FIRST QUARTER 2011
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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April 6, 2011

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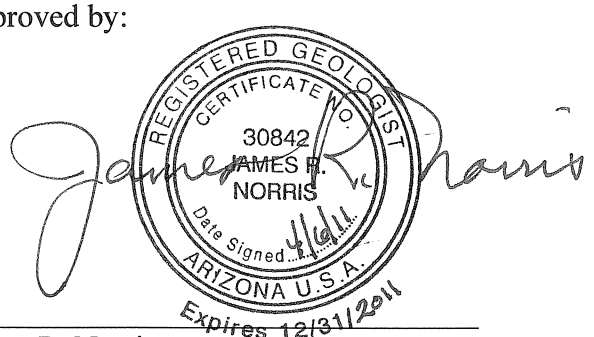

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April 6, 2011

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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 first quarter 2011 in the vicinity of the Concentrator Tailing Storage Area (CTSA). Groundwater monitoring is conducted pursuant to Tasks 1.0 (well inventory of drinking water wells) and 2.2 (groundwater monitoring) of the Work Plan (Hydro Geo Chem, Inc. [HGC], 2008a) to characterize sulfate in the vicinity of the CTSA. The Work Plan was 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 (DWS) wells outside of and within one mile of the sulfate plume for the purpose 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 plume is considered to consist of groundwater with sulfate in excess of 250 milligrams per liter (mg/L) attributable to the CTSA. The sample collection and analysis specifications of 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 generalized geologic map of the study area and well locations where data have been collected during this reporting period. Table 2 lists wells identified for monitoring in the first quarter, their availability for sampling, and their sampling status. Groundwater sampling and analysis methods used by Clear Creek and CQB are described in the Quality Assurance Project Plan (QAPP) contained in Appendix F of the Work Plan (HGC, 2008a). Results of groundwater monitoring are presented in Section 2.

Four new monitor wells, BMO-2010-1M, BMO-2010-2M, BMO-2010-3B, and BMO-2010-3M, were installed in the third quarter of 2010. The new wells were added to the groundwater monitoring program pursuant to Section 3 of the Work Plan (HCG, 2008a).

On February 17, 2011 a measuring point elevation survey was completed by ALTA Land for private wells ANDERSON, COOPER C, GARNER 557, and GARNER 635. Copies of the survey reports completed by ALTA Land are included as Appendix A. The measuring points for the wells were updated based on the results of the most recent survey

2. GROUNDWATER MONITORING RESULTS

2.1 Results of Monitoring

Analytical results and groundwater elevation data for the first quarter 2011 are tabulated in Tables 3 and 4, respectively, along with information previously collected under the Mitigation Order. Figure 2 shows the concentrations of dissolved sulfate in the wells sampled in the first quarter 2011. The most recent sample results are shown at wells where multiple samples were collected during the quarter. The highest sulfate concentration measured at co-located wells was used for concentration contouring. Figure 3 shows groundwater elevations in the first quarter 2011. Groundwater elevations were calculated using depth to water measurements made under static (nonpumping) conditions for all wells shown.

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 and analytical laboratory reports for data collected by Clear Creek and CQB during the first quarter 2011 are included in Appendix B and Appendix C, respectively. Copies of groundwater sampling forms for samples collected by Clear Creek and CQB are in Appendix D. As determined by the analytical data verification review, all data for samples collected in the first quarter 2011 by Clear Creek and CQB are of acceptable quality for use in the groundwater monitoring being conducted pursuant to the Mitigation Order.

3. FINDINGS

This report provides the results of groundwater monitoring conducted within the vicinity of the CTSA for the first quarter 2011. Groundwater samples were collected from 61 wells and depth to water measurements were collected at 53 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 first quarter 2011 groundwater monitoring are described below.

- Water quality samples have been collected from wells completed in three principal water bearing units in the area: basin fill, undifferentiated Bisbee Group, and Glance Conglomerate. The undifferentiated Bisbee Group consists, from youngest to oldest, of the Cintura Formation, Upper Mural Limestone, Lower Mural Limestone and Morita Formation. Figures 2 and 3 provide the screened lithology of the wells sampled.

- Sulfate concentration data indicate that the plume extends to the southwest from the vicinity of the former evaporation pond to the vicinity of Naco and to the south to the vicinity of Bisbee Junction (Figure 2). The groundwater monitoring data indicate that the sulfate plume extends over an area of approximately 2.5 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.

- Comparison of the first quarter 2011 sulfate concentrations with previous quarters indicates no large scale change in the plume geometry since the Mitigation Order sampling began in the fourth quarter 2008, although concentration contours within the plume have been modified to reflect current concentrations.

- Figure 4 shows sulfate concentrations through time at public drinking water supply wells that are not receiving mitigation actions. Sulfate concentrations have remained relatively stable over time, although NWC-04 displays the greatest variability in concentration

- Groundwater elevations decrease from north to south in the area east of the Black Gap Fault and between the Bisbee Municipal Airport and Bisbee Junction, and from east to west across the central portion of the study area west of the Black Gap Fault (Figure 3).

- Figures 5 and 6 show groundwater elevations over time for BMO monitor wells with screen intervals in basin fill and bedrock, respectively, except for monitor wells installed in 2010. Groundwater elevations in BMO monitor wells screened in basin fill decrease over time. The maximum decrease has been 3.36 feet since July 2008. Groundwater elevations in BMO monitor wells screened in bedrock are relatively steady over time, although BMO-2008-10GL and BMO-2008-11G display increasing trends whereas BMO-2008-1G displays a decreasing trend.

4. REFERENCES

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TABLES

Table 1
Schedule for Water Quality Sampling and Water Level Monitoring

Well Name	ADWR 55 Registry No.	Semiannual Sampling First Quarter	Quarterly Sampling Second Quarter	Annual Sampling Third Quarter	Quarterly Sampling Fourth Quarter
ANDERSON	613396	✓	✓	✓	✓
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-2008-10GU	909272			✓	
BMO-2008-10GL	909435			✓	
BMO-2008-11G	909434	✓		✓	
BMO-2008-13B	909551			✓	
BMO-2008-13M	909760			✓	
BMO-2010-1M[1]	219957	✓	✓	✓	✓
BMO-2010-2M[1]	219958	✓	✓	✓	✓
BMO-2010-3B[1]	219970	✓	✓	✓	✓
BMO-2010-3M[1]	219969	✓	✓	✓	✓
CHAMBERS	629807	✓	✓	✓	✓
COB MW-1	903992			✓	
COB MW-2	903984	✓		✓	
COB MW-3	906823			✓	
COB WL	593116			✓	
COOPER	623564	✓	✓	✓	✓
COOPER C	637069	✓	✓	✓	✓
DODSON	644927	✓	✓	✓	✓
DOUGLASS 791	592791	WLO		WLO	
DOUGLASS 792	592792	WLO		WLO	
DURAZO	NR	✓	✓	✓	✓

Table 1
Schedule for Water Quality Sampling and Water Level Monitoring

Well Name	ADWR 55 Registry No.	Semiannual Sampling First Quarter	Quarterly Sampling Second Quarter	Annual Sampling Third Quarter	Quarterly Sampling Fourth Quarter
EAST	599796	✓	✓	✓	✓
EPPELE 641	805641	✓	✓	✓	✓
FLEMING	218386	WLO		WLO	
FRANCO	500101	✓	✓	✓	✓
FULTZ	212447	✓	✓	✓	✓
GARNER 557	558557	WLO		WLO	
GARNER 635	587635	✓	✓	✓	✓
GGOOSE 547	628547	✓		✓	
GOAR RANCH	610695	WLO		WLO	
HOBAN	805290	✓	✓	✓	✓
HOWARD	NR	✓	✓	✓	✓
KEEFER	209744	✓	✓	✓	✓
MCCONNELL 265	539265	✓	✓	✓	✓
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	613395	✓	✓	✓	✓
POOL	509518	✓	✓	✓	✓
RAMIREZ	216425	✓	✓	✓	✓
RAY	803772	✓	✓	✓	✓
ROGERS 596/803	573596	✓	✓	✓	✓
ROGERS E	216018	✓	✓	✓	✓
RUIZ	531770	✓	✓	✓	✓
SCHWARTZ	210865	✓	✓	✓	✓
STEPHENS	808560	WLO		WLO	
SUNBELT	201531	WLO		WLO	
SWAN	NR	✓		✓	
TM-02A	522574	✓		✓	
TM-06 MILLER	522695			✓	
TM-07	522576	✓		✓	
TM-15 MILLER	522699			✓	

Table 1
Schedule for Water Quality Sampling and Water Level Monitoring

Well Name	ADWR 55 Registry No.	Semiannual Sampling First Quarter	Quarterly Sampling Second Quarter	Annual Sampling Third Quarter	Quarterly Sampling Fourth Quarter
TM-16	522578			✓	
TM-19A	522580	✓		✓	
TM-42	562554			✓	
TVI 236	802236			✓	
TVI 713	567713	WLO		WLO	
TVI 875	568875	✓	✓	✓	✓
WEED	544535	✓	✓	✓	✓
WEISKOPF	641802	✓	✓	✓	✓
ZANDER	205126	✓	✓	✓	✓

Notes:

ADWR = Arizona Department of Water Resources

WLO = Water Level Only

[1]Well installed third quarter 2010 and will be sampled quarterly for the first year and re-evaluated at the end of that year

Table 2
Summary of Groundwater Monitoring for First Quarter 2011

Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
ANDERSON	613396	Anderson	Well Inventory	236	Y	Y	Water quality sample collected in January 2011
AWC-02	616586	Arizona Water Company	Plume	330	N	Y	Water quality sample collected in January 2011. Unable to collect water level because well was pumping
AWC-03	616585	Arizona Water Company	Plume	269	N	Y	Water quality sample collected in January 2011. Unable to collect water level because well was pumping
AWC-04	616584	Arizona Water Company	Plume	250	N	Y	Water quality sample collected in January 2011. Unable to collect water level because well was pumping
AWC-05	590620	Arizona Water Company	Plume	1183	N	Y	Water quality sample collected in January 2011. Unable to collect water level because well was pumping
BANKS 986	647986	Banks	Well Inventory	435	N	Y	Water quality sample collected in January 2011; unable to collect water level because wellhead is not accessible
BANKS 987	647987	Banks	Well Inventory	339	Y	N	Well identified for water level measurements only
BARTON 919	644919	Barton	Plume	130	N	N	Well not operational; unable to collect water level; unable to contact owner to access property
BF-01	539783	Copper Queen Branch	Plume	400	N	N	Well not scheduled for sampling in the first quarter 2011
BIMA	577927	Bisbee Municipal Airport	Plume	465	Y	Y	Water quality sample collected in January 2011
BMO-2008-1G	909474	Copper Queen Branch	Plume	310	Y	Y	Water quality sample collected in February 2011
BMO-2008-3B	909147	Copper Queen Branch	Plume	260	Y	Y	Water quality sample collected in February 2011
BMO-2008-4B	910096	Copper Queen Branch	Plume	610	Y	Y	Water quality sample collected in February 2011
BMO-2008-5B	909653	Copper Queen Branch	Plume	285	Y	Y	Water quality sample collected in February 2011
BMO-2008-5M	909552	Copper Queen Branch	Plume	450	Y	Y	Water quality sample collected in February 2011
BMO-2008-6B	909146	Copper Queen Branch	Plume	265	Y	Y	Water quality sample collected in February 2011
BMO-2008-6M	909019	Copper Queen Branch	Plume	450	Y	Y	Water quality sample collected in February 2011
BMO-2008-7M	908794	Copper Queen Branch	Plume	670	Y	Y	Water quality sample collected in February 2011
BMO-2008-8B	910097	Copper Queen Branch	Plume	480	Y	N	Water level measurement taken in February 2011
BMO-2008-8M	909711	Copper Queen Branch	Plume	1210	Y	Y	Water quality sample collected in February 2011

Table 2
Summary of Groundwater Monitoring for First Quarter 2011

Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
BMO-2008-9M	909255	Copper Queen Branch	Plume	775	Y	Y	Water quality sample collected in February 2011
BMO-2008-10GL	909435	Copper Queen Branch	Plume	810	N	N	Well not scheduled for sampling in the first quarter 2011
BMO-2008-10GU	909272	Copper Queen Branch	Plume	449	N	N	Well not scheduled for sampling in the first quarter 2011
BMO-2008-11G	909434	Copper Queen Branch	Plume	760	Y	Y	Water quality sample collected in February 2011
BMO-2008-13B	909551	Copper Queen Branch	Plume	474	Y	N	Water level measurement taken in February 2011
BMO-2008-13M	909760	Copper Queen Branch	Plume	1030	Y	N	Water level measurement taken in February 2011
BMO-2010-1M	219957	Copper Queen Branch	Plume	540	Y	Y	Water quality sample collected in February 2011
BMO-2010-2M	219958	Copper Queen Branch	Plume	370	Y	Y	Water quality sample collected in February 2011
BMO-2010-3B	219970	Copper Queen Branch	Plume	330	Y	Y	Water quality sample collected in January 2011
BMO-2010-3M	219969	Copper Queen Branch	Plume	532	Y	Y	Water quality sample collected in January 2011
CHAMBERS	629807	Chambers	Well Inventory	245	N	Y	Water quality sample collected in January 2011; unable to collect water level because wellhead is not accessible
COB MW-1	903992	City of Bisbee	Plume	420	N	N	Well not scheduled for sampling in the first quarter 2011
COB MW-2	903984	City of Bisbee	Plume	170	Y	Y	Water quality sample collected in January 2011
COB MW-3	906823	City of Bisbee	Plume	269	N	N	Well not scheduled for sampling in the first quarter 2011
COB WL	593116	City of Bisbee	Plume	150	N	N	Well not scheduled for sampling in the first quarter 2011
COOPER	623564	Cooper, Teresa	Plume	325	N	Y	Water quality sample collected in January 2011; unable to collect water level because wellhead is not accessible
COOPER C	637069	Cooper, Charles	Plume	220	Y	Y	Water quality sample collected in January 2011
DODSON	644927	Dodson	Plume	200	Y	Y	Water quality sample collected in January 2011
DOUGLASS 791	592791	Douglass	Well Inventory	200	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2011
DOUGLASS 792	592792	Douglass	Well Inventory	200	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2011

Table 2
Summary of Groundwater Monitoring for First Quarter 2011

Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
DURAZO	NR	Durazo	Well Inventory	ND	N	Y	Water quality sample collected in January 2011; unable to collect water level because wellhead is not accessible
EAST	599796	East	Well Inventory	125	Y	Y	Water quality sample collected in January 2011
EPPELE 641	805641	Eppele	Well Inventory	265	Y	Y	Water quality sample collected in January 2011
FLEMING	218386	Fleming	Well Inventory	400	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2011
FRANCO	500101	Franco	Well Inventory	200	N	N	Well not operational.
FULTZ	212447	Fultz	Well Inventory	300	N	Y	Water quality sample collected in January 2011; unable to collect water level due to obstruction in well
GARNER 557	558557	Garner	Plume	300	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2011
GARNER 635	587635	Garner	Plume	680	Y	Y	Water quality sample collected in January 2011
GGOOSE 547	628547	Copper Queen Branch	Plume	800	N	N	Well not operational; unable to collect water level due to obstruction
GOAR RANCH	610695	Goar	Well Inventory	250	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2011
HOBAN	805290	Hoban	Well Inventory	316	N	N	Unable to access well; Unable to contact well owner
HOWARD	NR	Howard	Well Inventory	200	Y	Y	Water quality sample collected in January 2011
KEEFER	209744	Keefer	Well Inventory	245	Y	Y	Water quality sample collected in January 2011
MCCONNELL 265	539265	McConnell	Well Inventory	216	Y	Y	Water quality sample collected in January 2011
METZLER	35-71891	Metzler	Well Inventory	351	Y	Y	Water quality sample collected in January 2011
MOORE	538847	Moore	Well Inventory	220	N	Y	Water quality sample collected in January 2011; unable to collect water level because wellhead is not accessible
NESS	509127	Ness	Well Inventory	812	Y	Y	Water quality sample collected in January 2011
NOTEMAN	212483	Noteman	Well Inventory	400	N	Y	Water quality sample collected in January 2011; unable to collect water level due to obstruction in well
NSD-02	527587	Naco Sanitary District	Water Level	120	Y	N	Well identified for water level measurements only. Well not scheduled for water level measurements in the first quarter 2011
NSD-03	527586	Naco Sanitary District	Water Level	100	Y	N	Well identified for water level measurements only. Well not scheduled for water level measurements in the first quarter 2011

