	11/18/13 13:15	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **BMO-2012-1M**
SVL Sample ID: **W3K0181-02 (Ground Water)**

Sampled: 01-Nov-13 08:00
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	210	mg/L	3.00	0.21	10	W347140	AEW	11/20/13 02:03	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **HOBAN**
SVL Sample ID: **W3K0181-03 (Ground Water)**

Sampled: 01-Nov-13 09:30
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	1070	mg/L	15.0	1.05	50	W347140	AEW	11/20/13 02:13	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **COOPER C**
SVL Sample ID: **W3K0181-04 (Ground Water)**

Sampled: 01-Nov-13 10:15
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	738	mg/L	15.0	1.05	50	W347140	AEW	11/20/13 02:24	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **BMO-2008-5M**
SVL Sample ID: **W3K0181-05 (Ground Water)**

Sampled: 01-Nov-13 11:25
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	142	mg/L	3.00	0.21	10	W347140	AEW	11/20/13 02:35	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **BMO-2008-5B**
SVL Sample ID: **W3K0181-06 (Ground Water)**

Sampled: 01-Nov-13 12:45
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	233	mg/L	3.00	0.21	10	W347140	AEW	11/20/13 02:46	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **BMO-2008-6M**
SVL Sample ID: **W3K0181-07 (Ground Water)**

Sampled: 01-Nov-13 13:40
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	223	mg/L	3.00	0.21	10	W347140	AEW	11/20/13 00:02	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **BMO-2008-6B**
SVL Sample ID: **W3K0181-08 (Ground Water)**

Sampled: 01-Nov-13 14:30
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	13.9	mg/L	0.30	0.02		W347140	AEW	11/20/13 00:13	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **BMO-2010-1M**
SVL Sample ID: **W3K0181-09 (Ground Water)**

Sampled: 04-Nov-13 11:00
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	163	mg/L	3.00	0.21	10	W347140	AEW	11/20/13 00:24	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Client Sample ID: **BMO-2010-2M**
SVL Sample ID: **W3K0181-10 (Ground Water)**

Sampled: 04-Nov-13 11:40
Received: 08-Nov-13
Sampled By: CL

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	998	mg/L	15.0	1.05	50	W347140	AEW	11/20/13 00:35	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.02	0.30	W347078	18-Nov-13	
Dissolved Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.02	0.30	W347140	20-Nov-13	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W347078	18-Nov-13	
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	10.2	10.0	102	90 - 110	W347140	20-Nov-13	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	19.1	7.92	10.0	111	90 - 110	W347078	18-Nov-13	M1
EPA 300.0	Sulfate as SO4	mg/L	254	251	10.0	R > 4S	90 - 110	W347078	18-Nov-13	D2,M3
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	250	240	10.0	98.2	90 - 110	W347140	20-Nov-13	D2,M3

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	19.3	19.1	10.0	1.4	20	W347078	18-Nov-13	M1
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	250	250	10.0	0.1	20	W347140	20-Nov-13	D2,M3

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0181**
Reported: 21-Nov-13 11:46

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

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0119**
Reported: 19-Nov-13 12:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
NWC-04	W3K0119-01	Ground Water	06-Nov-13 08:49	VH	07-Nov-2013
TM-10	W3K0119-02	Ground Water	06-Nov-13 11:55	VH	07-Nov-2013
DUP20131106	W3K0119-03	Ground Water	06-Nov-13 18:00	VH	07-Nov-2013

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0119**
Reported: 19-Nov-13 12:07

Client Sample ID: **NWC-04**
SVL Sample ID: **W3K0119-01 (Ground Water)**

Sampled: 06-Nov-13 08:49
Received: 07-Nov-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	202	mg/L	3.00	0.21	10	W346332	AEW	11/15/13 19:01	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0119**
Reported: 19-Nov-13 12:07

Client Sample ID: **TM-10**
SVL Sample ID: **W3K0119-02 (Ground Water)**

Sampled: 06-Nov-13 11:55
Received: 07-Nov-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	4.81	mg/L	0.30	0.02		W346332	AEW	11/15/13 19:13	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0119**
Reported: 19-Nov-13 12:07

Client Sample ID: **DUP20131106**
SVL Sample ID: **W3K0119-03 (Ground Water)**

Sampled: 06-Nov-13 18:00
Received: 07-Nov-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	4.64	mg/L	0.30	0.02		W346332	AEW	11/15/13 19:26	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3K0119**
Reported: 19-Nov-13 12:07

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.02	0.30	W346332	15-Nov-13	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W346332	15-Nov-13	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	11.7	0.80	10.0	109	90 - 110	W346332	15-Nov-13	
EPA 300.0	Sulfate as SO4	mg/L	49.2	39.1	10.0	101	90 - 110	W346332	15-Nov-13	

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	11.9	11.7	10.0	1.6	20	W346332	15-Nov-13	M1

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

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0498**
Reported: 05-Nov-13 10:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
RUIZ	W3J0498-01	Ground Water	17-Oct-13 16:28	VH	22-Oct-2013
PARRA	W3J0498-02	Ground Water	17-Oct-13 12:14	VH	22-Oct-2013
BOOTH	W3J0498-03	Ground Water	18-Oct-13 08:38	VH	22-Oct-2013
WEED	W3J0498-04	Ground Water	18-Oct-13 09:38	VH	22-Oct-2013

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0498**
Reported: 05-Nov-13 10:49

Client Sample ID: **RUIZ**
SVL Sample ID: **W3J0498-01 (Ground Water)**

Sampled: 17-Oct-13 16:28
Received: 22-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	210	mg/L	3.00	0.21	10	W344365	AEW	11/01/13 16:54	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0498**
Reported: 05-Nov-13 10:49

Client Sample ID: **PARRA**
SVL Sample ID: **W3J0498-02 (Ground Water)**

Sampled: 17-Oct-13 12:14
Received: 22-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	406	mg/L	7.50	0.52	25	W344365	AEW	11/01/13 17:05	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Freeport McMoRan - Bisbee
36 West Hwy 92
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0498**
Reported: 05-Nov-13 10:49

Client Sample ID: **BOOTH**
SVL Sample ID: **W3J0498-03 (Ground Water)**

Sampled: 18-Oct-13 08:38
Received: 22-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	92.6	mg/L	3.00	0.21	10	W344365	AEW	11/01/13 17:16	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Freeport McMoRan - Bisbee
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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0498**
Reported: 05-Nov-13 10:49

Client Sample ID: **WEED**
SVL Sample ID: **W3J0498-04 (Ground Water)**

Sampled: 18-Oct-13 09:38
Received: 22-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	13.1	mg/L	0.30	0.02		W344365	AEW	11/01/13 17:27	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0498**
Reported: 05-Nov-13 10:49

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.02	0.30	W344365	01-Nov-13	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	9.99	10.0	99.9	90 - 110	W344365	01-Nov-13	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	1200	1230	10.0	R > 4S	90 - 110	W344365	01-Nov-13	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	55.4	47.4	10.0	R > 4S	90 - 110	W344365	04-Nov-13	D2,M3

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	1200	1200	10.0	0.2	20	W344365	01-Nov-13	D2,M3

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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Freeport McMoRan - Bisbee
36 West Hwy 92
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
SCHWARTZ	W3J0439-01	Ground Water	14-Oct-13 17:28	VH	18-Oct-2013
EQB20131014	W3J0439-02	Distilled Water	14-Oct-13 14:20	VH	18-Oct-2013
FB20131014	W3J0439-03	Distilled Water	14-Oct-13 14:16	VH	18-Oct-2013
MCCONNELL 459	W3J0439-04	Ground Water	14-Oct-13 15:30	VH	18-Oct-2013
MCCONNELL 265	W3J0439-05	Ground Water	14-Oct-13 14:04	VH	18-Oct-2013
NOTEMAN	W3J0439-06	Ground Water	14-Oct-13 12:54	VH	18-Oct-2013
PALMER	W3J0439-07	Ground Water	14-Oct-13 10:49	VH	18-Oct-2013
EQB20131017	W3J0439-08	Distilled Water	17-Oct-13 12:10	VH	18-Oct-2013
PIONKE 517	W3J0439-09	Ground Water	17-Oct-13 11:26	VH	18-Oct-2013
ROGERS 803	W3J0439-10	Ground Water	16-Oct-13 16:44	VH	18-Oct-2013
ANDERSON 458	W3J0439-11	Ground Water	16-Oct-13 15:50	VH	18-Oct-2013
EAST	W3J0439-12	Ground Water	15-Oct-13 15:56	VH	18-Oct-2013
RAY	W3J0439-13	Ground Water	15-Oct-13 15:13	VH	18-Oct-2013
BANKS 986	W3J0439-14	Ground Water	15-Oct-13 13:48	VH	18-Oct-2013
EPPELE 641	W3J0439-15	Ground Water	15-Oct-13 11:03	VH	18-Oct-2013
HOWARD 312	W3J0439-16	Ground Water	16-Oct-13 13:58	VH	18-Oct-2013
FRANCO 383	W3J0439-17	Ground Water	16-Oct-13 09:50	VH	18-Oct-2013
HOWARD NR	W3J0439-18	Ground Water	16-Oct-13 12:07	VH	18-Oct-2013
PANAGAKOS	W3J0439-19	Ground Water	15-Oct-13 17:08	VH	18-Oct-2013
FB20131017	W3J0439-20	Distilled Water	17-Oct-13 12:08	VH	18-Oct-2013
WEISKOPF 802	W3J0439-21	Ground Water	17-Oct-13 13:16	VH	18-Oct-2013
WEISKOPF 897	W3J0439-22	Ground Water	17-Oct-13 14:50	VH	18-Oct-2013