Table 2
Summary of Groundwater Monitoring for First Quarter 2011

Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
NWC-02	562944	Naco Water Company	Plume	312	N	Y	Water quality sample collected in January 2011; unable to collect water level because the well was pumping
NWC-03	203321	Naco Water Company	Plume	312	N	Y	Water quality sample collected in January 2011; unable to collect water level because the well was pumping
NWC-03 CAP	627684	Naco Water Company	Plume	179	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2011
NWC-04	551849	Naco Water Company	Well Inventory Sulfate Trend	795	N	Y	Water quality sample collected in January, February, and March 2011; unable to collect water level because the well was pumping
NWC-06	575700	Naco Water Company	Well Inventory	410	N	Y	Water quality sample collected in January 2011; unable to collect water level because the well was pumping
OSBORN	643436	Osborn	Plume	258	N	N	Water quality sample was not collected because well is not operational
PALMER	578819	Palmer	Well Inventory	220	N	Y	Water quality sample collected in January; unable to collect water level because wellhead is inaccessible
PANAGAKOS	35-76413	Panagakos	Well Inventory	200	N	N	Well not scheduled for sampling in the first quarter 2011
PARRA	576415	Parra	Plume	355	N	Y	Water quality sample collected in January 2011; unable to collect water level because of obstruction in well
PIONKE	613395	Pionke	Well Inventory	300	Y	Y	Water quality sample collected in January 2011
POOL	509518	Pool	Well Inventory	313	N	Y	Water quality sample collected in January 2011, unable to collect water level measurement because wellhead was temporarily obstructed
RAMIREZ	216425	Ramirez	Well Inventory	300	Y	Y	Water quality sample collected in January 2011
RAY	803772	Ray	Well Inventory	100	Y	Y	Water quality sample collected in January 2011
ROGERS 596	573596	Rogers, Ernest D	Plume	290	Y	N	Well is turned off. Rogers residence uses ROGERS 803; Water leve measurement taken in January 2011
ROGERS 803	641803	Rogers, Ernest D	Plume	140	N	Y	Water quality sample collected in January 2011; unable to collect water level measurement because wellhead is not accessible
ROGERS E	216018	Rogers, Ernest M	Well Inventory	290	N	Y	Water quality sample collected in January 2011; unable to collect water level because of obstruction in well
RUIZ	531770	Ruiz	Well Inventory	312	N	Y	Water quality sample collected in January 2011. Unable to collect water level due to obstruction in well.
SCHWARTZ	210865	Schwartz	Well Inventory	305	Y	Y	Water quality sample collected in January 2011
STEPHENS	808560	Stephens	Well Inventory	NR	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2011
SUNBELT	201531	Sunbelt Marketing, Inc.	Well Inventory	380	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2011

Table 2
Summary of Groundwater Monitoring for First Quarter 2011

Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
SWAN	NR	Swan	Well Inventory	NR	Y	Y	Water quality sample collected in January 2011
TM-02A	522574	Copper Queen Branch	Plume	925	Y	Y	Water quality sample collected in February 2011
TM-03	522575	Copper Queen Branch	Plume	200	N	N	Well not scheduled for sampling in the first quarter 2011
TM-06 MILLER	522695	Miller	Plume	200	N	N	Well not scheduled for sampling in the first quarter 2011
TM-07	522576	Copper Queen Branch	Plume	350	N	Y	Water quality sample collected in February 2011
TM-15 MILLER	522699	Miller	Well Inventory	325	N	N	Well not scheduled for sampling in the first quarter 2011
TM-16	522578	Copper Queen Branch	Plume	115	N	N	Well not scheduled for sampling in the first quarter 2011
TM-19A	522580	Copper Queen Branch	Plume	700	Y	Y	Water quality sample collected in February 2011
TM-42	562554	Copper Queen Branch	Plume	250	N	N	Well not scheduled for sampling in the first quarter 2011
TVI 236	802236	Turquoise Valley, Inc.	Well Inventory	222	N	N	Well not scheduled for sampling in the first quarter 2011
TVI 713	567713	Turquoise Valley, Inc.	Well Inventory	200	Y	N	Well identified for water level measurements only; water level measurement taken in January 2011
TVI 875	568875	Turquoise Valley, Inc.	Plume	330	N	Y	Water quality sample collected in January 2011; unable to collect water level because well head is not accessible
WEED	544535	Weed	Plume	320	N	Y	Water quality sample collected in January 2011; unable to collect water level because well head is not accessible

Table 2
Summary of Groundwater Monitoring for First Quarter 2011

Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
WEISKOPF	641802	Weiskopf	Plume	200	Y	Y	Water quality sample collected in January 2011
ZANDER	205126	Zander	Well Inventory	280	Y	Y	Water quality sample collected in January 2011

ADWR = Arizona Department of Water Resources

BIMA = Bisbee Municipal Airport

ft amsl = feet above mean sea level

ND = No Data

NR = No Record

35-71891 = ADWR 35 Database

[1] former owner ENGLUND

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
ANDERSON	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	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
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	0.50	18.4
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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	0.69	26.2
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
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
BF-01	539783	3/4/08	6.46	21.9	2745	1320
		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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	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
		4/25/2008[1]	6.37	23.1	1521	190
		5/13/2008[1]	6.58	22.7	1489	195
		6/23/2008[1]	6.30	23.3	1572	225
		6/23/08 DUP	6.30	23.3	1572	196
		7/29/2008[1]	6.44	23.0	1647	204
		8/28/2008[1]	M	23.0	1776	256
		9/23/2008[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	NA	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
BLOMMER	633472	2/5/08	7.43	20.2	714	206
		4/21/2008[1]	7.06	21.9	753	201
		5/15/2008[1]	7.16	22.2	845	211
		6/23/2008[1]	6.93	21.5	903	193
		7/29/2008[1]	7.21	22.2	921	203
		8/27/2008[1]	7.12	22.1	864	189
		9/23/2008[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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	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
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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
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
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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
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
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
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
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	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
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
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
COB MW-2	903984	2/22/08	7.28	20.2	417	41
		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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
COLLINS	565260	2/12/08	6.88	21.6	1470	520
		5/29/08	7.01	22.0	1459	520
		7/31/08	6.86	21.6	1502	536
		10/20/08	8.44	24.7	1510	518
		2/11/09	6.68	21.4	1147	567
		4/21/09	6.92	22.5	1150	499
		7/22/09	7.00	22.4	1413	460
		10/20/09	6.60	21.9	1432	513
		2/2/10	6.98	21.2	1439	471
		4/23/10	6.99	20.6	1472	561
		7/20/10	6.69	25.0	1420	569
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
DURAZO	NR	2/10/09	7.22	18.8	848	386
		4/20/09	7.37	22.7	901	367
		7/15/09	7.57	22.8	1102	332
		10/14/09	7.17	21.9	1048	377
		2/1/10	7.30	21.1	1105	344
		4/26/10	7.22	23.1	1099	388
		7/20/10	7.28	23.0	1070	405
		10/19/10	7.28	21.9	1112	398
		1/19/11	7.94	21.6	1050	360
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
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
FLEMING	218386	7/15/10	6.98	24.2	1390	573
FRANCO	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 No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
FULTZ	212447	2/27/08	6.76	21.1	1827	152
		4/21/2008[1]	6.74	22.0	1739	137
		5/14/2008[1]	6.88	22.3	1532	131
		6/23/2008[1]	6.74	22.0	1788	111
		7/29/2008[1]	6.74	22.2	1989	152
		8/28/2008[1]	M	21.6	1889	137
		9/23/2008[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
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
GGOOSE 547	628547	5/21/08	7.08	22.7	856	199
		8/15/08	7.02	24.8	915	178
		10/29/08	7.27	22.6	897	216
		2/24/09	7.06	23.8	851	186
		5/14/09	7.15	23.9	743	174
		8/19/09	7.20	23.8	887	175
		11/11/09	7.15	23.1	897	188
GL-03	539782	3/4/08	7.43	25.7	417	20.3
		5/22/08	7.06	25.3	647	43.3
		8/4/08	7.10	26.8	673	36.1
		11/12/08	7.21	25.2	478	34.9
		2/26/09	7.05	26.5	603	54.8
		5/5/09	6.91	28.1	682	43.9
		8/1/09	7.12	27.4	768	43.1
		11/10/09	6.96	27.0	692	49
		3/2/10	7.36	24.9	693	43.4
		3/2/2010 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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
HOBAN	805290	2/27/08	6.93	22.1	1359	510
		5/7/08	6.88	22.3	1532	670
		7/14/08	6.88	23.1	1719	690
		10/16/08	6.98	22.4	1624	692
		1/28/09	6.82	21.3	1220	580
		4/15/09	7.07	21.7	1423	700
		7/14/09	6.78	22.6	1551	670
		10/15/09	6.75	22.7	1487	670
		10/15/09 DUP	6.75	22.7	1487	780
		3/2/10	7.12	19.8	1575	580
HOWARD	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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	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
NWC-06	575700	3/4/08	ND	ND	ND	7.9
		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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
OSBORN	643436	2/25/08	7.35	22.4	508	16.4
		5/13/08	7.22	22.2	576	17.2
		7/22/08	7.24	22.9	618	17.7
		7/22/08 DUP	7.24	22.9	618	17.5
		10/16/08	7.39	22.4	595	15.9
		1/20/09	7.33	22.4	469	16
		4/7/09	7.25	24.0	542	17
		8/18/09	7.16	24.6	643	17.4
		10/5/09	7.14	22.9	599	17.9
		1/21/10	7.47	19.5	591	15.6
		4/19/10	7.60	21.5	601.9	19.3
		7/12/10	7.69	24.2	594.0	18.4
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
PIONKE	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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	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
		4/21/2008[1]	6.92	21.3	1418	125
		5/13/2008[1]	7.05	20.9	1418	123
		6/23/2008[1]	6.87	21.1	1593	130
		7/29/2008[1]	6.98	21.8	1411	120
		8/28/2008[1]	M	21.1	1519	129
		9/23/2008[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
ROGERS 803	641803	2/7/08	7.45	18.6	601	138
		4/21/2008[1]	7.32	21.4	552	128
		5/8/2008[1]	7.14	21.2	622	141
		6/23/2008[1]	7.06	22.9	660	129
		7/29/2008[1]	6.78	23.1	339	134
		8/28/2008[1]	7.18	21.6	635	128
		9/23/2008[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
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 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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
RUIZ	531770	2/5/08	7.73	18.2	445	263
		5/15/08	7.23	25.9	965	265
		7/30/08	6.99	22.1	999	243
		10/20/08	7.04	22.0	995	238
		2/12/09	6.94	20.9	748	254
		4/21/09	7.18	22.3	759	227
		8/3/09	7.05	22.9	1029	221
		10/28/09	7.09	20.6	920	227
		2/1/10	7.08	20.9	934	236
		4/26/10	7.01	22.5	920.1	240
		7/20/10	7.08	22.5	880	240
		10/20/10	7.52	20.7	970	231
		1/18/11	7.19	20.2	860	213
SCHWARTZ	210865	2/8/08	7.52	21.5	506	158
		4/21/2008[1]	7.23	21.7	563	122
		5/19/2008[1]	7.38	22.4	629	130
		6/23/2008[1]	7.02	22.1	674	129
		7/29/2008[1]	7.25	22.4	955	245
		8/28/2008[1]	M	22.3	669	131
		9/23/2008[1]	7.27	22.2	607	124
		10/22/2008[1]	7.31	22.0	653	135
		11/19/2008[1]	7.38	21.1	612	140
		12/17/2008[1]	6.78	21.6	472	144
		1/29/2009[1]	7.08	22.0	475	124
		2/23/2009[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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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
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
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
TM-15 MILLER	522699	2/27/08	7.66	21.9	344	14
		5/23/08	7.54	22.1	371	14.4
		8/5/08	7.42	23.3	413	13.7
		10/28/08	7.63	22.6	387	18.6
		10/28/08 DUP	7.63	22.6	387	18.8
		2/26/09	7.57	22.0	373	14.6
		5/13/09	7.61	23.1	344	13.7
		8/17/09	7.73	23.2	398	14.2
		11/3/09	7.73	23.4	414	14.8
		2/24/10	7.66	22.8	381	14.4
		4/27/10	7.71	23.0	383.6	14.9
		7/20/10	7.77	23.0	324	14.3
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
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
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
TM-43	564729	3/3/08	8.57	21.0	341	2.1
		8/4/08	8.14	25.7	436	<5

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
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
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
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

Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
WEISKOPF	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
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

deg C = degrees Celsius

M = pH Meter Malfunction

NA = Not Analyzed

NR = No Record

ND = No Data

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 No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
ANDERSON	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
AWC-02	616586	598907.911	3468549.357	4547.64	8/27/08	121.12	4426.52
					4/8/08[2]	116	4431.64
					10/23/08[3]	115	4432.64
					4/22/09[3]	118	4429.64
					10/9/09[3]	117	4430.64
					4/23/10[3]	119	4428.64
AWC-03	616585	599090.322	3468681.898	4539.52	8/27/08	119.40	4420.12
					4/8/2008[2]	112	4427.52
					10/23/08[3]	106	4433.52
					4/22/09[3]	114	4425.52
					10/9/09[3]	116	4423.52
					4/23/10[3]	116	4423.52
AWC-04	616584	598949.929	3468717.084	4540.48	8/18/08	112.56	4427.92
					4/8/2008[2]	108	4432.48
					10/23/08[3]	111.31	4429.17
					4/22/09[3]	110	4430.48
					10/9/09[3]	110	4430.48
					4/23/10[3]	109	4431.48
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[3]	289	4253.51
					4/23/10[3]	278	4264.51
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BARTON 919	644919	606243.850	3469076.689	4692.36	5/12/08	113.71	4578.65
					7/23/08	113.56	4578.80
					10/16/08	113.20	4579.16
					3/11/09	112.92	4579.44
					4/10/09	112.89	4579.47
					7/7/09	112.86	4579.50
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
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (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
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
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-7M	908794	603099.165	3470029.283	4688.33	7/14/08	238.31	4450.02
					11/6/08	239.69	4448.64
					2/18/09	238.90	4449.43
					5/11/09	239.03	4449.30
					8/6/09	239.17	4449.16
					10/27/09	239.55	4448.78
					2/17/10	239.98	4448.35
					4/15/10	240.13	4448.20
					7/6/10	240.28	4448.05
					2/14/11	241.26	4447.07
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
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (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
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
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
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
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
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BURKE	212268	602230.087	3473029.816	4856.30	4/22/08	606.55	4249.75
					8/5/08	605.86	4250.44
					10/28/08	604.88	4251.42
					2/19/09	603.91	4252.39
					4/28/09	603.70	4252.60
					8/19/09	602.66	4253.64
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
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
DOUGLASS 792	592792	607607.541	3469829.115	4681.73	2/13/08	87.76	4593.97
					5/13/08	87.21	4594.52
					7/22/08	86.90	4594.83
					10/16/08	86.45	4595.28
					1/20/09	86.26	4595.47
					4/8/09	86.04	4595.69
					7/7/09	86.16	4595.57
					10/5/09	86.19	4595.54
					1/21/10	86.45	4595.28
					4/19/10	87.19	4594.54
					7/12/10	87.55	4594.18
					1/18/11	87.80	4593.93
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
FULTZ	212447	607153.306	3469063.892	4642.92	10/22/08	40.59	4602.33
					1/21/09	40.66	4602.26
					4/9/09	42.88	4600.04
					7/13/09	54.94	4587.98
					10/8/09	56.16	4586.76
					1/25/10	53.45	4589.47
					4/20/10	63.82	4579.10
					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
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
GGOOSE 547	628547	606256.657	3469820.260	4717.11	5/21/08	220.91	4496.20
					8/15/08	238.48	4478.63
					10/29/08	235.90	4481.21
					2/24/09	236.13	4480.98
					5/14/09	236.17	4480.94
					8/19/09	236.01	4481.10
					8/19/09	236.01	4481.10
					11/11/09	237.66	4479.45
					3/9/10	238.84	4478.27
					4/27/10	239.17	4477.94

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
GL-03	539782	604386.940	3473747.943	4924.31	5/22/08	660.15	4264.16
					8/4/08	659.79	4264.52
					12/2/08	658.25	4266.06
					2/26/09	658.62	4265.69
					5/5/09	657.23	4267.08
					8/12/09	656.56	4267.75
					8/12/09	656.56	4267.75
					11/10/09	655.31	4269.00
					3/2/10	655.52	4268.79
					4/9/10	655.35	4268.96
					7/7/10	655.05	4269.26
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
HOBAN	805290	601705.848	3468880.329	4597.21	2/27/08	163.05	4434.16
					5/7/08	163.28	4433.93
					7/14/08	163.87	4433.34
					10/16/08	163.95	4433.26
					1/28/09	163.82	4433.39
					4/15/09	164.16	4433.05
					7/14/09	164.59	4432.62
					10/15/09	165.00	4432.21
					3/2/10	165.32	4431.89
					5/18/10	165.71	4431.50
					7/20/10	166.17	4431.04
					10/19/10	166.45	4430.76
HOWARD[4]	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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
KEEFER	209744	599879.175	3468119.015	4572.03	2/6/08	134.67	4437.36
					5/6/08	135.28	4436.75
					7/16/08	136.24	4435.79
					10/28/08	135.87	4436.16
					1/28/09	134.88	4437.15
					4/16/09	135.00	4437.03
					7/14/09	136.07	4435.96
					10/13/09	136.67	4435.36
					1/26/10	136.26	4435.77
					4/20/10	136.26	4435.77
					7/15/10	137.29	4434.74
					10/19/10	137.68	4434.35
					1/18/11	137.42	4434.61
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
NOTEMAN	212483	606053.800	3471576.400	4800.68	5/13/08	339.77	4460.91
					8/27/08	344.34	4456.34
					11/22/08	322.26	4478.42
					2/25/09	327.54	4473.14
NSD-02	527587	598820.051	3468821.474	4531.38	10/7/09	101.17	4430.21
					3/16/10	99.43	4431.95
					5/25/10	101.63	4429.75
					8/25/10	102.38	4429.00
					3/17/11	102.68	4428.70
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
NWC-02	562944	600177.435	3467474.673	4600.44	10/27/08	160.51	4439.93
					4/29/09[5]	160.5	4439.94
					9/10/09[5]	155	4445.44
					4/2010[5]	131	4469.44
NWC-03	203321	601153.857	3468350.838	4574.99	11/3/08	131.48	4443.51
					4/29/09[5]	130	4444.99
					9/10/09[5]	126	4448.99
					10/9/09[5]	125	4449.99
NWC-03 CAP[6]	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
NWC-04	551849	605829.808	3469071.959	4690.77	12/2/08	352.11	4338.66
					4/29/09[5]	328	4362.77
					9/10/09[5]	324	4366.77
					4/2010[5]	216	4474.77
NWC-06	575700	599822.821	3467749.954	4592.50	4/29/09[5]	156	4436.50
					9/10/09[5]	155	4437.50
					10/9/09[5]	148	4444.50
					4/2010[5]	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

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Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (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
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	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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
RAY	803772	607083.422	3469195.147	4647.91	2/15/08	40.85	4607.06
					5/13/08	43.82	4604.09
					7/29/08	45.25	4602.66
					10/22/08	44.54	4603.37
					1/20/09	44.31	4603.60
					4/8/09	44.68	4603.23
					7/9/09	48.99	4598.92
					10/7/09	49.87	4598.04
					1/26/10	47.61	4600.30
					4/20/10	49.78	4598.13
					7/14/10	51.36	4596.55
					10/20/10	49.85	4598.06
					1/17/11	50.51	4597.40
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
ROGERS 750[7]	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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
SCHWARTZ[8]	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
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
TM-02A	522574	604152.059	3472008.794	4808.43	3/4/08	346.62	4461.81
					5/23/08	346.16	4462.27
					8/15/08	353.91	4454.52
					10/30/08	349.45	4458.98
					2/24/09	348.64	4459.79
					5/6/09	349.38	4459.05
					8/12/09	349.13	4459.30
					11/4/09	348.97	4459.46
					3/10/10	348.19	4460.24
					4/6/10	353.86	4454.57
					7/6/10	349.20	4459.23
					2/10/11	347.60	4460.83
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (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
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
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
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

Table 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East (meters)	UTM North (meters)	Measuring Point Elevation[1] (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
WEISKOPF	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
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

ADWR = Arizona Department of Water Resources

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

ft amsl = feet above mean sea level

NA = Not Applicable

NR = No Record

[1] Survey Source: Survey conducted by Gilbert Technical Service, Inc and Arizona Land Sepcialists, Inc.