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

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Freeport McMoRan - Bisbee
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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **SCHWARTZ**
SVL Sample ID: **W3J0439-01 (Ground Water)**

Sampled: 14-Oct-13 17:28
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	109	mg/L	3.00	0.21	10	W344168	AEW	10/29/13 23:55	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray
Technical Director

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Freeport McMoRan - Bisbee
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **EQB20131014**
SVL Sample ID: **W3J0439-02 (Distilled Water)**

Sampled: 14-Oct-13 14:20
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.02		W344137	AEW	10/30/13 01:25	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray
Technical Director

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Freeport McMoRan - Bisbee
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **FB20131014**
SVL Sample ID: **W3J0439-03 (Distilled Water)**

Sampled: 14-Oct-13 14:16
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.02		W344137	AEW	10/30/13 01:36	

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Kirby Gray
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **MCCONNELL 459**
SVL Sample ID: **W3J0439-04 (Ground Water)**

Sampled: 14-Oct-13 15:30
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	34.6	mg/L	1.50	0.10	5	W344168	AEW	10/30/13 00:07	D1

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Kirby Gray
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **MCCONNELL 265**
SVL Sample ID: **W3J0439-05 (Ground Water)**

Sampled: 14-Oct-13 14:04
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	908	mg/L	15.0	1.05	50	W344168	AEW	10/30/13 00:18	D2

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Kirby Gray
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **NOTEMAN**
SVL Sample ID: **W3J0439-06 (Ground Water)**

Sampled: 14-Oct-13 12:54
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	355	mg/L	3.00	0.21	10	W344168	AEW	10/30/13 00:30	D2

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **PALMER**
SVL Sample ID: **W3J0439-07 (Ground Water)**

Sampled: 14-Oct-13 10:49
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	16.9	mg/L	0.30	0.02		W344168	AEW	10/30/13 00:41	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **EQB20131017**
SVL Sample ID: **W3J0439-08 (Distilled Water)**

Sampled: 17-Oct-13 12:10
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.02		W344137	AEW	10/30/13 01:47	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **PIONKE 517**
SVL Sample ID: **W3J0439-09 (Ground Water)**

Sampled: 17-Oct-13 11:26
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	13.8	mg/L	0.30	0.02		W344168	AEW	10/30/13 00:52	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **ROGERS 803**
SVL Sample ID: **W3J0439-10 (Ground Water)**

Sampled: 16-Oct-13 16:44
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	185	mg/L	3.00	0.21	10	W344168	AEW	10/30/13 01:04	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **ANDERSON 458**
SVL Sample ID: **W3J0439-11 (Ground Water)**

Sampled: 16-Oct-13 15:50
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	25.2	mg/L	0.30	0.02		W344213	AEW	10/30/13 19:39	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **EAST**
SVL Sample ID: **W3J0439-12 (Ground Water)**

Sampled: 15-Oct-13 15:56
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	17.2	mg/L	0.30	0.02		W344213	AEW	10/30/13 19:50	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **RAY**
SVL Sample ID: **W3J0439-13 (Ground Water)**

Sampled: 15-Oct-13 15:13
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	135	mg/L	3.00	0.21	10	W344213	AEW	10/30/13 20:01	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **BANKS 986**
SVL Sample ID: **W3J0439-14 (Ground Water)**

Sampled: 15-Oct-13 13:48
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	79.6	mg/L	3.00	0.21	10	W344213	AEW	10/30/13 20:12	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **EPPELE 641**
SVL Sample ID: **W3J0439-15 (Ground Water)**

Sampled: 15-Oct-13 11:03
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	31.9	mg/L	0.30	0.02		W344213	AEW	10/30/13 20:23	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **HOWARD 312**
SVL Sample ID: **W3J0439-16 (Ground Water)**

Sampled: 16-Oct-13 13:58
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	70.2	mg/L	3.00	0.21	10	W344213	AEW	10/30/13 20:34	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **FRANCO 383**
SVL Sample ID: **W3J0439-17 (Ground Water)**

Sampled: 16-Oct-13 09:50
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	350	mg/L	3.00	0.21	10	W344213	AEW	10/30/13 20:45	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **HOWARD NR**
SVL Sample ID: **W3J0439-18 (Ground Water)**

Sampled: 16-Oct-13 12:07
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	522	mg/L	7.50	0.52	25	W344213	AEW	10/30/13 20:56	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **PANAGAKOS**
SVL Sample ID: **W3J0439-19 (Ground Water)**

Sampled: 15-Oct-13 17:08
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	240	mg/L	3.00	0.21	10	W344213	AEW	10/30/13 21:28	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **FB20131017**
SVL Sample ID: **W3J0439-20 (Distilled Water)**

Sampled: 17-Oct-13 12:08
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.02		W344137	AEW	10/30/13 01:58	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

Kirby Gray
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **WEISKOPF 802**
SVL Sample ID: **W3J0439-21 (Ground Water)**

Sampled: 17-Oct-13 13:16
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	437	mg/L	7.50	0.52	25	W344213	AEW	10/30/13 21:39	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Client Sample ID: **WEISKOPF 897**
SVL Sample ID: **W3J0439-22 (Ground Water)**

Sampled: 17-Oct-13 14:50
Received: 18-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	18.3	mg/L	0.30	0.02		W344213	AEW	10/30/13 21:50	

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Kirby Gray
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.02	0.30	W344137	29-Oct-13	
Dissolved Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.02	0.30	W344168	29-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.02	0.30	W344213	30-Oct-13	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	10.2	10.0	102	90 - 110	W344137	29-Oct-13	
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	9.92	10.0	99.2	90 - 110	W344168	29-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	10.2	10.0	102	90 - 110	W344213	30-Oct-13	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	76.0	66.9	10.0	90.7	90 - 110	W344137	29-Oct-13	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	2450	2470	10.0	R > 4S	90 - 110	W344137	29-Oct-13	D2,M3
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	20.7	9.91	10.0	108	90 - 110	W344168	29-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	40.9	29.6	10.0	113	90 - 110	W344168	29-Oct-13	M1
EPA 300.0	Sulfate as SO4	mg/L	13.0	2.21	10.0	108	90 - 110	W344213	30-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	25.0	13.9	10.0	111	90 - 110	W344213	31-Oct-13	M1

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	75.0	76.0	10.0	1.3	20	W344137	29-Oct-13	D2,M3
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	21.1	20.7	10.0	2.2	20	W344168	29-Oct-13	M1
EPA 300.0	Sulfate as SO4	mg/L	13.1	13.0	10.0	0.3	20	W344213	30-Oct-13	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0439**
Reported: 01-Nov-13 09:51

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

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0349**
Reported: 23-Oct-13 13:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
GARNER 135	W3J0349-01	Water	11-Oct-13 14:10	VH	15-Oct-2013
BIMH	W3J0349-02	Water	11-Oct-13 11:29	VH	15-Oct-2013
BURKE	W3J0349-03	Water	10-Oct-13 17:23	VH	15-Oct-2013

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0349**
Reported: 23-Oct-13 13:49

Client Sample ID: **GARNER 135**
SVL Sample ID: **W3J0349-01 (Water)**

Sampled: 11-Oct-13 14:10
Received: 15-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	38.8	mg/L	3.00	0.66	10	W343101	AEW	10/22/13 23:05	D1

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
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One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0349**
Reported: 23-Oct-13 13:49

Client Sample ID: **BIMH**
SVL Sample ID: **W3J0349-02 (Water)**

Sampled: 11-Oct-13 11:29
Received: 15-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	301	mg/L	3.00	0.66	10	W343101	AEW	10/22/13 23:16	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
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36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0349**
Reported: 23-Oct-13 13:49

Client Sample ID: **BURKE**
SVL Sample ID: **W3J0349-03 (Water)**

Sampled: 10-Oct-13 17:23
Received: 15-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	27.5	mg/L	3.00	0.66	10	W343101	AEW	10/22/13 23:28	D1

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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36 West Hwy 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0349**
Reported: 23-Oct-13 13:49

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.07	0.30	W343101	22-Oct-13	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W343101	22-Oct-13	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	2140	2180	10.0	R > 4S	90 - 110	W343101	22-Oct-13	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	1570	1620	10.0	R > 4S	90 - 110	W343101	22-Oct-13	D2,M3

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	2110	2140	10.0	1.2	20	W343101	22-Oct-13	D2,M3

Notes and Definitions

D1	Sample required dilution due to matrix.
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