[2] Measuring point elevation for third quarter 2008 changed to reflect well survey completed on September 18, 2008

[3] Depth to Water measurement provided by Arizona Water Company

[4] Measuring point elevation changed to reflect survey results September 10, 2010 and applied to all measurements collected

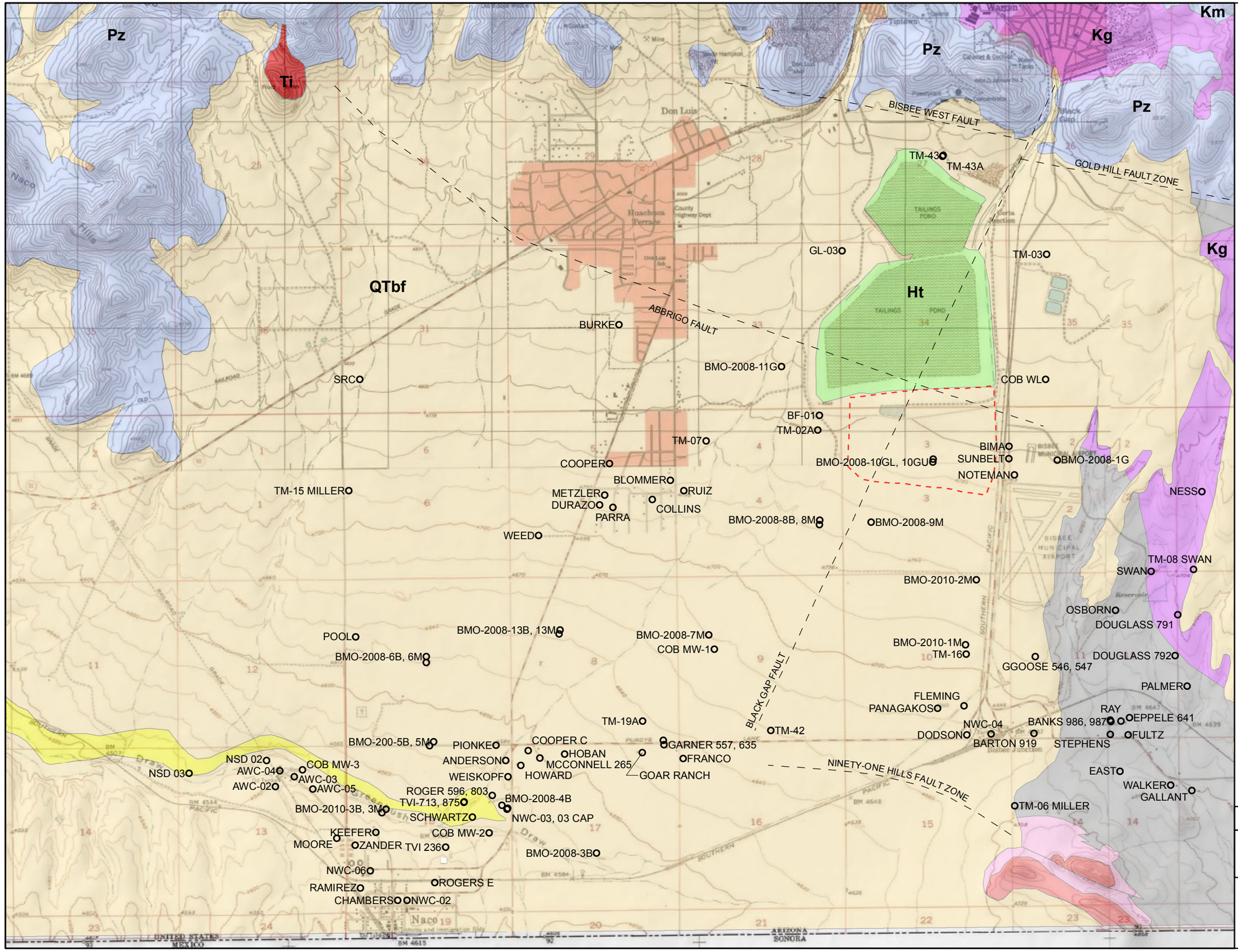
[5] Depth to Water measurement provided by Naco Water Company

[6] Measuring point elevation for second quarter 2009 changed to reflect well survey completed on April 27, 2009

[7] Well previously identified as ROGERS 803

[8] Measuring point elevation changed to reflect survey results September 10, 2010 and applied to all measurements collected

FIGURES



Legend

- Sampling/Water Level Location
- Former Evaporation Ponds

Geologic Unit

- Ht - Holocene Tailings
- Qal - Quaternary Alluvium
- QTbf - Quaternary-Tertiary Basin Fill
- Ti - Tertiary Intrusive
- Undifferentiated Bisbee Group
  - Kc - Cintura Formation
  - Kmu - Upper Mural Limestone
  - Kml - Lower Mural Limestone
  - Km - Morita Formation
- Kg - Glance Conglomerate
- Pz - Paleozoic Sedimentary Formations

Scale

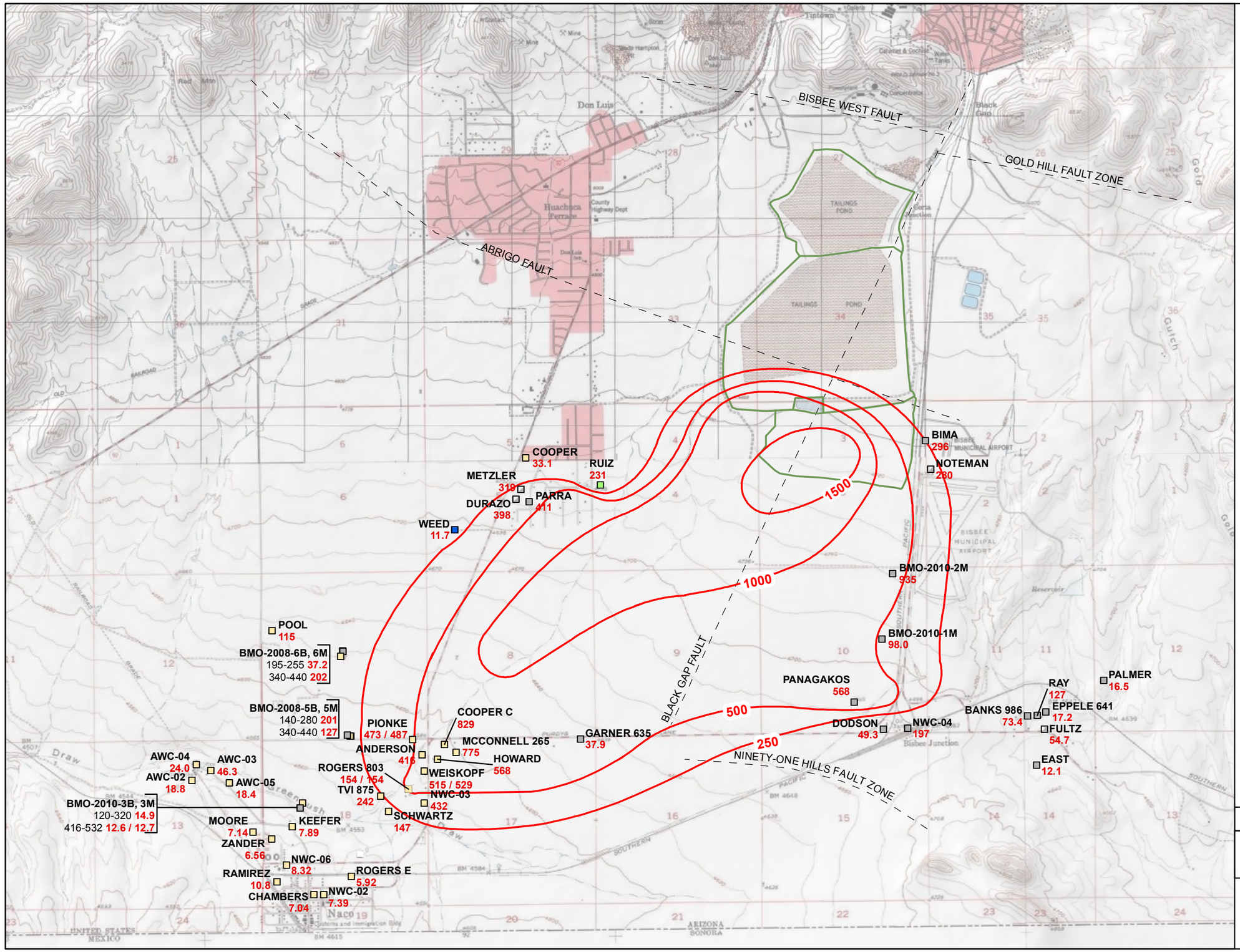
0 1,500 3,000 6,000 Feet

Notes:
Projection: UTM Zone 12N NAD83

Date	File ID
3/31/11	055038-009C

CLEAR CREEK ASSOCIATES

Figure 1
Generalized Geology and Well Locations



Legend

- POOL — Well ID
- 115 — Sulfate Concentration (mg/L)
- Sulfate Concentration Contour (mg/L)
- Faults (inferred)
- CTSA Facility

Co-located Wells
- Well ID
- Screen (ft bls): SO4 Concentration (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)

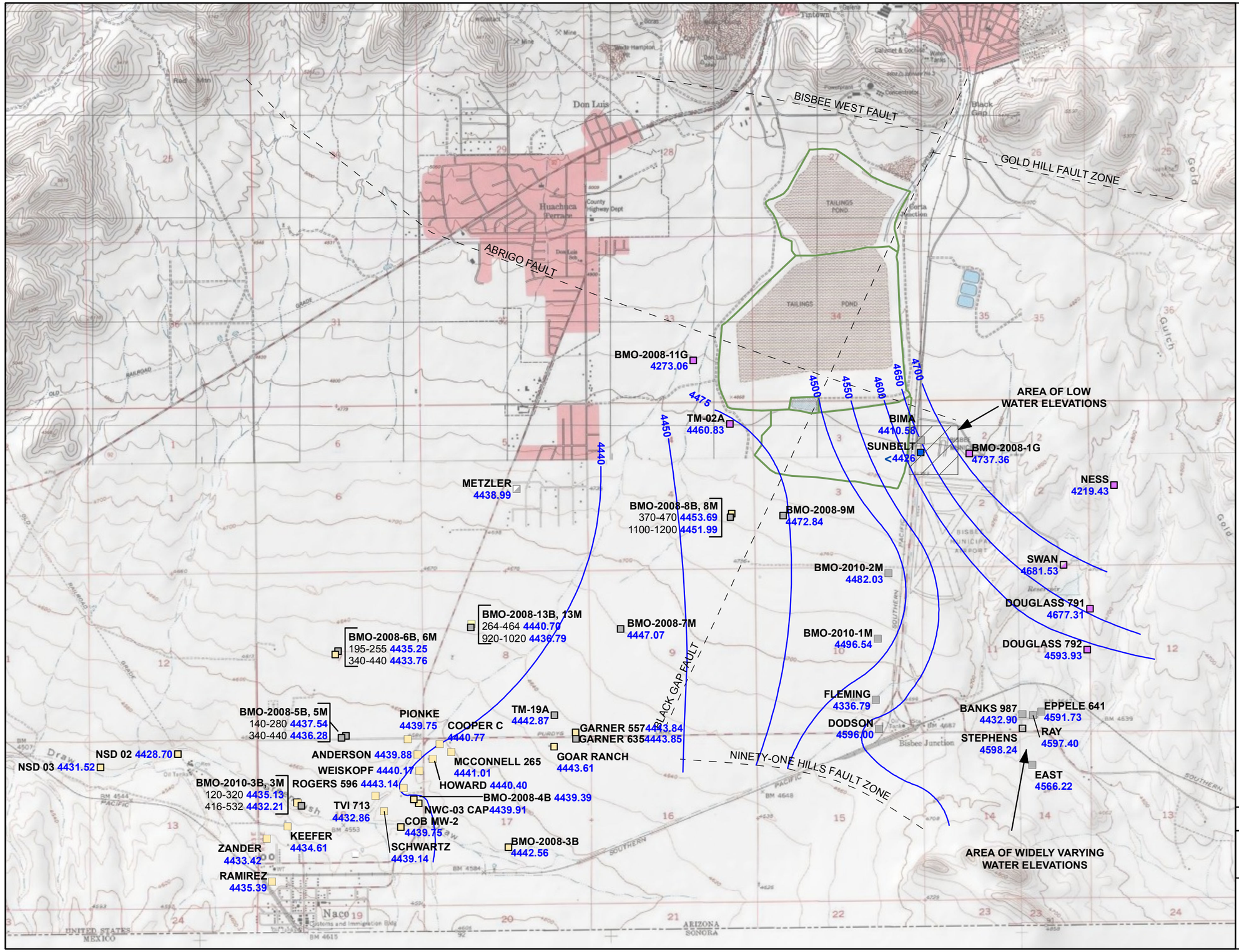
0 3,000 6,000

Notes:
Projection: UTM Zone 12N NAD83

Date	File ID
12/10/10	055038-132

CLEAR CREEK ASSOCIATES

Figure 2
Sulfate Concentrations in Groundwater for Fourth Quarter 2010



Legend

- POOL — Well ID
- 4432.35 — Groundwater Elevation (ft amsl)
- Groundwater Elevation Contours (dashed where inferred)
- Groundwater Depression
- Faults (inferred)
- CTSA Facility

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

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

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

Note: BMO-2008-11G, BIMA, SUNBELT, NESS, FLEMING, and BANKS 987 not used for contouring

Scale (Feet)