SVL holds the following certifications:
AZ:0538, **CA**:2080, **FL**(**NELAC**):E87993, **ID**:ID00019 & ID00965 (Microbiology), **NV**:ID000192007A, **WA**:C573

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
MOORE	W3J0305-01	Ground Water	07-Oct-13 12:01	VH	11-Oct-2013
ZANDER	W3J0305-02	Ground Water	07-Oct-13 13:24	VH	11-Oct-2013
KEEFER	W3J0305-03	Ground Water	07-Oct-13 14:43	VH	11-Oct-2013
RAMIREZ	W3J0305-04	Ground Water	07-Oct-13 16:09	VH	11-Oct-2013
COOPER	W3J0305-05	Ground Water	07-Oct-13 16:56	VH	11-Oct-2013
BMO-2010-3B	W3J0305-06	Ground Water	08-Oct-13 10:11	VH	11-Oct-2013
BMO-2010-3M	W3J0305-07	Ground Water	08-Oct-13 13:32	VH	11-Oct-2013
TVI 875	W3J0305-08	Ground Water	08-Oct-13 14:33	VH	11-Oct-2013
ECHAVE	W3J0305-09	Ground Water	08-Oct-13 16:57	VH	11-Oct-2013
AWC-05	W3J0305-10	Ground Water	09-Oct-13 10:14	VH	11-Oct-2013
AWC-03	W3J0305-11	Ground Water	09-Oct-13 10:48	VH	11-Oct-2013
AWC-02	W3J0305-12	Ground Water	09-Oct-13 14:05	VH	11-Oct-2013
AWC-04	W3J0305-13	Ground Water	09-Oct-13 14:35	VH	11-Oct-2013
THOMPSON 341	W3J0305-14	Ground Water	09-Oct-13 15:30	VH	11-Oct-2013
DODSON	W3J0305-15	Ground Water	09-Oct-13 16:44	VH	11-Oct-2013
NWC-04	W3J0305-16	Ground Water	10-Oct-13 08:58	VH	11-Oct-2013
NWC-06	W3J0305-17	Ground Water	10-Oct-13 09:50	VH	11-Oct-2013
NWC-02	W3J0305-18	Ground Water	10-Oct-13 10:20	VH	11-Oct-2013
CHAMBERS	W3J0305-19	Ground Water	10-Oct-13 11:54	VH	11-Oct-2013
ROGERS E	W3J0305-20	Ground Water	10-Oct-13 13:30	VH	11-Oct-2013
DUP20131009	W3J0305-21	Ground Water	09-Oct-13 18:00	VH	11-Oct-2013
DUP20131010	W3J0305-22	Ground Water	10-Oct-13 18:00	VH	11-Oct-2013
FB20131010	W3J0305-23	Other	10-Oct-13 13:25	VH	11-Oct-2013
EQB20131010	W3J0305-24	Other	10-Oct-13 13:27	VH	11-Oct-2013

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **MOORE**
SVL Sample ID: **W3J0305-01 (Ground Water)**

Sampled: 07-Oct-13 12:01
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	6.99	mg/L	0.30	0.07		W342410	AEW	10/18/13 18:01	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **ZANDER**
SVL Sample ID: **W3J0305-02 (Ground Water)**

Sampled: 07-Oct-13 13:24
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	6.41	mg/L	0.30	0.07		W342410	AEW	10/18/13 18:31	

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **KEEFER**
SVL Sample ID: **W3J0305-03 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 07-Oct-13 14:43
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	6.39	mg/L	0.30	0.07		W342410	AEW	10/18/13 18:40	

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **RAMIREZ**
SVL Sample ID: **W3J0305-04 (Ground Water)**

Sampled: 07-Oct-13 16:09
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	8.37	mg/L	0.30	0.07		W342410	AEW	10/18/13 18:50	

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **COOPER**
SVL Sample ID: **W3J0305-05 (Ground Water)**

Sampled: 07-Oct-13 16:56
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	31.4	mg/L	0.30	0.07		W342410	AEW	10/18/13 19:00	

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **BMO-2010-3B**
SVL Sample ID: **W3J0305-06 (Ground Water)**

Sampled: 08-Oct-13 10:11
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	16.8	mg/L	0.30	0.07		W342410	AEW	10/18/13 19:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **BMO-2010-3M**
SVL Sample ID: **W3J0305-07 (Ground Water)**

Sampled: 08-Oct-13 13:32
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	9.38	mg/L	0.30	0.07		W342410	AEW	10/18/13 19:40	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **TVI 875**
SVL Sample ID: **W3J0305-08 (Ground Water)**

Sampled: 08-Oct-13 14:33
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	275	mg/L	3.00	0.66	10	W342410	AEW	10/18/13 19:50	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **ECHAVE**
SVL Sample ID: **W3J0305-09 (Ground Water)**

Sampled: 08-Oct-13 16:57
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	24.5	mg/L	0.30	0.07		W342410	AEW	10/18/13 20:00	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **AWC-05**
SVL Sample ID: **W3J0305-10 (Ground Water)**

Sampled: 09-Oct-13 10:14
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	15.4	mg/L	0.30	0.07		W342410	AEW	10/18/13 20:10	

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36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **AWC-03**
SVL Sample ID: **W3J0305-11 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 09-Oct-13 10:48
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	49.4	mg/L	1.50	0.33	5	W342410	AEW	10/18/13 20:20	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **AWC-02**
SVL Sample ID: **W3J0305-12 (Ground Water)**

Sampled: 09-Oct-13 14:05
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	15.5	mg/L	0.30	0.07		W342410	AEW	10/18/13 20:30	

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **AWC-04**
SVL Sample ID: **W3J0305-13 (Ground Water)**

Sampled: 09-Oct-13 14:35
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	24.6	mg/L	0.30	0.07		W342410	AEW	10/18/13 20:39	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **THOMPSON 341**
SVL Sample ID: **W3J0305-14 (Ground Water)**

Sampled: 09-Oct-13 15:30
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	7.54	mg/L	0.30	0.07		W342410	AEW	10/18/13 20:49	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **DODSON**
SVL Sample ID: **W3J0305-15 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 09-Oct-13 16:44
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	63.3	mg/L	1.50	0.33	5	W342410	AEW	10/18/13 20:59	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **NWC-04**
SVL Sample ID: **W3J0305-16 (Ground Water)**

Sampled: 10-Oct-13 08:58
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	197	mg/L	3.00	0.66	10	W342410	AEW	10/18/13 21:29	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **NWC-06**
SVL Sample ID: **W3J0305-17 (Ground Water)**

Sampled: 10-Oct-13 09:50
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	8.38	mg/L	0.30	0.07		W342410	AEW	10/18/13 21:39	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **NWC-02**
SVL Sample ID: **W3J0305-18 (Ground Water)**

Sampled: 10-Oct-13 10:20
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	7.05	mg/L	0.30	0.07		W342410	AEW	10/18/13 21:49	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **CHAMBERS**
SVL Sample ID: **W3J0305-19 (Ground Water)**

Sampled: 10-Oct-13 11:54
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	10.3	mg/L	0.30	0.07		W342410	AEW	10/18/13 21:59	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **ROGERS E**
SVL Sample ID: **W3J0305-20 (Ground Water)**

Sampled: 10-Oct-13 13:30
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	5.80	mg/L	0.30	0.07		W342410	AEW	10/18/13 22:19	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **DUP20131009**
SVL Sample ID: **W3J0305-21 (Ground Water)**

Sampled: 09-Oct-13 18:00
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	51.0	mg/L	1.50	0.33	5	W342391	AEW	10/21/13 16:09	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **DUP20131010**
SVL Sample ID: **W3J0305-22 (Ground Water)**

Sampled: 10-Oct-13 18:00
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	7.14	mg/L	0.30	0.07		W342391	AEW	10/18/13 16:12	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **FB20131010**
SVL Sample ID: **W3J0305-23 (Other)**

Sampled: 10-Oct-13 13:25
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.07		W343101	AEW	10/22/13 21:56	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Client Sample ID: **EQB20131010**
SVL Sample ID: **W3J0305-24 (Other)**

Sampled: 10-Oct-13 13:27
Received: 11-Oct-13
Sampled By: VH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.07		W343101	AEW	10/22/13 22:08	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.07	0.30	W343101	22-Oct-13	
Dissolved Anions by Ion Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.07	0.30	W342391	18-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.07	0.30	W342410	18-Oct-13	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W343101	22-Oct-13	
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	10.1	10.0	101	90 - 110	W342391	18-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	9.81	10.0	98.1	90 - 110	W342410	18-Oct-13	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	2140	2180	10.0	R > 4S	90 - 110	W343101	22-Oct-13	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	1570	1620	10.0	R > 4S	90 - 110	W343101	22-Oct-13	D2,M3
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	24.0	13.1	10.0	108	90 - 110	W342391	18-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	36.5	25.6	10.0	110	90 - 110	W342391	18-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	17.6	6.99	10.0	106	90 - 110	W342410	18-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	21.0	10.3	10.0	107	90 - 110	W342410	18-Oct-13	

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	2110	2140	10.0	1.2	20	W343101	22-Oct-13	D2,M3
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	mg/L	24.0	24.0	10.0	0.2	20	W342391	18-Oct-13	
EPA 300.0	Sulfate as SO4	mg/L	17.8	17.6	10.0	1.2	20	W342410	18-Oct-13	

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W3J0305**
Reported: 23-Oct-13 13:42

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

APPENDIX C

GROUNDWATER SAMPLING FORMS

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/16/13

Well ID: Anderson 396 Weather: Sunny, 70s

ADWR No: 613396 Sampler: WH

WELL DATA

Well Depth (ft bls): 285'

Casing Diameter (in): 8"

Static Water Level (ft bmp): 152.41

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

Unable to sample due to broken pipe

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, 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

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: Pipe still broken, no sample

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/16/13

Well ID: Anderson 458 Weather: Sunny, 70's

ADWR No: Sampler: VNH

WELL DATA

Well Depth (ft bls):	734'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	156.24'
Casing Volume (gal):	589 x3 = 1767
Total Volume Purged (gal):	1660

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
1427	Pump On						
1447	20	7.5	150	8.08	22.9	400.4	
1507	40	7.5	300	8.09	24.0	400.7	
1527	60	7.5	450	8.09	23.6	402.0	
1547	80	7.5	600	8.10	23.8	400.1	
							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 @ Pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Anderson 458	1550	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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.
- [x] Other: Purge 1 well vol & stable parameters

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 12/3/13

Well ID: ASLD-435 Weather:

ADWR No: Sampler: CQB

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)

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: WNL

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/8/13

Well ID: AWC-02 Weather: Sunny, windy

ADWR No: 611605586 Sampler: VN

WELL DATA

Well Depth (ft bls):	333'
Casing Diameter (in):	20"
Static Water Level (ft bmp):	125' bmp from 10/7/13 per AWC
Casing Volume (gal):	3395 x3 = 10,185
Total Volume Purged (gal):	10,200

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08

Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1110	Pump On						
1130	20	60	1200	7.51	21.1	478.5	
1150	40	60	2400	7.45	21.0	478.9	
1210	60	60	3600	7.52	21.1	480.1	
1230	80	60	4800	7.40	21.1	476.8	
1250	100	60	6000	7.43	21.1	476.6	
1310	120	60	7200	7.45	21.3	476.1	
1330	140	60	8400	7.47	21.4	477.2	
1350	160	60	9600	7.44	21.1	477.0	
1400	170	60	10200	7.53	21.2	476.4	Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot near well head, on pipe

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-02	1405	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: SWL from AWC. SWLs were taken Monday October 7, 2013 after all wells had been turned off @ 4am, & allowed to recharge.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: | Date: 10/9/13

Well ID: AWC-03 | Weather: Sunny / 80s, windy

ADWR No: 610585 | Sampler: VM

WELL DATA

Well Depth (ft bls):	270'
Casing Diameter (in):	16"
Static Water Level (ft bmp):	122' bmp from 10/7/13 per AWC
Casing Volume (gal):	1546 x3 = 4638
Total Volume Purged (gal):	9300

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
1030	Pump On						
1035	5	620	3100	7.49	21.0	484.0	
1040	10	620	6200	7.64	20.4	487.8	
1045	15	620	9300	7.57	20.5	485.8	
							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 well head, on pipe

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-03	1048	Poly	250mL	1	300.0	NA	Y
DUP20131009	1800	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: SWL from AWC. SWLs were taken Monday October 7, 2013 after all wells had been turned off @ 4am, & allowed to recharge.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/9/13

Well ID: AWC-04 Weather: Sunny, windy

ADWR No: 616584 Sampler: VM

WELL DATA

Well Depth (ft bls):	337'
Casing Diameter (in):	16"
Static Water Level (ft bmp):	116' bmp from 10/7/13 per AWC
Casing Volume (gal):	2308 x3 = 6924
Total Volume Purged (gal):	11,250

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
1418	Pump On						
1423	5	750	3750	7.42	20.8	566.0	
1428	10	750	7500	7.35	20.5	584.7	
1433	15	750	11250	7.36	20.4	588.6	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot near well head, on pipe.

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-04	1435	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- ☐ Water level measurement collected.
- ☐ No water level measurement collected. No access to wellhead/No port in wellhead
- ☐ No water level measurement collected. Obstruction in well.
- ☐ No water level measurement collected. Well is pumping.
- ☒ Other: SWL collected 10/8/13 by AWC

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: SWL from AWC. SWLs were taken Monday October 7, 2013 after all wells had been turned off & then & allowed to recharge.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: 1 Date: 10/9/13

Well ID: AWC-05 Weather: Sunny ; 70s

ADWR No: 590620 Sampler: VNH

WELL DATA

Well Depth (ft bls): 1183'

Casing Diameter (in): 16"

Static Water Level (ft bmp): 142' bmp from 10/7/13 per AWC

Casing Volume (gal): 10,873 x3 = 32,619

Total Volume Purged (gal): 30,600

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
0840	Pump On						
0855	15	340	5100	7.70	20.7	454.2	
0910	30	340	10200	7.58	20.7	460.8	
0925	45	340	15300	7.60	20.8	457.9	
0940	60	340	20400	7.49	21.1	457.0	
0955	75	340	25500	7.54	21.1	456.9	
1010	90	340	30600	7.58	21.3	455.3	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot near well head, on pipe

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC-05	1014	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: SWL from AWC. SWLs were taken Monday October 7, 2013 after all wells had been turned off @ 4am, and allowed to recharge.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/15/13

Well ID: Banks 986 Weather: Sunny, 70s

ADWR No: 647986 Sampler: VNH

WELL DATA

Well Depth (ft bls): 435'

Casing Diameter (in): 6"

Static Water Level (ft bmp): Use Banks 987 = 239.48

Casing Volume (gal): 287 x3 = 861

Total Volume Purged (gal): 880

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
1155	Pump On						
1215	20	8	160	7.58	21.7	1244	
1235	40	8	320	7.59	21.8	1216	
1255	60	8	480	7.59	21.6	1188	
1315	80	8	640	7.63	21.6	1171	
1335	100	8	800	7.60	21.5	1162	
1345	110	8	880	7.59	21.7	1158	
							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: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Banks 986	1348	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/15/13

Well ID: Bonbs 987 Weather: Sunny, 70s

ADWR No: 647987 Sampler: VNH

WELL DATA

Well Depth (ft bls): 339'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 239.48

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						
			WLO				
							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 paremeters stabilized.

☐ Purged well until field parameters stabilized.

☐ Other:

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/11/13

Well ID: Bima Weather: Sunny, clear

ADWR No: 577927 Sampler: NH

WELL DATA

Well Depth (ft bls): 460'

Casing Diameter (in): 4"

Static Water Level (ft bmp):

Casing Volume (gal): x3 =

Total Volume Purged (gal): No Purge

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						
1124				10.57	21.8	1749	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Bima	1129	Poly	250ml	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- ☐ Purged 3 well volumes and field parameters stabilized.
- ☐ Purged 3 well volumes based on previous water level and field paremeters stabilized.
- ☐ Purged well until field parameters stabilized.
- ☒ Other: 1 Field parameter, no purge per owner request.

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 11-1-13

Well ID: BMO-2008-5B Weather: Sunny

ADWR No: Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): 285

Casing Diameter (in):

Static Water Level (ft bmp): 150.77

Casing Volume (gal): 137 x3 = 411

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
1220	Pump On						
1225	5	27	135	6.91	21.7	791	
1235	15	27	405	6.89	21.5	790	
1245	25	27	675	6.92	21.5	792	
							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)
BMO-2008-5B	1245	PL	250	1	300	Ice	X

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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: 134.2

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 11-1-13

Well ID: BMO-2008-5M Weather: Sunny

ADWR No: Sampler: Christopher L Stevenson

WELL DATA

Well Depth (ft bls):	450
Casing Diameter (in):	5"
Static Water Level (ft bmp):	152.53
Casing Volume (gal):	303.4 x3 = 910
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
1030	Pump On						
1035	5	18	90	7.01	22.2	642	
1055	25	18	450	7.00	22.0	640	
1115	45	18	810	7.07	22.0	641	
1125	55	18	990	7.00	22.1		
							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)
BMO-2008-5M	1125	PL	250	1	300	Ice	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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: 292.5

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: | Date: 11-1-13

Well ID: BMO-2008-6B | Weather: Sunny

ADWR No: | Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls):	265
Casing Diameter (in):	5"
Static Water Level (ft bmp):	195.77
Casing Volume (gal):	70.5 x3 = 211.5
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
1345	Pump On						
1350	5	5.1	25	6.94	21.1	342	
1400	15	5.1	25	6.96	21.0	341	
1415	30	5.1	150	7.02	20.9	340	
1430	45	5.1	225	7.04	21.0	340	
							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)
BMO-2008-6B	1430	PL	250	1	300	Ice	Y