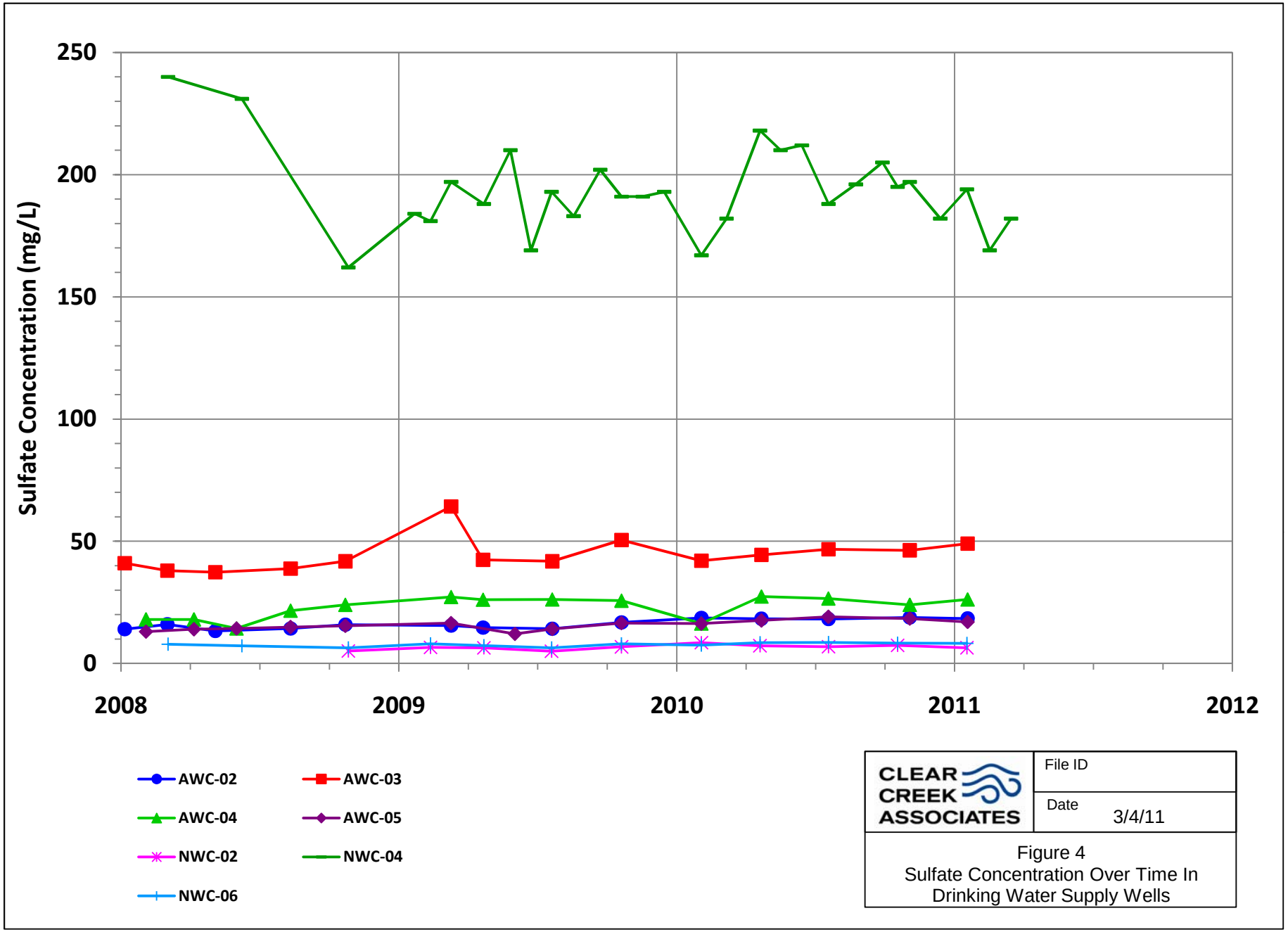
0 3,000 6,000

Notes:
Projection: UTM Zone 12N NAD83

Date	File ID
3/4/11	055038-133

CLEAR CREEK ASSOCIATES

Figure 3
GROUNDWATER ELEVATIONS
FIRST QUARTER 2011



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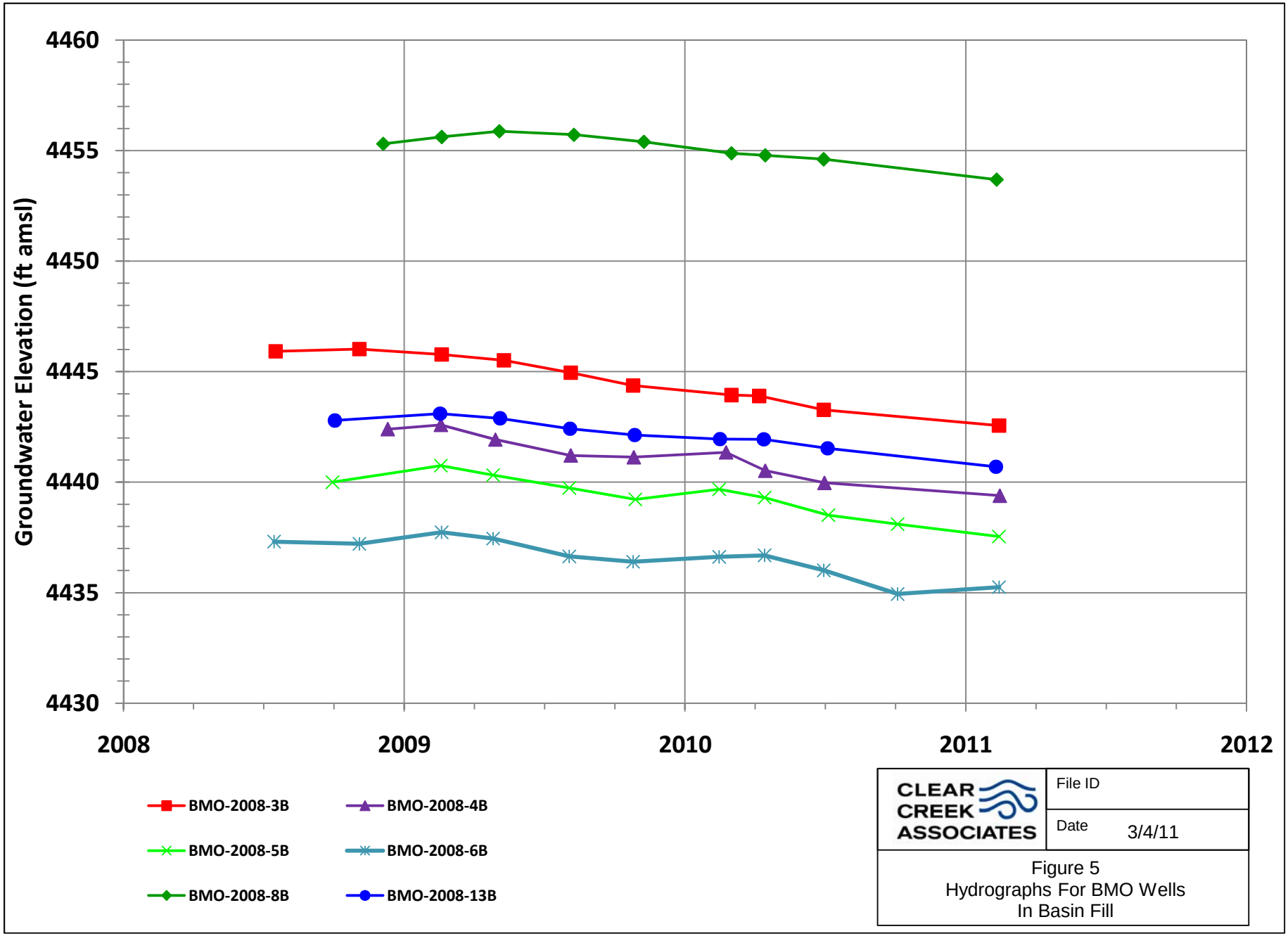

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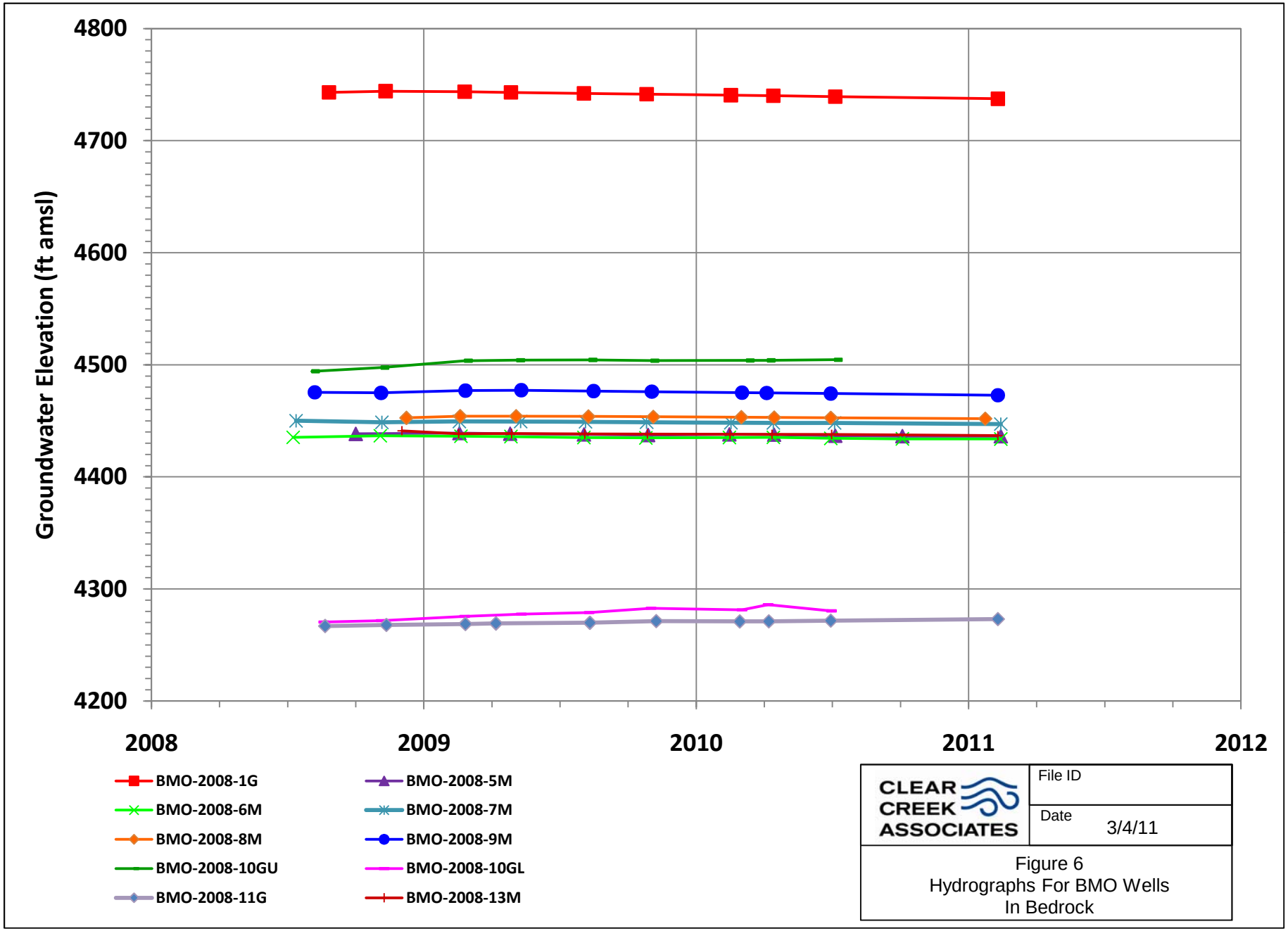

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APPENDIX A

ALTA LAND SURVEY REPORT

WELL LOCATIONS

(2/17/2011)

WELL DESIGNATION	UTM NORTHING	UTM EASTING	ELEVATION
GARNER-635 CONC	3468968.412	602664.322	4638.31
GARNER-635 WC	3468968.426	602664.341	4640.04
GARNER-635 ST	3468968.391	602664.392	4640.74
GARNER-557 CONC	3468962.215	602659.816	4637.53
COOPER C CONC	3468913.639	601349.365	4598.30
COOPER C WC	3468913.622	601349.357	4598.94
COOPER C ST	3468913.579	601349.329	4599.14
ANDERSON WC	3468817.215	601134.349	4588.51

W.C. = WELL CASING
S.T. = STAND TUBE
GRND = GROUND
CONC. = CONCRETE

APPENDIX B

DATA VERIFICATION REPORT

APPENDIX B

DATA VERIFICATION REPORT

FIRST QUARTER 2011
GROUNDWATER MONITORING REPORT

Prepared for:

FREEPORT-MCMORAN
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

April 6, 2011

TABLE OF CONTENTS

1. INTRODUCTION

This report summarizes the data verification review of groundwater samples collected and analyzed during the first quarter 2011 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 (ADEQ, 2010). Analytical results for groundwater samples collected for this project during the first quarter 2011 were provided to Clear Creek by SVL Analytical, Inc. (SVL) for preparation of the first quarter 2011 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 first quarter 2011 samples including COC forms, laboratory correspondence, QC summaries, data qualifiers, internal QA/QC tests performed by SVL and any case narratives are presented with the laboratory reports included in Appendix B. Based on the results of laboratory control samples, matrix spike/recovery and blank spikes, SVL did not advise of any modifications that should be made regarding the usability and data validation status of the laboratory test results. The analytical results for all 78 samples collected by Clear Creek and CQB are contained in 7 reports having the SVL Project numbers identified in the following table.

SVL ID	WELLS REPORTED
Number of well samples collected: 63 Number of duplicate samples collected: 5 Number of field and equipment blanks collected: 10 Total number of samples collected: 78	
W1A0037	ANDERSON, DUP20110117, RAY, FB20110117, EQB20110117, EPPELE 641, BANKS 986, NESS, PALMER, SWAN, EAST, FULTZ, NOTEMAN, BIMA, DUP20110119, GARNER 635, FB20110119, WEED, PIONKE, BMO-2010-3B, BMO-2010-3M
W1A00338	AWC-05, AWC-03, AWC-02, AWC-04, METZLER, PARRA, COOPER, DURAZON, EB20110119, DODSON, MCCONNELL 265, POOL, DUP20110120, COB MW-2, ROGERS 803 TVI 875M EB20110120, FB20110120
W1B0252	BMO-2008-3B, BMO-2008-5B, BMO-2008-5M, BMO-2008-6B, BMO-2008-6M, BMO-2008-7M, TM-19A, EQB021411, FB021411, DUP021411, BMO-2008-1G, BMO-2008-1M, BMO-2008-2M, BMO-2008-8M, BMO-2008-9M, BMO-2008-11G, TM-02A, TM-7
W1B0298	BMO-2008-4B
W1A0335	WEISKOPF, HOWARD, COOPER C, SCHWARTZ, ZANDER, DUP20110118, RUIZ, MOORE, KEEFER, NWC-04, NWC-03, NWC-02, FB20110118, EB20110118, NWC-06, RAMIREZ, CHAMBERS, ROGERS E
W1C0004	NWC-04
W1C0331	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,
- 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 quality assurance and quality control samples, and
- Equipment decontamination.

Documentation of the field activities was evaluated for quality assurance and has been deemed to have 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 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. However, it was not always possible to ascertain from the well owners how long the pump had been off. 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

During this monitoring period groundwater samples were collected from wells designated in the groundwater monitoring program approved by ADEQ (ADEQ, 2010). More detailed information regarding the wells sampled for water quality and water level measurements is listed in Tables 2, 3, 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 probe 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

When possible three wetted casing volumes were purged from each well prior to sampling. However, when three casing volumes could not be purged, this information was noted on the groundwater sampling form (Appendix D) 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 microSiemen/centimeter for specific conductance as described in Section 4.2.1.2 of the QAPP.

During this monitoring period groundwater samples were collected for analysis from 61 wells. Groundwater samples were collected by filtering the sample into a 250 milliliter bottle using clean filtration apparatus and one disposable 0.45-micron filter. All bottles were provided by SVL and maintained in a clean and secure work area until used in the field.

[1] Field pH meter was calibrated using a three point calibration and pH buffers 4, 7, and 10
[2] Field SC meter was calibrated using a standard stock solution of 3900 µS/cm

2.2.3 Post-Sampling Field Activities

Post sampling field activities consisted of equipment decontamination, sample storage, and sample shipping. Field equipment that comes 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 and stored on ice until they could be packed securely for shipping to SVL. In addition, the sample collected from each well was individually bagged (without ice) to prevent the label from getting soaked with water and rubbing off or becoming illegible.

3. SAMPLE HANDLING

All 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. COCs contained in laboratory reports included 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 four days of sample collection and the time between sample collection and receipt of samples by SVL was one to four days.

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

United States Environmental Protection Agency (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 was equal to or less than the target MDL identified in the QAPP.

Method	MDL (mg/L)	RL (mg/L)	Target MDL[1] (mg/L)
EPA 300.0	0.08	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 samples were analyzed for the EPA Method 300.0. The spike samples were prepared by adding a sulfate spike to randomly chosen samples. Spike recoveries for most analyses were between 80 and 120 percent. Instances in which analytical spike recoveries were unusable were qualified with an "M1" or "M3" flag indicating that the matrix spike recovery was high or the spike recovery value was unusable because the analyte concentration in the sample was disproportionate to the spike level, respectively. In each case where an M1 or M3 qualifier was used the laboratory control sample recovery was acceptable and no corrective action was required per the SVL Quality Manual and QAPP. The laboratory 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. Field duplicate samples are discussed in Section 5.1. In all cases where the relative percent difference (RPD) could be calculated, 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.

4.5.4 Sample Re-Analysis

During the first quarter 2011, no field samples were re-analyzed by SVL at the request of Clear Creek. Sample re-analysis is sometimes requested when sample results appear anomalous based on comparison to historical results.

4.5.5 Field Blank Samples

During the first quarter 2011, ten field blank samples were collected, including five field blanks using unfiltered deionized water (FB20110117, FB20110118, FB20110119, FB20110120, and FB21411) and five equipment blanks using filtered deionized water (EQB20110117, EB20110118, EB20110119, EB20110120, and FB21411). Field 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. Analytical results from field blank and equipment blank samples showed no detections.

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 first quarter 2011 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. For the purposes of QA/QC, 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 five field filtered duplicate samples (DUP20110117, DUP20110118, DUP20110119, D120110120, and DUP21411) were collected by Clear Creek and CQB for analysis. The collection of five duplicate samples meets the QA/QC goal of collecting one duplicate sample for every twenty groundwater samples collected, as stated in Section 4.2.1.5 of the QAPP.