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: 69.2

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 11-1-13

Well ID: BMO-2008-6M Weather: Sunny

ADWR No: Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): 450

Casing Diameter (in): 5"

Static Water Level (ft bmp): 196.53

Casing Volume (gal): 258.4 x3 = 775.2

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
1300	Pump On						
1310	10	21	210	6.88	21.3	722	
1320	20	21	420	6.85	21.4	723	
1330	30	21	630	6.84	21.4	724	
1340	40	21	840	6.83	21.5	723	
							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)
BMO-2008-6M	1340	PL	250	1	300	Ice	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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: 253.4

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 11-4-13

Well ID: BMO-2010-1M Weather: Sunny

ADWR No: Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls):	550
Casing Diameter (in):	5"
Static Water Level (ft bmp):	224.41
Casing Volume (gal):	332.1 x3 = 996.3
Total Volume Purged (gal):	1005

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
0630	Pump On						
0640	10	10	100	7.25	22.6	774	
0645	15	10	150	2.30	22.6	773	
0730	60	5	375	2.34	22.4	772	
0830	120	3	555	2.32	22.6	773	
0930	180	3	735	2.37	22.2	774	
1030	240	3	915	2.39	22.4	776	
1100	270	3	1005	2.38	22.6	774	
							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)
BMO-2010-1M	1100	PL	250	1	300	Ice	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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: 325-L

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: | Date: 11-4-13

Well ID: BMO-2010-2M | Weather: 8 Partly Cloudy

ADWR No: | Sampler: Christopher T. Sherman

WELL DATA

Well Depth (ft bls):	380
Casing Diameter (in):	5.7
Static Water Level (ft bmp):	273.26
Casing Volume (gal):	108.8 x3 = 326.4
Total Volume Purged (gal):	810

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
1110	Pump On						
1120	10	27	270	6.55	20.8	2130	
1130	20	27	540	6.52	20.8	2130	
1140	30	27	810	6.53	21.9	2129	
							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)
BMO-2010-2M	1140	PL	250	1	300	Ice	Yes

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

106.7

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: 1 Date: 10/8/13

Well ID: BMO-2010-3B Weather: Sunny, 70s

ADWR No: 219970 Sampler: VNH

WELL DATA

Well Depth (ft bls):	330'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	119.63
Casing Volume (gal):	215 x3 = 645
Total Volume Purged (gal):	640

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
0848	Pump On						
0908	20	8	160	7.64	21.1	416.7	
0928	40	8	320	7.87	20.9	419.0	
0948	60	8	480	7.68	21.0	424.1	
1008	80	8	640	7.72	20.9	420.3	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2010-3B	1011	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: 1 Date: 10/8/13

Well ID: BMO-2010-3M Weather: Sunny, 70's

ADWR No: 219969 Sampler: VN

WELL DATA

Well Depth (ft bls):	532'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	121.91
Casing Volume (gal):	418 x3 = 1254
Total Volume Purged (gal):	1260

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
1028	Pump On						
1048	20	7	140	7.81	21.9	361.7	Yellow, faint odor
1108	40	7	280	7.80	22.5	390.3	" "
1128	60	7	420	7.83	22.6	385.5	Clear, very faint odor
1148	80	7	560	7.78	22.8	383.9	Clear, odorless
1208	100	7	700	7.79	22.7	383.8	" "
1228	120	7	840	7.76	22.9	384.2	" "
1248	140	7	980	7.77	22.8	385.1	" "
1308	160	7	1120	7.81	22.4	385.7	
1328	180	7	1260	7.76	22.8	384.8	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: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BMO-2010-3M	1332	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: | Date: 11-1-13

Well ID: BMO-2012-1M | Weather: Sunny

ADWR No: | Sampler: Christopher L Sherman

WELL DATA

Well Depth (ft bls): 405

Casing Diameter (in): 5"

Static Water Level (ft bmp): 230.44

Casing Volume (gal): 178 x3 = ~~534~~

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
0630	Pump On						
0640	10	6	60	6.95	22.1	854	
0700	30	6	180	6.93	22.3	853	
0730	60	6	360	6.96	22.5	852	
0800	90	6	540	6.98	22.4	850	
							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)
BMO-2012-1M	0800	PL	250	1	300	Ice	X

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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: 174.5

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/18/13

Well ID: Booth Weather: Sunny, 50's

ADWR No: 914931 Sampler: VM

WELL DATA

Well Depth (ft bls): 240'

Casing Diameter (in): 7"

Static Water Level (ft bmp): 132.56

Casing Volume (gal): x3 =

Total Volume Purged (gal): No Purge

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						
0830				7.66	19.3	597.6	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Booth	0838	Poly	250mL	1	300.0	NP	Y

WATER LEVEL MEASUREMENT COLLECTION

☒ Water level measurement collected.

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

☐ No water level measurement collected. Obstruction in well.

☐ No water level measurement collected. Well is pumping.

☐ Other:

WELL PURGING INFORMATION

☐ Purged 3 well volumes and field parameters stabilized.

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

☐ Purged well until field parameters stabilized.

☒ Other: Pump water into pressure-tank, sample from well head spigot

Additional Comments: No purge due to limited power.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/10/13

Well ID: Burke Weather: Windy, Sunny

ADWR No: 212268 Sampler: VNT

WELL DATA

Well Depth (ft bls): 781'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 601.06'

Casing Volume (gal): 266 x3 = 798

Total Volume Purged (gal): 840

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
1518	Pump On						
1538	20	7	140	7.89	22.4	472.1	
1558	40	7	280	7.89	22.1	474.8	
1618	60	7	420	7.87	22.2	474.2	
1638	80	7	560	7.88	22.0	474.3	
1658	100	7	700	7.88	22.1	471.0	
1718	120	7	840	7.87	21.9	469.6	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Garden spigot near house

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Burke	1723	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/10/13

Well ID: Chambers Weather: Sunny, windy

ADWR No: 629807 Sampler: VNH

WELL DATA

Well Depth (ft bls): 245'

Casing Diameter (in): 6"

Static Water Level (ft bmp):

Casing Volume (gal): x3 =

Total Volume Purged (gal): 165

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
1136	Pump On						
1141	5	11	55	7.58	21.6	440.0	
1146	10	11	110	7.49	21.8	438.3	
1151	15	11	165	7.51	21.8	439.7	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Wellhead spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Chambers	1154	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/7/13

Well ID: Cooper Weather: Sunny, 80's

ADWR No: 623564 Sampler: VNA

WELL DATA

Well Depth (ft bls): 325'

Casing Diameter (in): 6"

Static Water Level (ft bmp):

Casing Volume (gal): x3 =

Total Volume Purged (gal): 150

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
1633	Pump On						
1638	5	7.5	37.5	7.33	22.8	430.1	
1643	10	7.5	75	7.69	22.5	430.4	
1648	15	7.5	112.5	7.66	22.6	429.8	
1653	20	7.5	150	7.68	22.7	430.5	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot on N. side of house

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Cooper	1656	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 11-1-13

Well ID: Cooper C Weather: Sunny

ADWR No: Sampler: Christopher L Stevens

WELL DATA

Well Depth (ft bls): 220

Casing Diameter (in): 6"

Static Water Level (ft bmp): 162.23 162.23

Casing Volume (gal): 85 x3 = 255

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
0945	Pump On						
0955	10	8.5	85	6.62	21.9	1616	
1005	20	8.5	170	6.64	21.2	1621	
1015	30	8.5	297	6.61	21.2	1624	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Cooper C	1015	PL	250	1	300	Ice	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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: 57.7

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/9/13

Well ID: Dodson Weather: Sunny, windy

ADWR No: 644927 Sampler: VM

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	92.69
Casing Volume (gal):	158 x3 = 474
Total Volume Purged (gal):	450

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
1610	Pump On						
1620	10	15	150	7.30	20.2	16666	
1630	20	15	300	7.31	20.0	16621	
1640	30	15	450	7.24	20.2	16612	
							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: well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Dodson	1614	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/17/13

Well ID: Duraco Weather: Sunny, 170s

ADWR No: NR Sampler: VNH

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp): Unable to access, Rusted/welded shut

Casing Volume (gal): x3 =

Total Volume Purged (gal):

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08

Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA

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

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

SAMPLE INFORMATION

Sample Collection Point:

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

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: Access to well is welded/rusted shut. Cannot get SWL

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/15/13

Well ID: East Weather: Sunny, 80s

ADWR No: 599796 Sampler: VM

WELL DATA

Well Depth (ft bls): 125'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 72.38'

Casing Volume (gal): 77 x3 = 231

Total Volume Purged (gal): 231

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
1532	Pump On						
1539	7	11	77	7.42	20.3	614.2	
1546	14	11	154	7.45	20.2	620.5	
1553	21	11	231	7.51	20.2	622.6	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
East	1556	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

☒ Water level measurement collected.

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

☐ No water level measurement collected. Obstruction in well.

☐ No water level measurement collected. Well is pumping.

☐ Other:

WELL PURGING INFORMATION

☒ Purged 3 well volumes and field parameters stabilized.

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

☐ Purged well until field parameters stabilized.