Results for the five field duplicate samples collected are provided in the table below. The range of RPD values was between 0.00 and 5.45 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 deemed to be met.

SVL Project No.	Well ID	Duplicate ID	Sample (mg/l)	Duplicate (mg/l)	RPD
W1A0037	RAY	DUP20110117	132	125	5.45%
W1A0335	ZANDER	DUP12011118	6.14	6.06	1.31%
W1A0037	GARNER 635	DUP20110119	35.7	35.7	0.00%
W1A00338	POOL	D120110120	112	114	1.77%
W1B0252	BMO-2008-7M	DUP21411	27.5	26.4	4.08%

mg/L = milligrams per liter
RPD = Relative Percent Difference

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.

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. Based on this information, the overall accuracy of the data is judged sufficient for the purpose of aquifer characterization.

5.4 Representativeness

All samples were taken from locations specified in the Work Plan (HGC, 2008) following sampling procedures specified in the QAPP. Therefore, the samples are judged to provide a good representation of groundwater quality at the sampled locations. The analytical data are judged to be 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 are judged to satisfy the QA/QC criteria for this project and are deemed usable for aquifer characterization. Thus, the completeness of analytical results is 100 percent.

5.7 Sensitivity

The analytical method used to analyze the samples meet the MDL requirements specified in Table F.2 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.

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 C

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: **W1A0337**
Reported: 28-Jan-11 14:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
ANDERSON	W1A0337-01	Ground Water	17-Jan-11 10:52	BD	21-Jan-2011
DUP20110117	W1A0337-02	Ground Water	17-Jan-11 12:30	BD	21-Jan-2011
RAY	W1A0337-03	Ground Water	17-Jan-11 13:15	BD	21-Jan-2011
FB20110117	W1A0337-04	Ground Water	17-Jan-11 13:20	BD	21-Jan-2011
EQB20110117	W1A0337-05	Ground Water	17-Jan-11 13:22	BD	21-Jan-2011
EPELE 641	W1A0337-06	Ground Water	17-Jan-11 15:30	BD	21-Jan-2011
BANKS 986	W1A0337-07	Ground Water	17-Jan-11 17:12	BD	21-Jan-2011
NESS	W1A0337-08	Ground Water	18-Jan-11 10:17	BD	21-Jan-2011
PALMER	W1A0337-09	Ground Water	18-Jan-11 11:00	BD	21-Jan-2011
SWAN	W1A0337-10	Ground Water	18-Jan-11 13:22	BD	21-Jan-2011
EAST	W1A0337-11	Ground Water	18-Jan-11 14:33	BD	21-Jan-2011
FULTZ	W1A0337-12	Ground Water	18-Jan-11 16:40	BD	21-Jan-2011
NOTEMAN	W1A0337-13	Ground Water	19-Jan-11 09:05	BD	21-Jan-2011
BIMA	W1A0337-14	Ground Water	19-Jan-11 09:57	BD	21-Jan-2011
DUP20110119	W1A0337-15	Ground Water	19-Jan-11 10:15	BD	21-Jan-2011
GARNER 635	W1A0337-16	Ground Water	19-Jan-11 12:38	BD	21-Jan-2011
FB20110119	W1A0337-17	Ground Water	19-Jan-11 13:46	BD	21-Jan-2011
WEED	W1A0337-18	Ground Water	19-Jan-11 13:59	BD	21-Jan-2011
PIONKE	W1A0337-19	Ground Water	19-Jan-11 16:00	BD	21-Jan-2011
BM0-2010-3B	W1A0337-20	Ground Water	20-Jan-11 10:04	BD	21-Jan-2011
BM0-2010-3M	W1A0337-21	Ground Water	20-Jan-11 12:45	BD	21-Jan-2011

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **ANDERSON**
SVL Sample ID: **W1A0337-01 (Ground Water)**

Sampled: 17-Jan-11 10:52
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	562	mg/L	15.0	2.65	50	W104219	FEH	01/24/11 15:27	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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **DUP20110117**
SVL Sample ID: **W1A0337-02 (Ground Water)**

Sampled: 17-Jan-11 12:30
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	125	mg/L	3.00	0.53	10	W104219	FEH	01/24/11 15:52	D2

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **RAY**
SVL Sample ID: **W1A0337-03 (Ground Water)**

Sampled: 17-Jan-11 13:15
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	132	mg/L	3.00	0.53	10	W104219	FEH	01/24/11 16:17	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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **FB20110117**
SVL Sample ID: **W1A0337-04 (Ground Water)**

Sampled: 17-Jan-11 13:20
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W104219	FEH	01/24/11 16:26	

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **EQB20110117**
SVL Sample ID: **W1A0337-05 (Ground Water)**

Sampled: 17-Jan-11 13:22
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	0.36	mg/L	0.30	0.05		W104219	FEH	01/24/11 16:34	

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
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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **EPELE 641**
SVL Sample ID: **W1A0337-06 (Ground Water)**

Sampled: 17-Jan-11 15:30
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	17.3	mg/L	0.30	0.05		W104219	FEH	01/24/11 16:43	

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

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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **BANKS 986**
SVL Sample ID: **W1A0337-07 (Ground Water)**

Sampled: 17-Jan-11 17:12
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	53.5	mg/L	1.50	0.26	5	W104219	FEH	01/25/11 15:34	D2

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

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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **NESS**
SVL Sample ID: **W1A0337-08 (Ground Water)**

Sampled: 18-Jan-11 10:17
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	50.1	mg/L	0.30	0.05		W104219	FEH	01/24/11 17:00	

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **PALMER**
SVL Sample ID: **W1A0337-09 (Ground Water)**

Sampled: 18-Jan-11 11:00
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	15.7	mg/L	0.30	0.05		W104219	FEH	01/24/11 17:08	

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **SWAN**
SVL Sample ID: **W1A0337-10 (Ground Water)**

Sampled: 18-Jan-11 13:22
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	18.7	mg/L	0.30	0.05		W104219	FEH	01/24/11 17:16	

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **EAST**
SVL Sample ID: **W1A0337-11 (Ground Water)**

Sampled: 18-Jan-11 14:33
Received: 21-Jan-11
Sampled By: BD

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	0.05		W104219	FEH	01/24/11 17:25	

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **FULTZ**
SVL Sample ID: **W1A0337-12 (Ground Water)**

Sampled: 18-Jan-11 16:40
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	56.9	mg/L	1.50	0.26	5	W104219	FEH	01/25/11 15:42	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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **NOTEMAN**
SVL Sample ID: **W1A0337-13 (Ground Water)**

Sampled: 19-Jan-11 09:05
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	266	mg/L	3.00	0.53	10	W104219	FEH	01/24/11 18:07	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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **BIMA**
SVL Sample ID: **W1A0337-14 (Ground Water)**

Sampled: 19-Jan-11 09:57
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	283	mg/L	3.00	0.53	10	W104219	FEH	01/24/11 18:15	D2

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

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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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **DUP20110119**
SVL Sample ID: **W1A0337-15 (Ground Water)**

Sampled: 19-Jan-11 10:15
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	35.7	mg/L	0.30	0.05		W104219	FEH	01/24/11 18:24	

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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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **GARNER 635**
SVL Sample ID: **W1A0337-16 (Ground Water)**

Sampled: 19-Jan-11 12:38
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	35.7	mg/L	0.30	0.05		W104219	FEH	01/24/11 18:32	

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **FB20110119**
SVL Sample ID: **W1A0337-17 (Ground Water)**

Sampled: 19-Jan-11 13:46
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W104219	FEH	01/24/11 18:41	

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **WEED**
SVL Sample ID: **W1A0337-18 (Ground Water)**

Sampled: 19-Jan-11 13:59
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	12.2	mg/L	0.30	0.05		W104219	FEH	01/24/11 18:49	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **PIONKE**
SVL Sample ID: **W1A0337-19 (Ground Water)**

Sampled: 19-Jan-11 16:00
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	471	mg/L	3.00	0.53	10	W104219	FEH	01/24/11 18:57	D2

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **BM0-2010-3B**
SVL Sample ID: **W1A0337-20 (Ground Water)**

Sampled: 20-Jan-11 10:04
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	14.4	mg/L	0.30	0.05		W104219	FEH	01/24/11 19:06	

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: **W1A0337**
Reported: 28-Jan-11 14:04

Client Sample ID: **BM0-2010-3M**
SVL Sample ID: **W1A0337-21 (Ground Water)**

Sampled: 20-Jan-11 12:45
Received: 21-Jan-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	11.5	mg/L	0.30	0.05		W104218	FEH	01/24/11 19:14	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0337**
Reported: 28-Jan-11 14:04

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	0.05	0.30	W104218	24-Jan-11	
EPA 300.0	Sulfate as SO4	mg/L	<0.30	0.05	0.30	W104219	24-Jan-11	

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	9.28	10.0	92.8	90 - 110	W104219	24-Jan-11	
EPA 300.0	Sulfate as SO4	mg/L	9.52	10.0	95.2	90 - 110	W104218	24-Jan-11	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	17.1	17.0	0.4	20	W104218	24-Jan-11	
EPA 300.0	Sulfate as SO4	mg/L	560	562	0.3	20	W104219	24-Jan-11	D2

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	576	562	10.0	R > 4S	90 - 110	W104219	24-Jan-11	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	22.9	13.1	10.0	97.6	90 - 110	W104219	24-Jan-11	
EPA 300.0	Sulfate as SO4	mg/L	27.4	17.0	10.0	104	90 - 110	W104218	24-Jan-11	
EPA 300.0	Sulfate as SO4	mg/L	720	711	10.0	R > 4S	90 - 110	W104218	24-Jan-11	D2,M3

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0337**
Reported: 28-Jan-11 14:04

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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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
AWC-05	W1A0338-01	Ground Water	19-Jan-11 08:33	RG	21-Jan-2011
AWC-03	W1A0338-02	Ground Water	19-Jan-11 08:44	RG	21-Jan-2011
AWC-02	W1A0338-03	Ground Water	19-Jan-11 09:02	RG	21-Jan-2011
AWC-04	W1A0338-04	Ground Water	19-Jan-11 09:15	RG	21-Jan-2011
METZLER	W1A0338-05	Ground Water	19-Jan-11 10:50	RG	21-Jan-2011
PARA	W1A0338-06	Ground Water	19-Jan-11 11:17	RG	21-Jan-2011
COOPER	W1A0338-07	Ground Water	19-Jan-11 12:15	RG	21-Jan-2011
DURAZO	W1A0338-08	Ground Water	19-Jan-11 12:55	RG	21-Jan-2011
EB20110119	W1A0338-09	Ground Water	19-Jan-11 13:10	RG	21-Jan-2011
DODSON	W1A0338-10	Ground Water	19-Jan-11 14:25	RG	21-Jan-2011
MCCONNELL 265	W1A0338-11	Ground Water	19-Jan-11 15:40	RG	21-Jan-2011
POOL	W1A0338-12	Ground Water	20-Jan-11 08:40	RG	21-Jan-2011
D120110120	W1A0338-13	Ground Water	20-Jan-11 08:00	RG	21-Jan-2011
COB MW-2	W1A0338-14	Ground Water	20-Jan-11 10:00	RG	21-Jan-2011
ROGERS 803	W1A0338-15	Ground Water	20-Jan-11 10:38	RG	21-Jan-2011
TVI 875	W1A0338-16	Ground Water	20-Jan-11 11:11	RG	21-Jan-2011
EB20110120	W1A0338-17	Ground Water	20-Jan-11 12:05	RG	21-Jan-2011
FB20110120	W1A0338-18	Ground Water	20-Jan-11 12:10	RG	21-Jan-2011

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **AWC-05**
SVL Sample ID: **W1A0338-01 (Ground Water)**

Sampled: 19-Jan-11 08:33
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	17.0	mg/L	0.30	0.05		W104218	FEH	01/24/11 19:56	

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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **AWC-03**
SVL Sample ID: **W1A0338-02 (Ground Water)**

Sampled: 19-Jan-11 08:44
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	49.0	mg/L	1.50	0.26	5	W104218	FEH	01/25/11 15:51	D2

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **AWC-02**
SVL Sample ID: **W1A0338-03 (Ground Water)**

Sampled: 19-Jan-11 09:02
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	18.4	mg/L	0.30	0.05		W104218	FEH	01/24/11 20:30	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **AWC-04**
SVL Sample ID: **W1A0338-04 (Ground Water)**

Sampled: 19-Jan-11 09:15
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	26.2	mg/L	0.30	0.05		W104218	FEH	01/24/11 20:38	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **METZLER**
SVL Sample ID: **W1A0338-05 (Ground Water)**

Sampled: 19-Jan-11 10:50
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	298	mg/L	3.00	0.53	10	W104218	FEH	01/24/11 20:47	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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **PARA**
SVL Sample ID: **W1A0338-06 (Ground Water)**

Sampled: 19-Jan-11 11:17
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	391	mg/L	3.00	0.53	10	W104218	FEH	01/24/11 20:55	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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **COOPER**
SVL Sample ID: **W1A0338-07 (Ground Water)**

Sampled: 19-Jan-11 12:15
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	32.1	mg/L	0.30	0.05		W104218	FEH	01/24/11 21:21	

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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **DURAZO**
SVL Sample ID: **W1A0338-08 (Ground Water)**

Sampled: 19-Jan-11 12:55
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	360	mg/L	3.00	0.53	10	W104218	FEH	01/24/11 21:29	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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **EB20110119**
SVL Sample ID: **W1A0338-09 (Ground Water)**

Sampled: 19-Jan-11 13:10
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W104218	FEH	01/24/11 21:37	

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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **DODSON**
SVL Sample ID: **W1A0338-10 (Ground Water)**

Sampled: 19-Jan-11 14:25
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	57.9	mg/L	1.50	0.26	5	W104218	FEH	01/25/11 15:59	D2

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

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **MCCONNELL 265**
SVL Sample ID: **W1A0338-11 (Ground Water)**

Sampled: 19-Jan-11 15:40
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	711	mg/L	15.0	2.65	50	W104218	FEH	01/24/11 21:54	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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **POOL**
SVL Sample ID: **W1A0338-12 (Ground Water)**

Sampled: 20-Jan-11 08:40
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	112	mg/L	1.50	0.26	5	W104218	FEH	01/25/11 16:07	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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **D120110120**
SVL Sample ID: **W1A0338-13 (Ground Water)**

Sampled: 20-Jan-11 08:00
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	114	mg/L	1.50	0.26	5	W104218	FEH	01/25/11 16:16	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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **COB MW-2**
SVL Sample ID: **W1A0338-14 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 20-Jan-11 10:00
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	29.6	mg/L	0.30	0.05		W104218	FEH	01/24/11 22:28	

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **ROGERS 803**
SVL Sample ID: **W1A0338-15 (Ground Water)**

Sampled: 20-Jan-11 10:38
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	143	mg/L	3.00	0.53	10	W104218	FEH	01/24/11 22:36	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: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **TVI 875**
SVL Sample ID: **W1A0338-16 (Ground Water)**

Sampled: 20-Jan-11 11:11
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	226	mg/L	3.00	0.53	10	W104218	FEH	01/24/11 23:02	D2

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John Kern
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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **EB20110120**
SVL Sample ID: **W1A0338-17 (Ground Water)**

Sampled: 20-Jan-11 12:05
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W104218	FEH	01/24/11 23:10	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

Client Sample ID: **FB20110120**
SVL Sample ID: **W1A0338-18 (Ground Water)**

Sampled: 20-Jan-11 12:10
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W104218	FEH	01/25/11 16:24	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0338**
Reported: 28-Jan-11 13:49

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	0.05	0.30	W104218	24-Jan-11	

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	9.52	10.0	95.2	90 - 110	W104218	24-Jan-11	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	17.1	17.0	0.4	20	W104218	24-Jan-11	

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	27.4	17.0	10.0	104	90 - 110	W104218	24-Jan-11	
EPA 300.0	Sulfate as SO4	mg/L	720	711	10.0	R > 4S	90 - 110	W104218	24-Jan-11	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: **W1A0335**
Reported: 25-Feb-11 09:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
WEISKOPF	W1A0335-01	Ground Water	17-Jan-11 12:55	RG	21-Jan-2011
HOWARD	W1A0335-02	Ground Water	17-Jan-11 13:45	RG	21-Jan-2011
COOPER C	W1A0335-03	Ground Water	17-Jan-11 14:30	RG	21-Jan-2011
SCHWARTZ	W1A0335-04	Ground Water	17-Jan-11 16:20	RG	21-Jan-2011
ZANDER	W1A0335-05	Ground Water	18-Jan-11 08:50	RG	21-Jan-2011
DUP12011118	W1A0335-06	Ground Water	18-Jan-11 08:00	RG	21-Jan-2011
RUIZ	W1A0335-07	Ground Water	18-Jan-11 09:35	RG	21-Jan-2011
MOORE	W1A0335-08	Ground Water	18-Jan-11 10:15	RG	21-Jan-2011
KEEFER	W1A0335-09	Ground Water	18-Jan-11 11:10	RG	21-Jan-2011
NWC-04	W1A0335-10	Ground Water	18-Jan-11 12:50	RG	21-Jan-2011
NWC-03	W1A0335-11	Ground Water	18-Jan-11 13:15	RG	21-Jan-2011
NWC-02	W1A0335-12	Ground Water	18-Jan-11 13:40	RG	21-Jan-2011
FB20110118	W1A0335-13	Ground Water	18-Jan-11 13:45	RG	21-Jan-2011
EB20110118	W1A0335-14	Ground Water	18-Jan-11 13:50	RG	21-Jan-2011
NWC-06	W1A0335-15	Ground Water	18-Jan-11 14:00	RG	21-Jan-2011
RAMIREZ	W1A0335-16	Ground Water	18-Jan-11 15:00	RG	21-Jan-2011
CHAMBERS	W1A0335-17	Ground Water	18-Jan-11 15:15	RG	21-Jan-2011
ROGERS E	W1A0335-18	Ground Water	18-Jan-11 16:20	RG	21-Jan-2011

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

Case Narrative

02/25/2011mab: Report reissued. SO4 for sample -04 has been corrected for the dilution.