☐ Other:

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: | Date: 10/8/13

Well ID: Echave | Weather: Sunny, 80s

ADWR No: 219449 | Sampler: VNH

WELL DATA

Well Depth (ft bls):	345'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	Use 218.41' from 1/18/13
Casing Volume (gal):	186 x3 = 558
Total Volume Purged (gal):	560

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
1535	Pump On						
1555	20	7	140	7.66	21.6	403.1	
1615	40	7	280	7.68	21.4	403.8	
1635	60	7	420	7.65	21.5	404.7	
1655	80	7	560	7.66	21.4	404.3	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Echave	1657	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: Well pumping upon arrival. Purge & sample as usual; attempt SWL later.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/15/13

Well ID: Eppele 641 Weather: Sunny, 60s

ADWR No: 8056411 Sampler: VM

WELL DATA

Well Depth (ft bls): 265'

Casing Diameter (in): 8"

Static Water Level (ft bmp): 28.50'

Casing Volume (gal): 617 x3 = 1851

Total Volume Purged (gal): 825

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
0830	Pump On						
0850	20	10	200	7.36	20.4	692.8	
0910	40	10	400	7.42	20.3	688.4	
0930	60	10	600	7.46	20.3	683.3	
0948	78	10	780	7.86	20.1	686.5	Pump Dry
1015							Recharge, Restart
1030	15	1	15	7.80	21.5	684.6	Cloudy
1045	30	1	30	7.83	21.0	680.7	Cloudy
1100	45	1	45	7.86	21.1	682.6	~~Pump Off~~ Cloudy

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

SAMPLE INFORMATION

Sample Collection Point: Spigot E of well head

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Eppele 641	1103	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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.
- [x] Purged well until field parameters stabilized.
- [ ] Other:

Additional Comments: Pump dry @ 78min, or 780 gal
Wait for recharge
Purge until parameters stable.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/16/13

Well ID: Franco 101 Weather: Sunny, 50's

ADWR No: 500101 Sampler: VM

WELL DATA

Well Depth (ft bls): 200'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 196.65

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						
				WLO			
							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

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/16/13

Well ID: Franco 383 Weather: Sunny, 50s

ADWR No: 221383 Sampler: VNH

WELL DATA

Well Depth (ft bls):	711'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	196.30
Casing Volume (gal):	525 x3 = 1575
Total Volume Purged (gal):	600

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
0837	Pump On						
0852	15	10	150	7.62	21.9	1016	No odor, H_2S <0.005ppm
0907	30	10	300	7.58	21.7	1026	No odor, H_2S <0.005ppm
0922	45	10	450	7.61	21.6	1023	No odor, H_2S <0.005ppm
0937	60	10	600	7.63	21.9	1018	No odor, H_2S <0.005ppm
1005				7.66	20.5	1015	No odor H_2S <0.005ppm
1015				7.21	48.5	998.3	Faint odor H_2S <0.005ppm
							Pump Off

House cold Hot

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)
Franco 383	0950	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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.
- [x] Other: Purged 1 well vol. & stable field parameters

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/4/13

Well ID: Garner 557 Weather: Sunny, 70s

ADWR No: 558557 Sampler: VN4

WELL DATA

Well Depth (ft bls): 300.0

Casing Diameter (in): 6"

Static Water Level (ft bmp): 198.27'

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						
				WLO			
							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 paremeters stabilized.

☐ Purged well until field parameters stabilized.

☐ Other:

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/11/13

Well ID: Garner 1635 Weather: Sunny, 70's

ADWR No: 587635 Sampler: VNH

WELL DATA

Well Depth (ft bls):	680'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	200.27
Casing Volume (gal):	489 x3 = 1467
Total Volume Purged (gal):	1430

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
1157	Pump On						
1227	30	11	330	7.79	23.9	476.5	
1247	50	11	550	7.74	24.2	477.2	
1307	70	11	770	7.75	24.0	475.8	
1327	90	11	990	7.76	23.9	476.6	
1347	110	11	1210	7.81	24.1	477.2	
1407	130	11	1430	7.78	24.0	476.7	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Garner 635	1410	Poly	250ml	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 11-1-13

Well ID: Hoban Weather: Sunny

ADWR No: Sampler: Christopher L Skousen

WELL DATA

Well Depth (ft bls): 300

Casing Diameter (in): 5-in

Static Water Level (ft bmp): 170.54

Casing Volume (gal): 132 x3 = 396

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
0900	Pump On						
0910	10	12.6	176	6.75	20.8	1929	
0920	20	12.6	352	6.76	21.0	1925	
0930	30	12.6	528	6.74	21.0	1920	
							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)
Hoban	0930	PL	250	1	300	Ice	y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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: 129.4

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/16/13

Well ID: Howard 312 Weather: Sunny, 70s

ADWR No: 221312 Sampler: VNH

WELL DATA

Well Depth (ft bls):	980'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	201.08'
Casing Volume (gal):	794 x3 = 2382
Total Volume Purged (gal):	1000

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
1215	Pump On						
1235	20	10	200	8.09	23.0	617.6	
1255	40	10	400	8.13	23.3	619.1	
1315	60	10	600	8.14	24.9	617.5	
1335	80	10	800	8.11	25.8	621.2	
1355	100	10	1000	8.12	25.6	623.7	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks, in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Howard 312	1358	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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.
- [x] Other: Purge min 1 well vol, stable field parameters

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/16/13

Well ID: Howard NR Weather: Sunny, 70's

ADWR No: Sampler: VH

WELL DATA

Well Depth (ft bls):	220'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	157.52'
Casing Volume (gal):	92 x3 = 276
Total Volume Purged (gal):	384

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
1126	Pump On						
1134	8	12	96	7.42	20.8	1133	Sulphur Odor
1142	16	12	192	7.19	20.7	1229	Sulphur Odor
1150	24	12	288	7.16	20.4	1279	Sulphur Odor
1158	32	12	384	7.15	20.3	1319	Faint Sulphur Odor
							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: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Howard NR	1207	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: 1 Date: 10/7/13

Well ID: Keefer Weather: Sunny, 80's

ADWR No: 209744 Sampler: VJH

WELL DATA

Well Depth (ft bls):	245'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	141.63'
Casing Volume (gal):	152 x3 = 456
Total Volume Purged (gal):	450

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
1348	Pump On						
1358	10	9	90	7.32	21.5	438.9	
1408	20	9	180	7.57	20.3	445.9	
1418	30	9	270	7.58	20.7	446.6	
1428	40	9	360	7.58	20.3	458.6	
1438	50	9	450	7.53	20.6	458.9	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Keefer	1443	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 12/3/13

Well ID: LADD 251 Weather:

ADWR No: Sampler: CQB

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp): 217.44

Casing Volume (gal): x3 =

Total Volume Purged (gal):

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08

Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA

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

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

SAMPLE INFORMATION

Sample Collection Point:

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

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 12/3/13

Well ID: LADD 538 Weather:

ADWR No: Sampler: CQB

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp): 251.36

Casing Volume (gal): x3 =

Total Volume Purged (gal):

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08

Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA

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

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

SAMPLE INFORMATION

Sample Collection Point:

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

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 12/3/13

Well ID: LADD 837 Weather:

ADWR No: Sampler: CQB

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp): 260.85

Casing Volume (gal): x3 =

Total Volume Purged (gal):

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08

Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA

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

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

SAMPLE INFORMATION

Sample Collection Point:

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

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: Water Level only (WLO)

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 12/3/13

Well ID: LADD 977 Weather:

ADWR No: Sampler: CQB

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp): 84.48

Casing Volume (gal): x3 =

Total Volume Purged (gal):

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08

Casing Volume = gallons/foot * water column (feet)

FIELD SAMPLING DATA

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

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

SAMPLE INFORMATION

Sample Collection Point:

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

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/14/13

Well ID: McConnell 265 Weather: Overcast, windy

ADWR No: 539265 Sampler: VNH

WELL DATA

Well Depth (ft bls): 216'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 163.61

Casing Volume (gal): 77 x3 = 231

Total Volume Purged (gal): 240

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
1335	Pump On						
1343	8	10	80	6.93	21.1	1963	
1351	16	10	160	6.96	21.0	1928	Faint odor
1359	24	10	240	7.00	21.0	1911	
							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: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
McConnell 265	1404	Poly	250ml	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/14/13

Well ID: McConnell 459 Weather: Overcast, windy

ADWR No: 221459 Sampler: VM

WELL DATA

Well Depth (ft bls):	863'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	167.13'
Casing Volume (gal):	710 x3 = 2130
Total Volume Purged (gal):	805

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
1406	Pump On						
1421	15	11.5	172.5	8.06	23.0	475.9	Sulphur Odor H_2S <.005ppm
1436	30	11.5	345	8.06	24.2	477.1	Sulphur Odor H_2S <.005ppm
1451	45	11.5	517.5	8.07	24.5	479.5	Sulphur Odor H_2S <.005ppm
1506	60	11.5	690	8.05	24.7	486.5	Sulphur Odor H_2S <.005ppm
1516	70	11.5	805	8.04	24.9	486.7	Sulphur Odor H_2S <.005ppm
							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)
McConnell 459	1530	Poly	250mL	1	3000	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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.
- [x] Other: Purged 1 well vol & parameters stabilized

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date:

Well ID: MARCELL 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)

WATER LEVEL MEASUREMENT COLLECTION

- ☐ Water level measurement collected.
- ☒ No water level measurement collected. No access to wellhead/No port in wellhead
- ☐ No water level measurement collected. Obstruction in well.
- ☐ No water level measurement collected. Well is 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: Well is not operational

Additional Comments: No WL or sample collected

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/17/13

Well ID: Melzler Weather: Sunny, 70s

ADWR No: 35-71891 Sampler: VNJ

WELL DATA

Well Depth (ft bls): 351'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 292.86'

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						
			WLO				
							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 paremeters stabilized.

☐ Purged well until field parameters stabilized.

☐ Other:

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: 1 Date: 10/7/13

Well ID: Moore Weather: Sunny, 80's

ADWR No: 538847 Sampler: VH

WELL DATA

Well Depth (ft bls): 220

Casing Diameter (in): 6

Static Water Level (ft bmp):

Casing Volume (gal): x3 =

Total Volume Purged (gal): 270

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
1128	Pump On						
1138	10	9	90	7.54	21.9	432.2	
1048	20	9	180	7.58	21.4	429.9	
1058	30	9	270	7.59	21.5	431.8	
							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: Garden spigot used for purge

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Moore	1201	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/14/13

Well ID: Noleman Weather: Overcast, windy

ADWR No: 212483 Sampler: VN

WELL DATA

Well Depth (ft bls): 470'

Casing Diameter (in): 5"

Static Water Level (ft bmp): Use 327.54' from 2/25/09

Casing Volume (gal): 145 x3 = 435

Total Volume Purged (gal): 440

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
1210	Pump On						
1220	10	11	110	6.73	23.0	1577	
1230	20	11	220	6.61	23.2	1568	
1240	30	11	330	6.67	23.1	1551	
1250	40	11	440	6.75	23.2	1528	
							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: Courtyard spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Noleman	1254	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: 1 | Date: 12/19/13

Well ID: NSD-02 | Weather: Sunny, cool

ADWR No: | Sampler: MML

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp): 103.45 *

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						
N/A							
							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)
N/A							

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: * well pumping upon arrival. water level measured at 7 min and 8 min after pumping ceased, no change

-WLO-

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: 1 Date: 12/19/13

Well ID: NSD-03 Weather: Sunny, cool

ADWR No: Sampler: MML

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp): 89.11

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						
N/A							
							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)
N/A							

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: - WLO -

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/10/13

Well ID: NWC-02 Weather: Sunny, windy

ADWR No: 562944 Sampler: VNH

WELL DATA

Well Depth (ft bls): 312'

Casing Diameter (in): 6"

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						
1002				7.46	21.3	430.60	
1007				7.50	21.4	432.7	
1012				7.49	21.2	433.4	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-02	1020	Poly	250mL	1	300.0	NA	Y
DUP20131010	1800	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/10/13

Well ID: NWC-08CAP Weather: Sunny, windy

ADWR No: 627084 Sampler: VM

WELL DATA

Well Depth (ft bls):	179'
Casing Diameter (in):	8"
Static Water Level (ft bmp):	136.78
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

WLO

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, 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

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/10/13

Well ID: NWC-04 Weather: Partly cloudy, windy

ADWR No: 551849 Sampler: VNH

WELL DATA

Well Depth (ft bls): 462'

Casing Diameter (in): 10"

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						
0843				7.44	22.5	872.5	
0848				7.48	21.8	868.3	
0853				7.39	22.6	873.7	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-04	0858	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 11/6/13

Well ID: NWC-084 Weather: Sunny, 50's

ADWR No: 551849 Sampler: VNH

WELL DATA

Well Depth (ft bls): 462'

Casing Diameter (in): 10"

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 (ºC)	Specific Conductance (µS/cm)	Comments
	Pump On						
0831				7.61	22.0	857.6	
0836				7.54	23.0	851.1	
0841				7.58	21.8	852.3	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-084	0849	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 12/3/13

Well ID: NWC-04 Weather: Sunny, 50's

ADWR No: 551849 Sampler: VNH

WELL DATA

Well Depth (ft bls): 462'

Casing Diameter (in): 10"

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						
0840				7.56	22.8	837.6	
0845				7.46	23.0	840.2	
0850				7.50	23.1	843.4	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-04	0858	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- ☐ Water level measurement collected.
- ☒ No water level measurement collected. No access to wellhead/No port in wellhead → Access stuck shut
- ☐ No water level measurement collected. Obstruction in well.
- ☐ No water level measurement collected. Well is 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/10/13

Well ID: NWC-06 Weather: Weather is windy

ADWR No: 575700 Sampler: VNH

WELL DATA

Well Depth (ft bls): 340'

Casing Diameter (in): 8"

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						
0935				7.54	21.6	402.6	
0940				7.56	21.7	402.0	—
0945				7.56	21.6	403.3	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NWC-06	0950	Poly	250ml	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/14/13

Well ID: Palmer Weather: Partly cloudy, 60s

ADWR No: 578819 Sampler: VH

WELL DATA

Well Depth (ft bls): 220'

Casing Diameter (in): 6"

Static Water Level (ft bmp):

Casing Volume (gal): x3 =

Total Volume Purged (gal): 90

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
1030	Pump On						
1035	5	6	30	7.95	19.9	533.1	
1040	10	6	60	7.97	20.0	533.7	
1045	15	6	90	8.03	20.1	533.1	
							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 on E side of house

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Palmer	1049	Poly	250ml	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: | Date: 10/15/13

Well ID: Panagakos | Weather: Sunny, windy

ADWR No: 35-76413 | Sampler: VH

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	8"
Static Water Level (ft bmp):	164.49
Casing Volume (gal):	93 x3 = 279
Total Volume Purged (gal):	240

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
1635	Pump On						
1645	10	8	80	7.25	20.6	1040	
1655	20	8	160	7.11	20.6	1068	
1705	30	8	240	7.14	20.5	1109	
							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 SE of well head

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Panagakos	1708	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/18/13

Well ID: Parra Weather: Sunny, 70s

ADWR No: 576415 Sampler: VM

WELL DATA

Well Depth (ft bls): 355'

Casing Diameter (in): 6

Static Water Level (ft bmp): Use 280.99 from 7/20/09

Casing Volume (gal): 109 x3 = 327

Total Volume Purged (gal): 360

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
1141	Pump On						
1151	10	12	120	7.15	21.2	1206	
1201	20	12	240	7.17	21.4	1209	
1211	30	12	360	7.18	21.3	1212	
							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: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Parra	1214	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/17/13

Well ID: Pionke 395 Weather: Sunny, 50s

ADWR No: 613395 Sampler: VM

WELL DATA

Well Depth (ft bls): 330'

Casing Diameter (in): 8"

Static Water Level (ft bmp): 156.39'

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

Pump not working, no sample

FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.3 su pH, 2 degrees C, 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

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: Pump still not working, no sample

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/17/13

Well ID: Pionke 517 Weather: Sunny, 60s

ADWR No: 221517 Sampler: VM

WELL DATA

Well Depth (ft bls):	604'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	153.27'
Casing Volume (gal):	460 x3 = 1380
Total Volume Purged (gal):	1400

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
0903	Pump On						
0923	20	10	200	7.73	21.6	392.5	
0943	40	10	400	7.72	22.4	391.8	
1003	60	10	600	7.79	22.4	392.1	
1023	80	10	800	7.74	22.6	392.8	
1043	100	10	1000	7.82	22.6	391.1	
1103	120	10	1200	7.77	22.7	391.4	
1123	140	10	1400	7.73	22.7	391.5	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks, in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Pionke 517	1126	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: 1 Date: 10/7/13

Well ID: Ramirez Weather: Sunny, 80's

ADWR No: Sampler: VNH

WELL DATA

Well Depth (ft bls): 300'

Casing Diameter (in): 6"

Static Water Level (ft bmp): use 164.96' from 4/19/13

Casing Volume (gal): 199 x3 = 597

Total Volume Purged (gal): 600

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
1505	Pump On						
1520	15	10	150	7.45	23.0	406.3	
1535	30	10	300	7.63	22.6	410.2	
1550	45	10	450	7.65	22.7	411.2	
1605	60	10	600	7.68	22.6	412.7	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Ramirez	1609	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/15/13

Well ID: Ray Weather: Sunny, 80s

ADWR No: 803772 Sampler: VNT

WELL DATA

Well Depth (ft bls):	100'
Casing Diameter (in):	8"
Static Water Level (ft bmp):	44.33'
Casing Volume (gal):	145 x3 = 435
Total Volume Purged (gal):	480

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
1410	Pump On						
1425	15	8	120	7.11	20.8	1472	
1440	30	8	240	7.12	20.5	1485	
1455	45	8	360	7.14	20.5	1493	
1510	60	8	480	7.13	20.8	1487	
							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: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Ray	1513	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/16/13