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **WEISKOPF**
SVL Sample ID: **W1A0335-01 (Ground Water)**

Sampled: 17-Jan-11 12:55
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	481	mg/L	15.0	2.65	50	W104220	FEH	01/24/11 11:40	D2

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **HOWARD**
SVL Sample ID: **W1A0335-02 (Ground Water)**

Sampled: 17-Jan-11 13:45
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	520	mg/L	15.0	2.65	50	W104220	FEH	01/24/11 12:05	D2

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **COOPER C**
SVL Sample ID: **W1A0335-03 (Ground Water)**

Sampled: 17-Jan-11 14:30
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	756	mg/L	15.0	2.65	50	W104220	FEH	01/24/11 12:13	D2

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **SCHWARTZ**
SVL Sample ID: **W1A0335-04 (Ground Water)**

Sampled: 17-Jan-11 16:20
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	116	mg/L	1.50	0.26	5	W104220	FEH	01/24/11 12:22	D2

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **ZANDER**
SVL Sample ID: **W1A0335-05 (Ground Water)**

Sampled: 18-Jan-11 08:50
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	6.14	mg/L	1.50	0.26	5	W104220	FEH	01/24/11 12:30	D1

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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **DUP12011118**
SVL Sample ID: **W1A0335-06 (Ground Water)**

Sampled: 18-Jan-11 08:00
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	6.06	mg/L	1.50	0.26	5	W104220	FEH	01/24/11 12:55	D1

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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **RUIZ**
SVL Sample ID: **W1A0335-07 (Ground Water)**

Sampled: 18-Jan-11 09:35
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	213	mg/L	3.00	0.53	10	W104220	FEH	01/24/11 13:04	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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **MOORE**
SVL Sample ID: **W1A0335-08 (Ground Water)**

Sampled: 18-Jan-11 10:15
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	6.42	mg/L	0.30	0.05		W104220	FEH	01/24/11 13:12	

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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **KEEFER**
SVL Sample ID: **W1A0335-09 (Ground Water)**

Sampled: 18-Jan-11 11:10
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	7.24	mg/L	0.30	0.05		W104220	FEH	01/24/11 13:21	

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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **NWC-04**
SVL Sample ID: **W1A0335-10 (Ground Water)**

Sampled: 18-Jan-11 12:50
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	194	mg/L	3.00	0.53	10	W104220	FEH	01/24/11 13:29	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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **NWC-03**
SVL Sample ID: **W1A0335-11 (Ground Water)**

Sampled: 18-Jan-11 13:15
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	386	mg/L	7.50	1.32	25	W104220	FEH	01/24/11 13:37	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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **NWC-02**
SVL Sample ID: **W1A0335-12 (Ground Water)**

Sampled: 18-Jan-11 13:40
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	6.43	mg/L	0.30	0.05		W104220	FEH	01/24/11 13:54	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **FB20110118**
SVL Sample ID: **W1A0335-13 (Ground Water)**

Sampled: 18-Jan-11 13:45
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W104220	FEH	01/24/11 14:03	

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **EB20110118**
SVL Sample ID: **W1A0335-14 (Ground Water)**

Sampled: 18-Jan-11 13:50
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W104220	FEH	01/24/11 14:11	

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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **NWC-06**
SVL Sample ID: **W1A0335-15 (Ground Water)**

Sampled: 18-Jan-11 14:00
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	8.24	mg/L	0.30	0.05		W104220	FEH	01/24/11 14:36	

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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **RAMIREZ**
SVL Sample ID: **W1A0335-16 (Ground Water)**

Sampled: 18-Jan-11 15:00
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	8.18	mg/L	0.30	0.05		W104220	FEH	01/24/11 14:45	

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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **CHAMBERS**
SVL Sample ID: **W1A0335-17 (Ground Water)**

Sampled: 18-Jan-11 15:15
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	7.30	mg/L	0.30	0.05		W104220	FEH	01/24/11 14:53	

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: **W1A0335**
Reported: 25-Feb-11 09:39

Client Sample ID: **ROGERS E**
SVL Sample ID: **W1A0335-18 (Ground Water)**

Sampled: 18-Jan-11 16:20
Received: 21-Jan-11
Sampled By: RG

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	5.50	mg/L	0.30	0.05		W104220	FEH	01/24/11 15:02	

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: **W1A0335**
Reported: 25-Feb-11 09:39

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	0.05	0.30	W104220	24-Jan-11	

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	9.26	10.0	92.6	90 - 110	W104220	24-Jan-11	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	479	481	0.3	20	W104220	24-Jan-11	D2

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	469	481	10.0	R > 4S	90 - 110	W104220	24-Jan-11	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	389	386	10.0	R > 4S	90 - 110	W104220	24-Jan-11	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

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
BMO-2008-3B	W1B0252-01	Ground Water	14-Feb-11 12:45	CLS	15-Feb-2011
BMO-2008-5B	W1B0252-02	Ground Water	14-Feb-11 14:55	CLS	15-Feb-2011
BMO-2008-5M	W1B0252-03	Ground Water	14-Feb-11 14:20	CLS	15-Feb-2011
BMO-2008-6B	W1B0252-04	Ground Water	14-Feb-11 10:50	CLS	15-Feb-2011
BMO-2008-6M	W1B0252-05	Ground Water	14-Feb-11 09:50	CLS	15-Feb-2011
BMO-2008-7M	W1B0252-06	Ground Water	14-Feb-11 08:35	CLS	15-Feb-2011
TM-19A	W1B0252-07	Ground Water	14-Feb-11 07:10	CLS	15-Feb-2011
EQB 021411	W1B0252-08	Ground Water	14-Feb-11 14:00	CLS	15-Feb-2011
FB 021411	W1B0252-09	Ground Water	14-Feb-11 14:05	CLS	15-Feb-2011
DUP 021411	W1B0252-10	Ground Water	14-Feb-11 08:35	CLS	15-Feb-2011
BMO-2008-1G	W1B0252-11	Ground Water	10-Feb-11 16:10	CLS	15-Feb-2011
BMO-2010-1M	W1B0252-12	Ground Water	11-Feb-11 09:17	CLS	15-Feb-2011
BMO-2010-2M	W1B0252-13	Ground Water	10-Feb-11 17:10	CLS	15-Feb-2011
BMO-2008-8M	W1B0252-14	Ground Water	24-Jan-11 11:00	CLS	15-Feb-2011
BMO-2008-9M	W1B0252-15	Ground Water	10-Feb-11 14:14	CLS	15-Feb-2011
BMO-2008-11G	W1B0252-16	Ground Water	10-Feb-11 12:12	CLS	15-Feb-2011
TM-2A	W1B0252-17	Ground Water	10-Feb-11 10:10	CLS	15-Feb-2011
TM-7	W1B0252-18	Ground Water	11-Feb-11 11:48	CLS	15-Feb-2011

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

Case Narrative

03/11/2011mab: Report reissued with SO4 only per Ben Daigeneau.

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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-3B**
SVL Sample ID: **W1B0252-01 (Ground Water)**

Sampled: 14-Feb-11 12:45
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	169	mg/L	1.50	0.26	5	W108099	FEH	02/16/11 13:00	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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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-5B**
SVL Sample ID: **W1B0252-02 (Ground Water)**

Sampled: 14-Feb-11 14:55
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	203	mg/L	1.50	0.26	5	W108099	FEH	02/15/11 19:50	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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-5M**
SVL Sample ID: **W1B0252-03 (Ground Water)**

Sampled: 14-Feb-11 14:20
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	124	mg/L	1.50	0.26	5	W108099	FEH	02/15/11 19:59	D2

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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-6B**
SVL Sample ID: **W1B0252-04 (Ground Water)**

Sampled: 14-Feb-11 10:50
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	40.2	mg/L	0.30	0.05		W108099	FEH	02/15/11 20:07	

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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-6M**
SVL Sample ID: **W1B0252-05 (Ground Water)**

Sampled: 14-Feb-11 09:50
Received: 15-Feb-11
Sampled By: CLS

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	1.50	0.26	5	W108099	FEH	02/15/11 20:15	D2

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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-7M**
SVL Sample ID: **W1B0252-06 (Ground Water)**

Sampled: 14-Feb-11 08:35
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	27.5	mg/L	0.30	0.05		W108099	FEH	02/15/11 20:24	

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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **TM-19A**
SVL Sample ID: **W1B0252-07 (Ground Water)**

Sampled: 14-Feb-11 07:10
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	61.9	mg/L	1.50	0.26	5	W108099	FEH	02/15/11 20:32	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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **EQB 021411**
SVL Sample ID: **W1B0252-08 (Ground Water)**

Sampled: 14-Feb-11 14:00
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W108099	FEH	02/15/11 20:41	

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

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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **FB 021411**
SVL Sample ID: **W1B0252-09 (Ground Water)**

Sampled: 14-Feb-11 14:05
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.05		W108099	FEH	02/15/11 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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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **DUP 021411**
SVL Sample ID: **W1B0252-10 (Ground Water)**

Sampled: 14-Feb-11 08:35
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	26.4	mg/L	0.30	0.05		W108099	FEH	02/16/11 13:26	

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

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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-1G**
SVL Sample ID: **W1B0252-11 (Ground Water)**

Sampled: 10-Feb-11 16:10
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	105	mg/L	7.50	1.32	25	W108099	FEH	02/15/11 21:23	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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2010-1M**
SVL Sample ID: **W1B0252-12 (Ground Water)**

Sampled: 11-Feb-11 09:17
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	138	mg/L	1.50	0.26	5	W108099	FEH	02/15/11 21:31	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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2010-2M**
SVL Sample ID: **W1B0252-13 (Ground Water)**

Sampled: 10-Feb-11 17:10
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	950	mg/L	7.50	1.32	25	W108099	FEH	02/15/11 21:40	D2

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

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Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-8M**
SVL Sample ID: **W1B0252-14 (Ground Water)**

Sampled: 24-Jan-11 11:00
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	98.2	mg/L	1.50	0.26	5	W108099	FEH	02/15/11 21:48	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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Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-9M**
SVL Sample ID: **W1B0252-15 (Ground Water)**

Sampled: 10-Feb-11 14:14
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	64.2	mg/L	1.50	0.26	5	W108099	FEH	02/15/11 21:57	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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **BMO-2008-11G**
SVL Sample ID: **W1B0252-16 (Ground Water)**

Sampled: 10-Feb-11 12:12
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	11.7	mg/L	0.30	0.05		W108099	FEH	02/15/11 22:05	

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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **TM-2A**
SVL Sample ID: **W1B0252-17 (Ground Water)**

Sampled: 10-Feb-11 10:10
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	22.9	mg/L	0.30	0.05		W108099	FEH	02/15/11 22:22	

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: **W1B0252**
Reported: 11-Mar-11 10:26

Client Sample ID: **TM-7**
SVL Sample ID: **W1B0252-18 (Ground Water)**

Sampled: 11-Feb-11 11:48
Received: 15-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	24.9	mg/L	1.50	0.26	5	W108099	FEH	02/15/11 22:30	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: **W1B0252**
Reported: 11-Mar-11 10:26

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	0.05	0.30	W108099	15-Feb-11	

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	10.2	10.0	102	90 - 110	W108099	15-Feb-11	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	167	169	1.1	20	W108099	16-Feb-11	D2

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	22.9	11.7	10.0	112	90 - 110	W108099	15-Feb-11	M1
EPA 300.0	Sulfate as SO4	mg/L	167	169	10.0	R > 4S	90 - 110	W108099	16-Feb-11	D2,M3

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: **W1B0298**
Reported: 11-Mar-11 10:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
BMO-2008-4B	W1B0298-01	Ground Water	15-Feb-11 10:55	CLS	16-Feb-2011

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

Case Narrative

03/11/2011mab: Report reissued with SO4 only per Ben Daigneau.

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1B0298**
Reported: 11-Mar-11 10:30

Client Sample ID: **BMO-2008-4B**
SVL Sample ID: **W1B0298-01 (Ground Water)**

Sampled: 15-Feb-11 10:55
Received: 16-Feb-11
Sampled By: CLS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	8.90	mg/L	0.30	0.05		W108151	FEH	02/16/11 22:50	

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: **W1B0298**
Reported: 11-Mar-11 10:30

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	0.05	0.30	W108151	16-Feb-11	

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	9.71	10.0	97.1	90 - 110	W108151	16-Feb-11	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	8.84	8.90	0.7	20	W108151	16-Feb-11	

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	18.8	8.90	10.0	98.7	90 - 110	W108151	16-Feb-11	

Notes and Definitions

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

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

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1C0004**
Reported: 15-Mar-11 13:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
NWC-04	W1C0004-01	Ground Water	17-Feb-11 10:24	BJ	01-Mar-2011

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
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 - Copper Queen Branch
36 West Highway 92
Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1C0004**
Reported: 15-Mar-11 13:55

Client Sample ID: **NWC-04**
SVL Sample ID: **W1C0004-01 (Ground Water)**

Sampled: 17-Feb-11 10:24
Received: 01-Mar-11
Sampled By: BJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	169	mg/L	7.50	1.32	25	W111236	FEH	03/13/11 19:08	D2

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

Kirby Gray
Technical Director

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

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: **W1C0004**
Reported: 15-Mar-11 13:55

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	0.05	0.30	W111236	13-Mar-11	

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	9.61	10.0	96.1	90 - 110	W111236	13-Mar-11	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	<0.30	<0.30	<RL	20	W111236	13-Mar-11	

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	10.6	<0.30	10.0	105	90 - 110	W111236	13-Mar-11	

Notes and Definitions

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

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: **W1C0331**
Reported: 28-Mar-11 11:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
NWC-04	W1C0331-01	Ground Water	17-Mar-11 10:55	BD	18-Mar-2011

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
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: **W1C0331**
Reported: 28-Mar-11 11:29

Client Sample ID: **NWC-04**
SVL Sample ID: **W1C0331-01 (Ground Water)**

Sampled: 17-Mar-11 10:55
Received: 18-Mar-11
Sampled By: BD

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	**Sulfate as SO4**	182	mg/L	7.50	1.32	25	W112248	FEH	03/20/11 19:09	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: **W1C0331**
Reported: 28-Mar-11 11:29

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	0.05	0.30	W112248	20-Mar-11	

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	9.52	10.0	95.2	90 - 110	W112248	20-Mar-11	

Quality Control - DUPLICATE Data

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anions by Ion Chromatography									
EPA 300.0	Sulfate as SO4	mg/L	7.21	7.15	0.8	20	W112248	20-Mar-11	

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	17.7	7.15	10.0	106	90 - 110	W112248	20-Mar-11	

Notes and Definitions

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

APPENDIX D

GROUNDWATER SAMPLING FORMS

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	10	Date:	1-17-11
Well ID:	ANDERSON	Weather:	Sunny 50's
ADWR No:		Sampler:	BJO

WELL DATA

Well Depth (ft bls):	236'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	148.63
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
10:43							
				7.02	20.6	1334	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
ANDERSON	10:52	Poly	250mL	1	300.0	Ø	—

Additional Comments: Sampling from tank.