Well ID: Rogers 596 Weather: Sunny, 70s

ADWR No: 573596 Sampler: VH

WELL DATA

Well Depth (ft bls): 290'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 140.5

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						
			WLO				
							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 paremeters stabilized.
- ☐ Purged well until field parameters stabilized.
- ☐ Other:

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/16/13

Well ID: Rogers 803 Weather: Sunny, 70s

ADWR No: 641803 Sampler: VNH

WELL DATA

Well Depth (ft bls): 140

Casing Diameter (in):

Static Water Level (ft bmp):

Casing Volume (gal): x3 =

Total Volume Purged (gal): ~46

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
1629	Pump On						
		10					
1632	4	<1					
1634	6	<1	~42	7.42	25.3	712.7	
1636	8	<1	~44	7.45	25.7	711.6	
1638	10	<1	~46	7.47	25.4	710.6	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Rogers 803	1644	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments: SWL from Rogers 596 is below depth of Rogers 803.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/10/13

Well ID: Rogers, E Weather: Sunny, Windy

ADWR No: 216018 Sampler: VNH

WELL DATA

Well Depth (ft bls):	285'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	Use 155.71' from 7/17/13
Casing Volume (gal):	190 x3 = 570
Total Volume Purged (gal):	570

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
1221	Pump On						
1236	15	9.5	142.5	7.68	21.5	435.5	
1251	30	9.5	285	7.54	21.4	434.0	
1306	45	9.5	427.5	7.51	21.4	436.4	
1321	60	9.5	570	7.51	21.9	436.9	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Rogers, E	1330	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- ☐ Water level measurement collected.
- ☐ No water level measurement collected. No access to wellhead/No port in wellhead
- ☒ No water level measurement collected. Obstruction in well. ~ 23'
- ☐ No water level measurement collected. Well is 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/17/13

Well ID: Ruiz Weather: Sunny, 70s

ADWR No: 531770 Sampler: VM

WELL DATA

Well Depth (ft bls): 312'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 300.07'

Casing Volume (gal): 17 x3 = 51

Total Volume Purged (gal): 80

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
1605	Pump On						
1615	10	4	40	7.19	20.9	884.5	
1620	15	4	60	7.21	20.9	886.9	
1625	20	4	80	7.23	20.8	891.9	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Ruiz	1628	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/14/13

Well ID: Schwartz Weather: Partly cloudy, windy

ADWR No: 210865 Sampler: VNH

WELL DATA

Well Depth (ft bls):	305'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	130.15'
Casing Volume (gal):	250 x3 = 750
Total Volume Purged (gal):	825

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
1610	Pump On						
1625	15	11	165	7.56	21.4	625.1	
1640	30	11	330	7.50	21.2	626.2	
1655	45	11	495	7.51	21.1	628.8	
1710	60	11	660	7.54	20.9	632.8	
1725	75	11	825	7.55	20.9	633.3	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Schwartz	1728	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/10/13

Well ID: Thompson 151 Weather: Sunny, Windy

ADWR No: 612151 Sampler: VNH

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp): 167.68'

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						
			WLO				
							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

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: WLO

* Cap is very difficult to get off. *
Bring pliers, hammer, and maybe a crow-bar

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: | Date: 10/9/13

Well ID: Thompson 341 | Weather: Sunny, windy

ADWR No: 218341 | Sampler: VM

WELL DATA

Well Depth (ft bls): 285'

Casing Diameter (in): 7"

Static Water Level (ft bmp): Use 167.68' from Thompson 151

Casing Volume (gal): 235 x3 = 705

Total Volume Purged (gal): 60

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
1510	Pump On						
1515	5	4+	20	7.41	21.8	422.5	
1520	10	4+	40	7.46	21.8	423.6	
1525	15	4+	60	7.49	21.6	425.2	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Thompson 341	1530	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- ☐ Purged 3 well volumes and field parameters stabilized.
- ☐ Purged 3 well volumes based on previous water level and field paremeters stabilized.
- ☒ Purged well until field parameters stabilized. short purge per owner request
- ☐ Other:

Additional Comments: * GPM estimated @ spigot near well. Actual GPM probably much higher

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 | Client: Freeport Copper Queen Branch

Task No: | Date: 11/6/13

Well ID: TM-10 | Weather: Sunny, 60s

ADWR No: 522696 | Sampler: JNH

WELL DATA

Well Depth (ft bls): 290'

Casing Diameter (in): 4"

Static Water Level (ft bmp): 254.20'

Casing Volume (gal): 23 x3 = 69

Total Volume Purged (gal): 60

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
1135	Pump On						
1140	5	~4	20	7.76	21.4	403.5	
1145	10	~4	40	7.88	21.41	383.2	
1150	15	~4	60	7.90	21.3	386.5	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Well head, hand-filter

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
TM-10	1155	Poly	250mL	1	300.0	N.A	Y
DUP20131106	1800	Poly	250mL	1	300.0	N.A	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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: Pump did not go dry today.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/8/13

Well ID: TVI 713 Weather: Sunny, 70s

ADWR No: 567713 Sampler: VNH

WELL DATA

Well Depth (ft bls): 200'

Casing Diameter (in): 8"

Static Water Level (ft bmp): 133.10'

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						
			WLO				
							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

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/8/13

Well ID: TVI 875 Weather: Sunny, 70's

ADWR No: 568875 Sampler: VNH

WELL DATA

Well Depth (ft bls): 330'

Casing Diameter (in): 8"

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
1414	Pump On						
1419	5	500	2500	7.29	21.4	900.2	
1424	10	500	5000	7.32	21.1	893.4	
1429	15	500	7500	7.35	21.0	894.6	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point:

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
TVI 875	1433	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/18/13

Well ID: Weed Weather: Sunny, 60s

ADWR No: 544535 Sampler: JNH

WELL DATA

Well Depth (ft bls): 320'

Casing Diameter (in): 6"

Static Water Level (ft bmp):

Casing Volume (gal): x3 =

Total Volume Purged (gal): 36

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
0923	Pump On						
0926	3	4	12	7.68	21.1	386.4	
0929	6	4	24	7.70	21.1	386.6	
0932	9	4	36	7.72	21.1	387.3	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot in yard, use extension in box

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Weed	0938	Poly	250mL	1	300.0	N/A	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

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

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/17/13

Well ID: Weistopf 802 Weather: Sunny, 70s

ADWR No: 641802 Sampler: VNH

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	150.69'
Casing Volume (gal):	72 x3 = 216
Total Volume Purged (gal):	450

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
1144	Pump On						
1159	15	5	75	7.55	27.6	442.1	Cloudy brown, sulphur odor
1214	30	5	150	7.64	23.8	511.4	Cloudy, sulphur odor
1229	45	5	225	7.38	23.1	906.1	clear, sulphur odor
1244	60	5	300	7.32	22.8	1032	Clear, faint odor
1259	75	5	375	7.28	22.6	1104	" "
1314	90	5	450	7.29	22.5	1131	" "
							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: Garage spigot opposite well head

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Weistopf 802	1316	Poly	250ml	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: Date: 10/17/13

Well ID: Weiskopf 897 Weather: Sunny, 70s

ADWR No: 221897 Sampler: JNH

WELL DATA

Well Depth (ft bls):	1030'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	150.38
Casing Volume (gal):	897 x3 = 2691
Total Volume Purged (gal):	960

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
1327	Pump On						
1347	20	12	240	7.95	22.3	393.3	
1407	40	12	480	7.98	23.2	394.7	
1427	60	12	720	7.91	23.4	391.8	
1447	80	12	960	7.90	23.3	392.2	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: Spigot near pressure tanks in shed

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Weiskopf 897	1450	Poly	250ml	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

- [x] Water level measurement collected.
- [ ] No water level measurement collected. No access to wellhead/No port in wellhead
- [ ] No water level measurement collected. Obstruction in well.
- [ ] No water level measurement collected. Well is 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.
- [x] Other: Purge 1 well vol, stable parameters

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No: 287030 Client: Freeport Copper Queen Branch

Task No: 1 Date: 10/7/13

Well ID: Zander Weather: Sunny, 80's

ADWR No: 205126 Sampler: VH

WELL DATA

Well Depth (ft bls): 280'

Casing Diameter (in): 6"

Static Water Level (ft bmp): 151.65

Casing Volume (gal): 189 x3 = 567

Total Volume Purged (gal): 550

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
1228	Pump On						
1238	10	11	110	7.46	21.6	431.1	
1248	20	11	220	7.58	21.6	429.9	
1258	30	11	330	7.59	21.5	429.3	
1308	40	11	440	7.59	21.5	430.7	
1318	50	11	550	7.59	21.5	430.2	
							Pump Off

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

SAMPLE INFORMATION

Sample Collection Point: well head spigot

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Zander	1324	Poly	250mL	1	300.0	NA	Y

WATER LEVEL MEASUREMENT COLLECTION

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

WELL PURGING INFORMATION

- [x] 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:

CLEAR CREEK ASSOCIATES