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	1/19/11
Well ID:	AWC-02	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
0852				7.84	19.0	0.50	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
AWC-02	0902	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	1/19/11
Well ID:	AWC-03	Weather:	Sunny
ADWR No:		Sampler:	RL

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
0841				7.07	19.6	~~056~~ 560 BD	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
AWC-03	0844	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	11/19/11
Well ID:	AWC-04	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
0911				8.15	20.5	0.69	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
AWC-04	0915	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	11/9/11
Well ID:	AWC-05	Weather:	Sunny
ADWR No:		Sampler:	RR

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
0828				7.64	20.3	~~0.42~~ BD 420	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
AWC-05	0833	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-17-11
Well ID:	BANKS 986	Weather:	SUNNY 70's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-17-11
Well ID:	BANKS 987	Weather:	SUNNY 70's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	X
Casing Diameter (in):	
Static Water Level (ft bmp):	215.28
Casing Volume (gals):	X
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-19-11
Well ID:	BIMA	Weather:	Sunny 50's
ADWR No:		Sampler:	BSD

WELL DATA

Well Depth (ft bls):	465
Casing Diameter (in):	4"
Static Water Level (ft bmp):	391.47
Casing Volume (gals):	48
3 Casing Volumes (gals):	144

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
09:25							
09:35	10	5	50	6.64	20.5	1676	—
09:45	20	5	100	6.58	21.3	1661	—
09:55	30	5	100	6.65	21.2	1672	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BIMA	09:57	Poly	250	1	300.0	Ø	—

Additional Comments: Ran at 5 gpm because well dried out at 150 gallons last quarter pumping at 10 gpm

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-10-11
Well ID:	BMO-2008-16	Weather:	Sunny 53°
ADWR No:		Sampler:	Christopher L. Sherman

WELL DATA

Well Depth (ft bls):	310
Casing Diameter (in):	5"
Static Water Level (ft bmp):	67.74
Casing Volume (gals):	247.0
3 Casing Volumes (gals):	741

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
1440							
1450	10	8.3	83	6.76	20.7	955	
1505	25	8.3	207	6.82	20.8	899	
1525	45	8.3	373	6.85	20.9	909	
1550	70	8.3	581	6.81	21.0	915	
1610	90	8.3	747	6.80	21.0	916	
	~~100~~	~~8.3~~					

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-16	1610	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: 242.2

140

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-14-11
Well ID:	BMO-2008-3B	Weather:	Clear 70°
ADWR No:		Sampler:	Chastoph & Sherman

WELL DATA

Well Depth (ft bls):	260
Casing Diameter (in):	5"
Static Water Level (ft bmp):	141.41
Casing Volume (gals):	120.8
3 Casing Volumes (gals):	362.4

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
1225							
1230	5	27	135	6.86	21.3	701	
1235	10	27	270	6.95	20.8	696	
1240	15	27	405	6.97	20.7	695	
1245	20	27	540	6.98	20.6	698	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-3B	1245	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

118.5

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-15-11
Well ID:	BMO-2008-4B	Weather:	Clear — 65°
ADWR No:		Sampler:	Christopher L Slavman

WELL DATA

Well Depth (ft bls):	610
Casing Diameter (in):	5"
Static Water Level (ft bmp):	133.78
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
0950							
1000	10	23	730	7.42	22.9	355	
~~1025~~ 1025	35	23	805	7.66	22.9	348	
1035	45	23	1035	7.69	22.5	354	
1055	65	23	1495	7.65	22.2	362	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-4B	1055	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-14-11
Well ID:	BMO-2008-5B	Weather:	Clear ~75°
ADWR No:		Sampler:	Christopher L Stevens

WELL DATA

Well Depth (ft bls):	285'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	147.56
Casing Volume (gals):	140.1
3 Casing Volumes (gals):	420.3

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
~~1430~~							
1435	5	27	135	6.85	22.0	714	
1445	15	27	405	6.89	21.9	721	
1455	25	27	675	6.90	21.8	725	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-5B	1455	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: 137.4

147

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2/14/11
Well ID:	BMO-2008-5M	Weather:	
ADWR No:		Sampler:	Christopher L Sherman

WELL DATA

Well Depth (ft bls):	450
Casing Diameter (in):	5"
Static Water Level (ft bmp):	~~[illegible]~~ 148.74
Casing Volume (gals):	307.3
3 Casing Volumes (gals):	921

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
1325							
1330	5	18	90	6.80	22.8	597	
1345	20	18	360	6.90	22.2	~~889~~ 590	
1400	45	18	810	6.91	22.1		
1420	55	18	~~990~~	6.95	22.2	591	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-5M	1420	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: 307.3

190

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-14-11
Well ID:	BMO-2008-6B	Weather:	Clear - 61°
ADWR No:		Sampler:	C Christopher L Sherman

WELL DATA

Well Depth (ft bls):	265'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	192.19
Casing Volume (gals):	74.2
3 Casing Volumes (gals):	222.6

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
1005							
1010	5	5.1	25	6.96	21.8	396	New PH Probe
1020	15	5.1	75	7.22	21.7	389	
1035	30	5.1	150	7.25	21.7	395	
1050	45	5.1	225	7.27	21.8	397	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-6B	1050	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

72.8

191

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-14-11
Well ID:	BMO-2008-6M	Weather:	Clear - 52°
ADWR No:		Sampler:	Christopher L Sherman

WELL DATA

Well Depth (ft bls):	450
Casing Diameter (in):	5"
Static Water Level (ft bmp):	193.14
Casing Volume (gals):	261.9
3 Casing Volumes (gals):	786

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
0910							
0920	10	21	210	6.74	21.1	730	
0930	20	21	420	6.78	21.2	735	
0940	30	21	630	6.79	21.1	736	
0950	40	21	840	6.80	21.3	731	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Blank BMO-2008-6M	0950	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

256.8

240

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-14-11
Well ID:	BMO-2008-7M	Weather:	Clear - 38°
ADWR No:		Sampler:	Christopher L Sherman

WELL DATA

Well Depth (ft bls):	670	**Casing Capacity**	
Casing Diameter (in):	5"	**Nominal Size (inches)**	**Gallons per Linear Foot**
Static Water Level (ft bmp):	24.26	2	0.16
Casing Volume (gals):	427.0	4	0.65
3 Casing Volumes (gals):	1281	5	1.02
		6	1.47
		8	2.61
		10	4.08

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0730							
0735	5	21	105	7.22	21.8	460	
0755	25	21	525	7.20	21.7	461	
0815	45	21	945	7.19	21.9	463	
0835	65	21	1365	7.18	22.0	465	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-7M	0835	plastic	250 ml	1	EPA 300.0	none	filtered
DUP021411							Sulfate

Additional Comments:

428.7

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-11-11
Well ID:	BMO8 BMO-2008-8B	Weather:	Clear
ADWR No:		Sampler:	Christopher L Sherm

WELL DATA

Well Depth (ft bls):	480
Casing Diameter (in):	5"
Static Water Level (ft bmp):	299.56
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	1-24-11
Well ID:	BMO-2008-8m	Weather:	Sunny 35°
ADWR No:		Sampler:	Christopher L Shuman

WELL DATA

Well Depth (ft bls):	1210
Casing Diameter (in):	5"
Static Water Level (ft bmp):	300.46
Casing Volume (gals):	927.7
3 Casing Volumes (gals):	2783.1

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
0820							
0835	15	17.6	264	6.52	20.8	615	
0920	60	17.6	1056	7.05	22.9	594	
0950	90	17.6	1584	7.01	23.0	604	
1020	120	17.6	2112	7.07	23.4	596	
1050	150	17.6	2640	7.03	23.5	600	
1100	160	17.6	2816	7.05	23.4	595	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-8m	1100	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: 909.54

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-10-11
Well ID:	BMO-2008-9M	Weather:	Sunny 50°
ADWR No:		Sampler:	Christopher L Sherman

WELL DATA

Well Depth (ft bls):	775
Casing Diameter (in):	5"
Static Water Level (ft bmp):	289.77
Casing Volume (gals):	493
3 Casing Volumes (gals):	1485

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
1240							
1246	6	18.7	112.2	6.76	24.0	517	
1322	42	18.7	673.2	6.73	24.1	519	
1347	67	18.7	1252	6.80	24.0	515	
1414	81	18.7	1514	6.79	24.0	520	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-9M	1414	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

485.23

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-10-11
Well ID:	BMO-2008-116	Weather:	Sunny 41°
ADWR No:		Sampler:	Christopher L Slawson

WELL DATA

Well Depth (ft bls):	760
Casing Diameter (in):	5"
Static Water Level (ft bmp):	571.61
Casing Volume (gals):	192.1
3 Casing Volumes (gals):	576.3

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
1045							
1055	10	8	80	6.92	23.4	339	
1125	30	8	240	6.93	23.6	332	
1155	60	8	480	6.96	23.9	331	
1210	75	8	600	6.99	24.0	327	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-116	1210	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: 188.4

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-10-11
Well ID:	BMO-2008-13B	Weather:	Clear
ADWR No:		Sampler:	Christopher L Sherrm

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	208.51
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
0635							

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-10-11
Well ID:	BMO-2008-13m	Weather:	Clear
ADWR No:		Sampler:	Christopher L Sherman

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	210.36
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
0613							

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-11-11
Well ID:	BMO-2010-1M	Weather:	Clear - 22°
ADWR No:		Sampler:	Christopher L Sherman

WELL DATA

Well Depth (ft bls):	550
Casing Diameter (in):	5"
Static Water Level (ft bmp):	222.01
Casing Volume (gals):	334.5
3 Casing Volumes (gals):	1003.5

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							
0640	10	10	100	8.12	20.1	592	
0645	15	10	150	8.16	19.9	579	Well Surging
0650	20	1.25-10		8.12	20.7	580	
0700	30	1.25-10		8.16	19.9	584	
0720	50	1.25-10		8.12	20.2	578	
0800	90	1.25-10		8.15	20.0	575	
0830	120	1.25-10		8.14	20.4	589	
0900	150	1.25-10		8.10	20.6	590	
0917	165	1.25-10	1005	8.15	20.8	589	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2010-1M	0917	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: Well Surging 1.25 GPM to 10 GPM
Surging of well - GPM Approximately the Same 1 min of 1.25 ea
then 1 min of 10

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-10-11
Well ID:	BMO-2010-2M	Weather:	Sunny 58°
ADWR No:		Sampler:	Christopher L Sharp

WELL DATA

Well Depth (ft bls):	380
Casing Diameter (in):	5"
Static Water Level (ft bmp):	264.13
Casing Volume (gals):	118.1
3 Casing Volumes (gals):	354.3

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
1640							
1645	5	12	60	6.50	20.6	2.10	
1650	10	12	120	6.52	20.6	2.08	
1655	15	12	180	6.55	20.7	2.11	
1700	20	12	240	6.53	20.7	2.10	
1705	25	12	300	6.52	20.7	2.11	
1710	30	12	360	6.53	20.8	2.12	~2120 350

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2010-2M	1710	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

115.8

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	1-20-11
Well ID:	BMO-2010-3B	Weather:	Sunny 50's
ADWR No:		Sampler:	

WELL DATA

Well Depth (ft bls):	330'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	115.46
Casing Volume (gals):	219
3 Casing Volumes (gals):	660

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
8:30							
9:00	30	7.5	225	7.29	19.6	422.2	Rusty, cloudy
~~9:15~~	45	7.5	338	7.43	20.4	417.4	clear
9:30	60	7.5	450	7.42	20.3	419.1	
9:45	75	7.5	563	7.40	20.7	418.1	
10:00	90	7.5	675	7.44	20.9	416.1	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2010-3B	10:04	Pdy	250	1	300.0	Ø	—

Additional Comments: Collected Split sample for AGC

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-20-11
Well ID:	BMO-2010-3m	Weather:	Sunny, 60s
ADWR No:		Sampler:	BSO

WELL DATA

Well Depth (ft bls):	531
Casing Diameter (in):	5"
Static Water Level (ft bmp):	118.32
Casing Volume (gals):	421
3 Casing Volumes (gals):	1263

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
10:10							
10:40	30	8.5	255	7.61	20.7	378.5	Brown, Cloudy
11:10	60	8.5	510	7.63	21.9	374.8	Clear
11:40	90	8.5	765	7.66	22.1	377.7	"
12:10	120	8.5	1020	7.69	22.5	379.3	"
12:40	150	8.5	1275	7.72	22.6	386.4	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2010-3m	12:45	~~12.9~~ Pdy	250	1	300.0	Ø	—

Additional Comments: Collect Split for AWC

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	Chambers	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	245
Casing Diameter (in):	
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

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							
1511	1			7.42	22.4	0.42	
1512	2			7.46	22.1	0.39	
1514	4			7.47	22.4	~~0.34~~	
						390 mS	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Chambers	1515	pl/f	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/20/11
Well ID:	COB MW-2	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	170
Casing Diameter (in):	4
Static Water Level (ft bmp):	126.46
Casing Volume (gals):	28
3 Casing Volumes (gals):	84

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
0941							
0943	2	8	16	7.39	19.9	0.46	
0945	4	8	32	7.47	20.1	0.44	
0947	6	8	48	7.49	20.4	0.44	
0949	8	8	64	7.49	20.2	0.45	
0953	12	8	96	7.37	20.9	0.47	
0957	16	8	128	7.47	20.7	~~0.44~~ BD 440	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
COB MW-2	1000	poly	125ml	1	300.0		

Additional Comments: COB runs the well longer than 3 well volumes

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/19/11
Well ID:	Cooper	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	325
Casing Diameter (in):	6
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	

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							
1202	5	9	45	8.72	20.0	0.47	
1205	8	9	72	8.80	18.7	0.42	
1208	11	9	99	8.84	18.6	0.41	
1211	14	9	126	8.83	18.4	0.41	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Cooper	1215	poly	125ml	1	300.0		

Additional Comments:

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/12/11
Well ID:	CooperC	Weather:	Sunny
ADWR No:		Sampler:	Russ G.

WELL DATA

Well Depth (ft bls):	220
Casing Diameter (in):	6
Static Water Level (ft bmp):	158.37
Casing Volume (gals):	62
3 Casing Volumes (gals):	186

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
1405							
1410	5	10	50	6.73	21.4	2.16 } mg/cm	
1413	8	10	80	6.88	20.7	1.92 }	
1415	10	10	100	6.90	20.9	1.89	
1420	15	10	150	6.95	20.5	~~1.88~~ 80	
						1880	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Cooper C	1430	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/19/11
Well ID:	Dodson	Weather:	Sunny, Windy
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	200
Casing Diameter (in):	6
Static Water Level (ft bmp):	90.34
Casing Volume (gals):	161
3 Casing Volumes (gals):	483

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
1347							
1352	5	15	75	7.74	21.2	1.15	
1357	10	15	150	7.85	19.9	1.11	
1402	15	15	225	7.89	19.7	1.11	
1407	20	15	300	7.92	19.5	1.10	
1412	25	15	375	7.84	19.8	1.12	
1417	30	15	450	7.88	19.5	1.12	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Dodson	1425	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-18-11
Well ID:	DOUGLASS 791	Weather:	Sunny 60's
ADWR No:		Sampler:	BJB

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	25.96
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-18-11
Well ID:	DOUGLASS 792	Weather:	Sunny 60's
ADWR No:		Sampler:	BSB

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	87.80
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/19/11
Well ID:	Dura20	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	N/A
Casing Diameter (in):	6"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
1240							
1245	5	10	RG ~~10~~ 50	7.80	22.6	1.07	
1248	8	10	80	7.91	21.8	1.04	
1251	11	10	110	7.94	21.5	1.05	
1253	13	10	130	7.94	21.6	1.05	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Dura20	1255	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-18-11
Well ID:	EAST	Weather:	SUNNY 70's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	125
Casing Diameter (in):	6"
Static Water Level (ft bmp):	59.79
Casing Volume (gals):	96
3 Casing Volumes (gals):	288

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
14:00							
14:20	20	12	240	7.20	21.4	616.8	~
14:25	25	12	300	7.24	20.9	616.1	—
14:30	30	12	360	7.44	21.0	615.9	—

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EAST	14:33	Poly	250	1	300.0	Ø	—

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	10	Date:	1-17-11
Well ID:	EPPELE 641	Weather:	Sunny 70's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	265
Casing Diameter (in):	8"
Static Water Level (ft bmp):	51.13
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
14:00							
14:10	10	10	100	7.15	21.4	572.8	
14:20	20	10	200	7.36	21.4	574.5	
14:30	30	10	300	7.41	21.6	576.0	
14:40	40	10	400	7.44	21.5	582.7	
14:50	50	10	500	7.44	21.8	585.1	
15:00	60	10	600	7.43	21.0	576.4	
15:05	—	DRY	—				
15:30							SAMPLE

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EPPELE 641	15:30	Poly	250	1	300.0	Ø	—

Additional Comments: Well goes dry at ~ 600 gal. Will dry out once and sample

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-19-11
Well ID:	FLEMING	Weather:	SUNNY 60's
ADWR No:		Sampler:	BTD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	356.89
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-18-11
Well ID:	FULTZ	Weather:	Sunny 70's
ADWR No:		Sampler:	BSD

WELL DATA

Well Depth (ft bls):	300'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	350
3 Casing Volumes (gals):	1050

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
14:50							
15:10	20	10	200	7.00	22.3	1164	
15:30	40	10	400	7.09	22.0	1169	
15:50	60	10	600	7.16	22.5	1122	
~~16:10~~	~~80~~	~~10~~	~~800~~				
16:25	95	10	950	7.30	21.2	1131	
16:35	105	10	1050	7.28	20.9	1136	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
FULTZ	16:40	Poly	250	1	300.0	Ø	

Additional Comments: Last WL collected = 63.82. Could not get sounder down so will use old WL for purging

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-19-11
Well ID:	~~1.0~~ GARNER SS7	Weather:	SUNNY 60s
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	194.61
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO. Last time a large amount of water was used was 1-16-11 to water trees

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-19-11
Well ID:	GARNER 635	Weather:	SUNNY 60's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	680
Casing Diameter (in):	5"
Static Water Level (ft bmp):	196.89
Casing Volume (gals):	493
3 Casing Volumes (gals):	1479

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
10:55							
11:15	20	15	300	7.74	22.6	466.9	
11:35	40	15	600	7.81	23.6	463.2	
11:55	60	15	900	7.81	23.8	462.8	
12:15	80	15	1200	7.85	24.1	463.4	
12:35	100	15	1500	7.82	24.1	463.4	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
GARNER 635	12:38	Poly	250	1	300.0	Ø	—
DUP20110119	10:15	Poly	250	1	300.0	Ø	—

Additional Comments: Last substantial water use was 1/16/11 to water trees. Regular household usage since then.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	1/19/11
Well ID:	Goar Ranch	Weather:	Sunny, Windy
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	187.52
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	11/17/11
Well ID:	Howard	Weather:	Sunny
ADWR No:		Sampler:	Russ

WELL DATA

Well Depth (ft bls):	200
Casing Diameter (in):	6
Static Water Level (ft bmp):	153.51
Casing Volume (gals):	68
3 Casing Volumes (gals):	204

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
1317							
1322	5	10	50	7.02	22.2	1,183	
1327	10	10	100	7.13	21.1	1,129	
1332	15	10	150	7.13	20.1	1,134	
1337	20	10	200	7.12	19.8	~~1357~~ 1370	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Howard	1345	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1	Date:	1/18/11
Well ID:	Keefer	Weather:	Sunny
ADWR No:		Sampler:	RC

WELL DATA

Well Depth (ft bls):	245
Casing Diameter (in):	6
Static Water Level (ft bmp):	137.42
Casing Volume (gals):	158
3 Casing Volumes (gals):	474

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							
1040	10	12	120	7.22	18.3	0.58	
1045	15	12	180	7.51	18.9	0.43	
1050	20	12	240	7.45	20.2	0.44	
1100	30	12	360	7.35	20.7	0.46	
1105	35	12	420	7.45	20.6	~~0.475~~ 450	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Keefer	1110	poly	125ml	1	300		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/19/11
Well ID:	McConnell 265	Weather:	Sunny, Windy
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	216
Casing Diameter (in):	6
Static Water Level (ft bmp):	159.69
Casing Volume (gals):	83
3 Casing Volumes (gals):	249

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
1515							
1520	5	12	60	7.21	21.4	1.66	
1525	10	12	120	7.32	20.6	1.58	
1530	15	12	180	7.34	20.7	1.61	
1535	20	12	240	7.38	20.6	~~1.61~~ BD	
						1610	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
McConnell 265	1540	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/19/11
Well ID:	Metzler	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	351
Casing Diameter (in):	6
Static Water Level (ft bmp):	289.54
Casing Volume (gals):	90
3 Casing Volumes (gals):	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
1003							
1013	10	6	60	8.22	20.2	0.99	
1023	20	6	120	7.65	20.7	0.95	
1033	30	6	180	7.63	20.6	0.94	
1043	40	6	240	7.55	21.1	~~0.93~~ BD	
						930	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Metzler	1050	poly	125 ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	Moore	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	220'
Casing Diameter (in):	6
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

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
0953							
0958	5	10	50	7.29	18.1	0.43	
1003	10	10	100	7.44	19.8	0.40	
1008	15	10	150	7.48	20.4	0.39	
1013	20	10	200	7.48	21.1	~~0.39~~ BD	
						390	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Moore	1015	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-18-11
Well ID:	NESS	Weather:	Sunny 60's 50's
ADWR No:		Sampler:	BSJ

WELL DATA

Well Depth (ft bls):	812
Casing Diameter (in):	5"
Static Water Level (ft bmp):	541.80
Casing Volume (gals):	275
3 Casing Volumes (gals):	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
8:30							
9:00	30	8	240	7.37	18.5	543.7	—
9:20	50	~~400~~ 8	400	7.45	20.3	541.3	—
9:40	70	8	560	7.40	20.9	537.4	—
~~10:00~~ 1000	90	8	720	7.39	22.0	535.4	—
10:15	105	8	840	7.49	21.8	536.6	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NESS	10:17	Poly	250	1	300.0	Ø	—

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-19-11
Well ID:	NOTEMAN	Weather:	SUNNY 50's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	470
Casing Diameter (in):	5"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	
3 Casing Volumes (gals):	~~225~~ 435

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
8:30							
8:40	10	13	130	6.74	21.8	1447	
8:50	20	13	260	6.73	22.3	1446	
9:00	30	13	390	6.84	22.3	1446	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NOTEMAN	09:05	Poly	250	1	300.0	✓	—

Additional Comments: last available water level = 327.54

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	3-17-11
Well ID:	~~NWC-02~~ NSD-02	Weather:	Sunny 70's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	102.68'
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	3-17-11
Well ID:	NSD -03	Weather:	SUNNY - 60's
ADWR No:		Sampler:	BSD.

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	86.76
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	10	Date:	1/18/11
Well ID:	NWC-02	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
1333		120		7.23	24.6	0.47	
1335		120		7.38	23.3	0.40	
1337		120		7.47	23.2	~~0.39~~ 390	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-02	1340	poly	125ml	1	300.0		

Additional Comments:

Well has been running

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	NWC-03	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
1307		45		6.90	23.7	1.18	
1310		45		7.04	22.5	1.15	
1312		45		7.09	22.8	~~1180~~ 1120	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-03	1315	poly	125ml	1	300.0		

Additional Comments:

Well has been running

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	1/18/11
Well ID:	NWC-03 CAP	Weather:	
ADWR No:		Sampler:	

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	132.91
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	NWC-04	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

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
1240				7.18	25.4	1.05	
1243				7.30	24.3	0.87	
1245				7.31	24.1	~~0.86~~ 860 BD	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-04	1250	poly	125ml	1	300.0		

Additional Comments:

Well has been running

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	2-17-11
Well ID:	NWC-04	Weather:	Cloudy 50's
ADWR No:		Sampler:	BSD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
10:05		30		7.21	20.8	~~20.6~~ 902.4	
10:10		30		7.36	21.4	888.7	
10:15		30		7.40	22.1	846.7	
10:20		30		7.46	22.3	848.6	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-04	11:24	Poly	250	1	300.0	Ø	

Additional Comments: Well has been running on and off all day

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	3-17-11
Well ID:	NWC-04	Weather:	Sunny 70's
ADWR No:		Sampler:	BSB

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
10:35				7.19	23.6	893.0	
10:40				7.34	23.9	915.7	
10:50				7.44	24.1	888.1	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-04	10:55	Poly	250	1	300.0	0	—

Additional Comments: Flowmeter has not been functioning since freezing over the winter. Jose believes the well still pumps at 30 gpm.

The well was on for several hours today

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	NWC-06	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
1352		160		7.32	24.1	0.45	
1354		160		7.39	23.6	0.38	
1356		160		7.45	23.4	~~0.38~~ 380	
						80	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-06	1400	poly	125 ml	1	300		

Additional Comments:

Well has been running

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-18-11
Well ID:	PALMER	Weather:	Sunny 60's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
				8.0 ~~7.60~~	17.1	517.0	
				7.29			

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
PALMER	11:00	Poly	250	1	300.0	Ø	—

Additional Comments: Sample from tank

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/19/11
Well ID:	Parra	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	355
Casing Diameter (in):	6
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

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
1102							
1105	3	10	30	7.40	21.2	1.14	
1107	5	10	50	7.58	21.0	1.12	
1110	8	10	80	7.58	20.8	1.13	
1113	11	10	110	7.49	20.8	~~1.13~~ 1130	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Parra	1117	poly	125 ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-19-11
Well ID:	PIONKE	Weather:	Sunny 70's
ADWR No:		Sampler:	BSH

WELL DATA

Well Depth (ft bls):	300
Casing Diameter (in):	6"
Static Water Level (ft bmp):	152.38
Casing Volume (gals):	218
3 Casing Volumes (gals):	654

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
14:40							
14:55	15	~~15~~ 9	135	7.11	21.0	1224	
15:10	~~15~~ 30	9	270	7.22	21.1	1232	
15:25	45	9	405	7.17	20.5	1236	
15:40	60	9	540	7.23	20.4	1216	
15:55	75	9	675	7.32	19.9	1222	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
PIONKE	16:00	Poly	250	1	300.0	⊘	—

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/20/11
Well ID:	Pool	Weather:	Sunny
ADWR No:		Sampler:	RL

WELL DATA

Well Depth (ft bls):	313
Casing Diameter (in):	6"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
0805							
0815	10	15	150	7.65	18.5	0.54	
0825	20	15	300	7.71	20.1	0.50	
0830	25	15	375	7.73	20.3	0.52	
0835	30	15	450	7.71	20.5	~~0.53~~ 530	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Pool	0840	poly	125ml	1	300.0		

Additional Comments: The sounding port also has the pump wires going down it. The sounder is too big to fit past the wires. Will use last quarters purge volume of 468

DI 20110120

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	Ramirez	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	300
Casing Diameter (in):	6
Static Water Level (ft bmp):	161.22
Casing Volume (gals):	204
3 Casing Volumes (gals):	612

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
1420							
1430	10	18	180	7.35	24.4	0.39	
1440	20	18	360	—	—	—	
1445	25	18	450	7.45	23.0	0.38	
1450	30	18	540	7.51	23.1	0.38	
1453	33	18	594	7.52	23.1	~~0.38~~ 380	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Ramirez	1500	poly	125 ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-17-11
Well ID:	RAY	Weather:	Sunny 60's
ADWR No:		Sampler:	BSD

WELL DATA

Well Depth (ft bls):	100'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	50.51
Casing Volume (gals):	73
3 Casing Volumes (gals):	219

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
12:40							
12:50	10	7	70	6.90	20.8	1466	
13:00	20	7	140	7.00	20.8	1446	
13:05	25	7	175	7.07	20.9	1433	
13:10	30	7	210	7.04	20.8	1451	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
RAY	13:15	Poly	250	1	300.0	ϕ	—
DUP20110117	12:30	Poly	250	1	300.0	ϕ	—

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/20/11
Well ID:	Rogers 803	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	140
Casing Diameter (in):	6"
Static Water Level (ft bmp):	RG 134.21 ROGERS 596
Casing Volume (gals):	8.5
3 Casing Volumes (gals):	25.5

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							
1032	2	7	14	7.35	16.9	0.65	
1034	4	7	28	7.40	18.2	0.60	
1035	5	7	35	7.44	18.1	~~0.61~~ BD 610	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Rogers 803	1038	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	Rogers E	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	290'
Casing Diameter (in):	6
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	

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
1530							
1540	10	13	130	7.39	22.2	0.46	
1550	20	13	260	7.54	21.4	0.38	
~~1586~~ 1600	30	13	390	7.46	21.6	0.39	
1610	40	13	520	7.39	21.5	~~0.39~~ 80	
						390	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Rogers E	1620	poly	125ml	1	300.0		

Additional Comments:

Sounder is coming up with dirt on it. Sounding tube must be broken. Last quarter 3 casing volumes = 609gal.

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	Ruiz	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	312
Casing Diameter (in):	6
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	69

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
0921							
0925	4	6	24	6.94	17.7	0.87	
0928	7	6	42	7.18	19.2	0.87	
0930	9	6	54	7.17	19.8	0.87	
0932	11	6	66	7.19	20.2	~~0.86~~ 310	
						860	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Ruiz	0935	poly	125ml	1	300.0		

Additional Comments:

Sounder getting stuck at 230', Use old readings

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/17/11
Well ID:	Schwartz	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	305
Casing Diameter (in):	6"
Static Water Level (ft bmp):	125.35
Casing Volume (gals):	263
3 Casing Volumes (gals):	789

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
1500							
1510	10	10	100	7.19	22.8	0.90	
1520	20	10	200	7.24	21.7	0.64	
1530	30	10	300	7.18	21.3	0.64	
1540	40	10	400	7.25	21.4	0.62	
1550	50	10	500	7.18	21.7	0.63	
1600	60	10	600	7.20	21.4	0.62	
1610	70	10	700	7.15	21.2	~~0.62~~ BD 620	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Schwartz	1620	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-18-11
Well ID:	Stephens	Weather:	Sunny 70's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	52.98
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments: WLO

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-19-11
Well ID:	SONBELT	Weather:	Sunny 60's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	DRY
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-18-11
Well ID:	SWAN	Weather:	SUNNY 70's
ADWR No:		Sampler:	

WELL DATA

Well Depth (ft bls):	98'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	35.06
Casing Volume (gals):	41
3 Casing Volumes (gals):	123

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
13:10							
13:15	5	7	35	6.98	17.4	487.5	—
13:20	10	7	70	7.13	18.1	481.6	—
13:25	15	7	105	7.14	~~18.9~~ 17.2	479.1	—
13:30	15	7	140	7.19	17.8	483.6	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
SWAN	13:32	Poly	250	1	300.0	Ø	—

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-10-11
Well ID:	TM-2A	Weather:	Clear 25°
ADWR No:		Sampler:	Christopher L Sherman

WELL DATA

Well Depth (ft bls):	925'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	347.60
Casing Volume (gals):	375.3
3 Casing Volumes (gals):	1125.9

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
0715							
0720	5	7.5	37	6.88	22.3	348	
0810	50	5.5	375	6.91	22.4	346	
0900	100	5.5	550	6.92	22.2	345	
0950	150	3.3	825	6.90	22.5	348	
1015	175	3.3	902.5	6.95	22.8	352	
							618.44 - 2-11-11
0950				6.90	20.4	365	Started pump @ 1000
1005				6.93	20.2	359	
1010							

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-2A	1010 2-11-11	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: 572.4

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-11-11
Well ID:	TM-7	Weather:	Clear 45°
ADWR No:		Sampler:	Christopher L Sherman

WELL DATA

Well Depth (ft bls):	350'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	NA
Casing Volume (gals):	NA
3 Casing Volumes (gals):	NA

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
1115						392	
1116	1	10	10	6.97	19.4	~~620~~	
1131	—	—	—	—	—	—	
1132	2	10	20	6.88	20.2	384	
1147	—	—	—	—	—	—	
1148	3	10	30	6.87	20.1	393	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-7	1148	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-14-11
Well ID:	TM-19A	Weather:	Clear 36°
ADWR No:		Sampler:	Christopher J Sherman

WELL DATA

Well Depth (ft bls):	700.
Casing Diameter (in):	4"
Static Water Level (ft bmp):	203.00
Casing Volume (gals):	323
3 Casing Volumes (gals):	969

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							
0635	5	33	165	6.69	21.0	510	
0645	15	33	495	6.65	21.2	512	
0655	25	33	825	6.67	21.3	513	
0705	35	33	1155	6.69	21.4	511	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-19A	0710	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/20/11
Well ID:	TVI 713	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	134.36
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	6.0	Date:	1/20/11
Well ID:	TVI 875	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
1105				7.35	21.3	0.78	
1107				7.38	21.0	0.78	
1109				7.39	21.0	~~0.78~~	
						BD 780	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TVI 875	1111	poly	125ml	1	300.0		

Additional Comments: Pump is allready pumping

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-19-11
Well ID:	WEED	Weather:	Sunny 70's
ADWR No:		Sampler:	BJD

WELL DATA

Well Depth (ft bls):	320
Casing Diameter (in):	
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
13:40							
13:45	5	12	60	7.32	21.8	381.0	—
13:50	10	12	120	7.46	21.2	378.9	—
13:55	15	12	180	7.62	21.1	383.6	—

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
WEED	13:57	~~13:57~~ poly	250	1	300.0	Ø	—

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/12/11
Well ID:	Weiskopf	Weather:	Sunny
ADWR No:		Sampler:	Russ

WELL DATA

Well Depth (ft bls):	200
Casing Diameter (in):	6
Static Water Level (ft bmp):	146.72
Casing Volume (gals):	78
3 Casing Volumes (gals):	234

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
1232							
1237	5	10	50	7.07	22.5	1.27	
1242	10	10	100	7.13	21.9	1.27	
1247	15	10	150	7.13	21.7	1.29	
1252	20	10	200	7.16	22.0	~~1.27~~ Blk 1.270	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Weiskopf	1255	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/18/11
Well ID:	Zander	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	280
Casing Diameter (in):	6
Static Water Level (ft bmp):	147.52
Casing Volume (gals):	195
3 Casing Volumes (gals):	585

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
0808							
0818	10	15	150	7.34	17.7	0.43	
0823	15	15	225	7.56	18.6	0.37	
0828	20	15	300	7.55	18.5	0.38	
0833	25	15	375	7.61	18.9	0.35	
0838	30	15	450	7.58	18.9	0.37	
0843	35	15	525	7.59	18.9	~~0.38~~ 30	
						380	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
Zander	0850	poly	125ml	1	300.0		
dup120111118	0800	poly	125ml	1	300.0		

Additional Comments:

Collect duplicate (dup120111118)

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1-17-11
Well ID:	FB20110117	Weather:	Sunny
ADWR No:		Sampler:	BSD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
FB20110117	13:20	Poly	250	1	300.0	Ø	—

Additional Comments: Deionized water, Unfiltered

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	10	Date:	1-17-11
Well ID:	EQB20110117	Weather:	Sunny
ADWR No:		Sampler:	BSD

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EQB20110117	13:22	Poly	250	1	300.0	Ø	—

Additional Comments: Equipment Blank. Filtered Deionized water using hand pump assembly.

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	1/18/11
Well ID:	FB20110118	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
FB20110118	1345	poly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:		Date:	1/18/11
Well ID:	EB20110118	Weather:	Sunny
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EB20110118	1350	RC Bpoly	125ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:	055038	Client:	Freeport Copper Queen Branch
Task No:	1.0	Date:	1/19/11
Well ID:	EB20110119	Weather:	Sunny, Windy
ADWR No:		Sampler:	RG

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EB20110119	1310	poly	125 ml	1	300.0		

Additional Comments:

CLEAR CREEK ASSOCIATES

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-14-11
Well ID:	EQB 021411	Weather:	Clear 70°
ADWR No:		Sampler:	Christopher L Sloma

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
1400							

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

Groundwater Sampling Form

Project No:		Client:	Freeport Copper Queen Branch
Task No:		Date:	2-14-11
Well ID:	FB 021411	Weather:	Clear 20°
ADWR No:		Sampler:	Christopher L Sturm

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

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
1405							

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: