FIRST QUARTER 2012 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

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March 30, 2012

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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 2012 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], 2008) 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 sulfate plume consists of groundwater with sulfate in excess of 250 milligrams per liter (mg/L) attributable to the CTSA. The sample collection and analysis 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 reported herein have been collected. Table 2 lists wells identified for monitoring in the first quarter 2012, their availability for sampling, and their sampling status. The collection of groundwater samples was conducted by CQB and Clear Creek personnel. Groundwater sampling and analysis methods used by CQB and Clear Creek are described in the Quality Assurance Project Plan (QAPP) contained in Appendix F of the Work Plan (HGC, 2008). Results of groundwater monitoring are presented in Section 2.

2. GROUNDWATER MONITORING RESULTS

2.1 Results of Monitoring

Analytical results and groundwater elevation data for the first quarter 2012 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 2012. 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 2012. Groundwater elevations were calculated using depth to water measurements made under static (nonpumping) conditions for all wells shown on Figure 3.

2.2 Quality Assurance/Quality Control Review

Pursuant to Section 6.4 of the QAPP, a data verification report was prepared for quality assurance and quality control purposes. The Data Verification Report, analytical laboratory reports, and groundwater sampling forms for samples collected by Clear Creek and CQB during the first quarter 2012 are included in Appendices A, B, and C respectively. As determined by the analytical data verification review, the analytical sampling data for samples collected in the first quarter 2012 by Clear Creek and CQB are of acceptable quality for use in the groundwater monitoring being conducted pursuant to the Mitigation Order except for the sample collected from BMO-2010-13M. The results for the sample collected at BMO-2010-13M are included in Appendix B but are not reported in Table 3 or Figure 2 because they do not meet quality control standards identified in the QAPP. Section 4.5.4 of the Data Verification Report discusses information regarding the sample collected at BMO-2010-13M.

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3. FINDINGS

This report provides the results of groundwater monitoring conducted within the vicinity of the CTSA for the first quarter 2012. Groundwater samples were collected from 75 wells and depth to water measurements were collected at 63 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 2012 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 oblong area of approximately 2 miles by 3.9 miles and is contained primarily in the basin fill and undifferentiated Bisbee Group except near the former evaporation pond where wells in the Glance Conglomerate have sulfate concentrations greater than 250 mg/L.
- The sulfate concentration in bedrock monitoring well BMO-2008-10GL was 1,020 mg/L in July 2010 and 644 mg/L in July 2011. The well was sampled during the first quarter 2012, to confirm the result of the July sample. The first quarter 2012 sample concentration was 624 mg/L which confirms the result of the July sample.
- Two samples were collected from the NOTEMAN property on February 3, 2012. The sample designated NOTEMAN was collected from the usual sampling location upstream of where the water supply connects to the house. A sample designated NOTEMAN HOUSE was collected downstream of a household water filtration system between the well and the point of entry to the house. The sample concentrations are 301 mg/L and 324 mg/L for the NOTEMAN and NOTEMAN HOUSE samples, respectively.
- Comparison of the first quarter 2012 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 east to west across the study area, indicating westerly groundwater flow (Figure 3).
- Figures 5 and 6 show groundwater elevations over time for BMO monitor wells with screened intervals in basin fill and bedrock, respectively. Groundwater elevations in BMO monitor wells screened in basin fill have decreased over time. The maximum decrease has been 5.85 feet since July 2008 or a rate of decline of approximately 1.7 feet per year. Groundwater elevations in most BMO monitor wells screened in bedrock have declined over time, although the rate of decline is less than in basin fill wells except at BMO-2008-10GU. BMO-2008-10GL and BMO-2008-11G display increasing trends, and BMO-2010-1M is relatively steady over time.

4. REFERENCES

- Arizona Department of Environmental Quality (ADEQ). 2007. Mitigation Order on Consent, Docket No. P-121-07, In the Matter of: Phelps Dodge Corporation, Copper Queen Branch, located at 36 West Highway 92, Bisbee, Arizona, ADEQ Identification Number 100531. November 14, 2007.
- ADEQ. 2010. Correspondence from Cynthia Campbell, ADEQ, to Rebecca Sawyer, CQB, Re: Request to Modify Groundwater Monitoring Program, Mitigation Order on Consent No. P-127-07, Your Letter dated January 25, 2010. April 22, 2010.
- Clear Creek Associates (Clear Creek). 2010. Revision I Aquifer Characterization Report, Task 4.0 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona, Volumes I and II. December 15, 2010.
- Freeport McMoRan Copper Queen Branch (CQB). 2010. Correspondence from Rebecca Sawyer, CQB, to Cynthia Campbell, ADEQ, Re: Request to Modify Groundwater Monitoring Program Mitigation Order on Consent No. P-121-07. January 25, 2010.
- Hydro Geo Chem, Inc. (HGC). 2008. Revision 1, Work Plan to Characterize and Mitigate Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Concentrator Tailing Storage Area, Cochise County, Arizona. July 3, 2008.

TABLES

Table 1 Schedule for Water Quality Sampling and Water Level Monitoring

Well Name	ADWR 55 Registry 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-2008-10GL	909435			✓	
BMO-2008-10GU	909272			✓	
BMO-2008-11G	909434	✓		✓	
BMO-2008-13B	909551			✓	
BMO-2008-13M	909760			✓	
BMO-2010-1M	219957	✓	✓	✓	✓
BMO-2010-2M	219958	✓	✓	✓	✓
BMO-2010-3B	219970	✓	✓	✓	✓
BMO-2010-3M	219969	✓	✓	✓	✓
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	



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
DOUGLASS 792	592792	WLO		WLO	
DURAZO	NR	✓	✓	✓	✓
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	✓		✓	



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-02A	522574	✓		✓	
TM-06 MILLER	522695			✓	
TM-07	522576	✓		✓	
TM-15 MILLER	522699			✓	
TM-16	522578			✓	
TM-19A	522580	✓		✓	
TM-42	562554			✓	
TVI 236	802236			✓	
TVI 713	567713	WLO		WLO	
TVI 875	568875	✓	✓	✓	✓
WEED	544535	✓	✓	✓	✓
WEISKOPF	641802	✓	✓	✓	✓
ZANDER	205126	✓	✓	✓	✓

Notes:

ADWR = Arizona Department of Water Resources

WLO = Water Level Only

NR = No Record



Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status	
ANDERSON	613396	Anderson	Well Inventory	236	Υ	Υ	Water quality sample collected in February 2012	
AWC-02	616586	Arizona Water Company	Plume	330	N	Y	Water quality sample collected in February 2012. Unable to collect water level because well was pumping.	
AWC-03	616585	Arizona Water Company	Plume	269	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because well was pumping.	
AWC-04	616584	Arizona Water Company	Plume	250	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because well was pumping.	
AWC-05	590620	Arizona Water Company	Plume	1183	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because well was pumping.	
BANKS 986	647986	Banks	Well Inventory	435	N	Υ	Water quality sample collected in January 2012. Unable to collect water level because wellhead is not accessible.	
BANKS 987	647987	Banks	Well Inventory	339	Υ	N	Water level collected in January 2012.	
BARTON 919	644919	Barton	Plume	130	N	N	Unable to access well. Unable to contact well owner.	
BF-01	539783	Copper Queen Branch	Plume	400	Y	Y	Water quality sample and water level collected in February 2012.	
BIMA	577927	Bisbee Municipal Airport	Plume	465	N	Y	Water quality sample collected in February 2012. Water level not collected, could not get sounder down well.	
BMO-2008-1G	909474	Copper Queen Branch	Plume	310	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-3B	909147	Copper Queen Branch	Plume	260	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-4B	910096	Copper Queen Branch	Plume	610	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-5B	909653	Copper Queen Branch	Plume	285	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-5M	909552	Copper Queen Branch	Plume	450	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-6B	909146	Copper Queen Branch	Plume	265	Υ	Υ	Water quality sample collected in February 2012.	
BMO-2008-6M	909019	Copper Queen Branch	Plume	450	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-7M	908794	Copper Queen Branch	Plume	670	Υ	Υ	Water quality sample collected in January 2012.	
BMO-2008-8B	910097	Copper Queen Branch	Plume	480	Υ	Υ	Water quality sample collected in January 2012.	
BMO-2008-8M	909711	Copper Queen Branch	Plume	1210	Υ	Y	Water quality sample collected in February 2012.	
BMO-2008-9M	909255	Copper Queen Branch	Plume	775	Υ	Y	Water quality sample collected in February 2012.	
BMO-2008-10GL	909435	Copper Queen Branch	Plume	810	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-10GU	909272	Copper Queen Branch	Plume	449	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-11G	909434	Copper Queen Branch	Plume	760	Υ	Y	Water quality sample collected in January 2012.	
BMO-2008-13B	909551	Copper Queen Branch	Plume	474	Y	Y	Water quality sample collected in February 2012.	
BMO-2008-13M	909760	Copper Queen Branch	Plume	1030	Υ	Υ	Water quality sample collected in February 2012.	
BMO-2010-1M	219957	Copper Queen Branch	Plume	540	Υ	Υ	Water quality sample collected in February 2012.	
BMO-2010-2M	219958	Copper Queen Branch	Plume	370	Υ	Υ	Water quality sample collected in February 2012.	
BMO-2010-3B	219970	Copper Queen Branch	Plume	330	Y	Y	Water quality sample collected in February 2012.	



Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status	
BMO-2010-3M	219969	Copper Queen Branch	Plume	532	Y	Y	Water quality sample collected in February 2012.	
CHAMBERS	629807	Chambers	Well Inventory	245	N	Y	Water quality sample collected in February 2012. 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 first quarter 2012 sampling.	
COB MW-2	903984	City of Bisbee	Plume	170	Y	Y	Water quality sample collected January 2012.	
COB MW-3	906823	City of Bisbee	Plume	269	N	N	Well not scheduled for first quarter 2012 sampling.	
COB WL	593116	City of Bisbee	Plume	150	N	N	Well not scheduled for first quarter 2012 sampling.	
COOPER	623564	Cooper	Plume	325	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because wellhead is not accessible.	
COOPER C	637069	Hutson	Plume	220	Υ	Υ	Water quality sample collected in February 2012.	
DODSON	644927	Dodson	Plume	200	Y	Y	Water quality sample collected in January 2012.	
DOUGLASS 791	592791	Douglass	Well Inventory	200	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2012	
DOUGLASS 792	592792	Douglass	Well Inventory	200	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2012.	
DURAZO	NR	Durazo	Well Inventory	ND	N	Y	Water quality sample collected in February 2012. Unable to collect water level because wellhead is not accessible.	
EAST	599796	East	Well Inventory	125	Υ	Υ	Water quality sample collected in January 2012.	
ECHAVE	291449	Echave	Well Inventory	345	Υ	Υ	Water quality sample and water level collected in February, 2012.	
EPPELE 641	805641	Eppele	Well Inventory	265	Y	Y	Water quality sample collected in January 2012.	
FLEMING	218386	Fleming	Well Inventory	400	Y	N	Well identified for water level measurements only. Water level measurement taken in February 2012.	
FRANCO	500101	Franco	Well Inventory	200	N	N	Well is not currently operational.	
FULTZ	212447	Fultz	Well Inventory	300	N	N	Water quality sample collected per owner request. 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 February 2012.	
GARNER 635	587635	Garner	Plume	680	Υ	Υ	Water quality sample collected in February 2012.	
GL-03	539782	Copper Queen Branch	Well Inventory	825	Υ	Υ	Water quality sample collected in February 2012.	
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 February 2012.	
HOBAN	805290	Copper Queen Branch	Well Inventory	316	Y	Υ	Water quality sample and water level collected in February, 2012.	
HOWARD	NR	Howard	Well Inventory	200	Υ	Υ	Water quality sample collected in February 2012.	
KEEFER	209744	Keefer	Well Inventory	245	Υ	Υ	Water quality sample collected in February 2012.	



Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status	
MARCELL	NR	Marcell	Plume	220	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because there is no available port in wellhead.	
MCCONNELL 265	539265	McConnell	Well Inventory	216	Υ	Y	Water quality sample collected in February 2012.	
METZLER	35-71891	Metzler	Well Inventory	351	Υ	Y	Water quality sample collected in February 2012.	
MOORE	538847	Moore	Well Inventory	220	N	Y	Water quality sample collected in January 2012. Unable to collect water level because wellhead is not accessible.	
NESS	509127	Ness	Well Inventory	812	Y	Y	Water quality sample collected in February 2012.	
NOTEMAN	212483	Noteman	Well Inventory	400	N	Y	Water quality sample collected in February 2012. 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. Water level measurement taken in March 2012	
NSD-03	527586	Naco Sanitary District	Water Level	100	Υ	Z	Well identified for water level measurements only. Water level measurement taken in March 2012	
NWC-02	562944	Naco Water Company	Plume	312	N	Υ	Water quality sample collected in January 2012. 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 2012. 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 February 2012.	
NWC-04	551849	Naco Water Company	Well Inventory Sulfate Trend	795	N	Y	Water quality sample collected in January, February and March 2012. Unable to collect water levels because sounder is currently stuck in the well.	
NWC-06	575700	Naco Water Company	Well Inventory	410	N	Y	Water quality sample collected in January 2012. Unable to collect water level because the well was pumping.	
OSBORN	643436	Osborn	Plume	258	Y	Υ	Water quality sample collected in February 2012.	
PALMER	578819	Palmer	Well Inventory	220	N	Y	Water quality sample collected in February 2012. Unable to collect water level because wellhead is inaccessible.	
PANAGAKOS	35-76413	Panagakos	Well Inventory	200	Υ	Υ	Water quality samples collected in February and March 2012.	
PARRA	576415	Parra	Plume	355	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because of obstruction in well.	
PIONKE	613395	Pionke	Well Inventory	300	Υ	Y	Water quality sample collected in February 2012.	
POOL	509518	Pool	Well Inventory	313	N	N	Unable to access well. Unable to contact well owner.	
RAMIREZ	216425	Ramirez	Well Inventory	300	N	Y	Water quality sample collected in January 2012. Unable to collect water level because of obstruction in well.	
RAY	803772	Ray	Well Inventory	100	Υ	Υ	Water quality sample collected in January 2012.	
ROGERS 596	573596	Rogers, Ernest D	Plume	290	Y	N	Well is turned off. Rogers residence uses ROGERS 803. Water level measurement collected in January 2012.	
ROGERS 803	641803	Rogers, Ernest D	Plume	140	N	Y	Water quality sample collected in January 2012. Unable to collect water level measurement because wellhead is not accessible.	
ROGERS E	216018	Rogers, Ernest M	Well Inventory	290	Y	Υ	Water quality sample collected in January 2012.	



Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet bls)	Water Level Measured?	Water Sample Collected?	Status
RUIZ	531770	Ruiz	Well Inventory	312	N	Y	Water quality sample collected in February 2012. Unable to collect water level measurement because of obstruction in well.
SCHWARTZ	210865	Schwartz	Well Inventory	305	Y	Y	Water quality sample collected in February 2012.
STEPHENS	808560	Stephens	Well Inventory	NR	Y	N	Well identified for water level measurements only. Water level measurement taken in January 2012
SUNBELT	201531	Sunbelt Marketing, Inc.	Well Inventory	380	Υ	N	Well identified for water level measurements only. Water level measurement taken in February 2012
SWAN	NR	Swan	Well Inventory	NR	Υ	Υ	Water quality sample collected in February 2012.
TM-02A	522574	Copper Queen Branch	Plume	925	Y	Y	Water quality sample collected in January 2012.
TM-03	522575	Copper Queen Branch	Well Inventory	200	Y	Y	Water quality sample collected in February 2012.
TM-06 MILLER	522695	Miller	Plume	200	N	N	Well not scheduled for first quarter 2012 sampling.
TM-07	522576	Copper Queen Branch	Plume	350	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because water is blelow top of pumping equipment
TM-10 USBP	522696	U.S. Border Patrol	Well Inventory	290	Y	Y	Water quality sample collected in March 2012.
TM-15 MILLER	522699	Miller	Well Inventory	325	N	N	Well not scheduled for first quarter 2012 sampling.
TM-16	522578	Copper Queen Branch	Plume	115	N	N	Well not scheduled for first quarter 2012 sampling.
TM-19A	522580	Copper Queen Branch	Plume	700	Y	Y	Water quality sample in February 2012
TM-42	562554	Copper Queen Branch	Plume	250	N	Y	Water quality sample in February 2012; Unable to collect water level due to obstruction in sounding tube.
TVI 236	802236	Turquoise Valley, Inc.	Well Inventory	222	N	N	Well not scheduled for first quarter 2012 sampling.
TVI 713	567713	Turquoise Valley, Inc.	Well Inventory	200	Υ	N	Well identified for water level measurements only. Water level measurement taken in February 2012.
TVI 875	568875	Turquoise Valley, Inc.	Plume	330	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because well head is not accessible.
WEED	544535	Weed	Plume	320	N	Υ	Water quality sample collected in February 2012. Unable to collect water level because well head is not accessible.
WEISKOPF	641802	Weiskopf	Plume	200	Υ	Υ	Water quality sample collected in February 2012.
WMD-2011-03M	913037	Copper Queen Branch	Plume	595	Υ	Υ	Water quality sample collected in February 2012.
ZANDER	205126	Zander	Well Inventory	280	Y	Υ	Water quality sample collected in January 2012.

ADWR = Arizona Department of Water Resources

ft bls = feet below land surface

NR = No Record

35-71891 = ADWR 35 Database

Y = Yes

N = No



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

For Surface and Field Parameters									
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)			
		3/20/08	7.25	21.1	1176	431			
		5/5/08	7.03	21.8	1231	452			
		7/14/08	7.11	21.6	1260	472			
		10/15/08	7.10	21.3	1252	475			
		1/27/09	7.27	21.0	965	488			
		4/14/09	7.12	21.8	1229	534			
		7/14/09	7.03	22.2	1372	550			
		10/12/09	6.98	21.5	1375	510			
ANDERSON	613396	1/27/10	7.93	20.1	1449	523			
		4/21/10	7.40	20.7	1439	627			
		7/19/10	6.93	24.1	1420	648			
		10/19/10	7.03	20.6	1229	416			
		1/17/11	7.02	20.6	1334	562			
		4/11/11	6.92	15.1	1485	609			
		7/14/11	7.23	24.4	1451	678			
		10/11/11	6.65	21.2	1230	543			
		2/1/12	7.28	11.8	1360	551			
		1/7/08	ND	ND	ND	14			
		3/3/08	ND	ND	ND	16			
		5/5/08	ND	ND	ND	13.3			
	<u> </u>	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			
	<u> </u>	4/22/09	7.17	22.6	430	14.7			
		7/22/09	7.24	22.7	444	14.2			
	<u> </u>	10/21/09	7.19	21.3	468	16.8			
AWC-02	616586	2/3/10	7.44	19.7	449	18.6			
	L	4/23/10	7.56	19.7	526	18.3			
	<u> </u>	7/20/10	7.27	23.9	450	18.2			
		11/4/10	7.72	21.3	465.9	18.8			
	-	1/19/11	7.84	19.0	500	18.4			
	-	4/7/11	7.27	20.3	488.5	17.3			
		7/13/11	5.93	23.9	431.5	12.9			
		10/13/11	6.72	25.1	464.6	17.4			
		10/13/11 DUP	6.72	25.1	464.6	17.4			
	-	2/2/12 1/7/08	7.20 ND	20.8 ND	479.5 ND	19.4 41			
			ND ND	ND ND	ND ND	38			
		3/3/08 5/5/08	ND ND	ND 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	7.46	21.2	462	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			
AWC-03	616585	2/3/10	7.44	19.7	449	42.0			
		4/23/10	7.57	19.7	468	44.4			
		7/20/10	7.29	23.8	460	46.7			
		11/4/10	7.80	20.8	452.3	46.3			
		1/19/11	7.07	19.6	560	49.0			
		4/7/11	7.28	19.9	469.8	46.8			
		7/13/11	6.33	23.1	458.8	47.6			
		7/13/11 DUP	6.33	23.1	458.8	46.2			
		10/13/11	6.69	23.8	463.6	48.8			
	F	2/2/12	7.39	20.7	504.8	47.7			



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

		For Sulfate and	pH	Temp	SC	Sulfate, dissolved
Well Name	ADWR 55 Registry No.	Sample Date	(SU)	(deg C)	(μS/cm)	(mg/L)
		2/4/08	ND	ND	ND	18
		4/7/08	ND ND	ND ND	ND	18
		6/2/08 8/12/08	7.08	ND 22.5	ND 458	14.3 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
AWC-04	616584	10/21/09	7.00	21.2	607	25.7
7,000 04	010004	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 1/19/11	7.41 8.15	20.3 20.5	593.2 690	24.0 26.2
		4/7/11	7.00	20.4	637.2	25.8
		7/13/11	6.88	20.4	610.1	25.7
		10/13/11	6.38	24.0	619.7	27.6
		2/2/12	6.97	20.1	637.6	27.2
		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 3/11/09	7.45	21.0	422	15.4
	-	6/3/09	7.31 7.33	22.1 22.0	398 418	16.5 12.1
		7/22/09	7.49	24.4	423	14.1
1110.05	500000	10/21/09	7.37	21.1	433	16.5
AWC-05	590620	2/3/10	7.35	19.3	438	16.3
		4/23/10	7.62	18.9	443	17.6
		7/20/10	7.62	24.2	440	19.1
	_	11/4/10	7.92	20.7	427.1	18.4
		1/19/11	7.64	20.3	420	17.0
		4/7/11 7/13/11	7.22 6.52	20.8 22.9	438.3 419.8	17.6 17.9
		10/13/11	6.82	26.0	427.5	19
		2/2/12	7.35	21.4	427.9	19.5
		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 7/9/09	7.56 7.59	22.7 23.1	933 871	47 70.9
	-	10/7/09	7.50	22.2	838	67.7
D.1.11/0.000	-	2/25/10	7.56	21.1	1020	50.5
BANKS 986	647986	4/20/10	7.71	22.8	1013	53.9
		7/20/10	7.70	23.2	828.3	71.5
		10/20/10	7.60	22.4	948.7	73.4
		1/17/11	7.73	20.6	1038	53.5
		4/5/11	7.66	21.5	965.0	64.5
		7/11/11 10/12/11	7.72 7.88	25.4 21.2	890.0 1551	68.8 172
		1/31/12	7.88	20.2	1017	64.3
		1/31/2012 DUP	7.69	20.2	1017	64.9
		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
DE 04	F20702	5/6/09	5.98	23.9	2632	1280
BF-01	539783	8/17/09	6.21	29.7	2948 2846	1250
		11/4/09 3/1/10	6.24 6.34	23.0 21.1	2846	1280 1260
		4/7/10	5.83	20.4	1853	1450
		7/6/10	5.93	22.6	1403	1310
		7/13/11	6.26	21.3	2960	1350
	1 -	2/1/12	6.18	19.8	2910	1480



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

				T	00	0 11 1 1
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
		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
	<u> </u>	1/20/09	6.40	21.7	1233	190
DIMA	577007	1/20/09 DUP	6.40	21.7	1233	200
BIMA	577927	4/7/09	6.45	23.4	1436	212
	_	7/8/09	6.31	23.4	1483	189
	-	10/5/09	6.34	22.7	1525	233
	-	1/20/10	6.88	17.0	M	222
	-	4/19/10	6.70	21.9	1533	256
	-	7/12/10	6.70	24.0	1577	273
	-	10/18/10	6.47	24.3	1702	296
		1/19/11	6.65	21.2	1672	283
	-	4/4/11	6.61	24.0	1643	282
		8/25/11	6.27	25.9	1460	300
		10/10/11	6.5	24.1	1520	322
		2/3/12	6.48	18.5	1540	312
		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
BLOMMER	633472	6/23/2008 ¹	6.93	21.5	903	193
		7/29/20081	7.21	22.2	921	203
		8/27/20081	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
		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 8/4/09	7.04	22.2	762 950	198 104
	-		7.23	22.8	922	103
BMO-2008-1G	909474	10/27/09 2/17/10	7.11 7.36	21.9 20.5	899.3	98.4
DIVIO-2000-10	909474	4/15/10	7.04	22.2	711	95.2
		7/7/10	6.91	21.5	640	88.1
		7/7/10 DUP	6.91	21.5	640	87.1
		2/10/11	6.80	21.0	916	105
		7/12/11	7.2	26.6	1015	121
		2/8/12	7.02	20.2	869	116
	+	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
BMO-2008-3B	909147	10/26/09	7.32	21.8	684	153
		3/3/10	7.38	21.4	695	164
		4/8/10	6.47	21.3	585	162
		7/1/10	6.92	21.4	541	157
	-	2/14/11	6.98	20.6	698	169
		7/12/11	7.04		672	148
		2/23/12	6.92	21.4 21.0	6.95	173
		2/23/12	0.92	∠1.U	0.90	1/3



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

		For Sulfate and	Tiola Larame	1		
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
	1	12/11/08	7.34	22.8	374	9.4
	I	2/18/09	7.17	23.2	370	13.4
	ı	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
BMO-2008-4B	910096	10/27/09	7.53	23.7	379	11.2
DIVIO-2000-4D	910030	2/24/10	7.48	21.8	362	9.7
	L	4/16/10	7.70	23.4	330	9.73
	l L	7/2/10	7.25	23.6	323	10.10
		2/15/11	7.65	22.2	362	8.90
		7/22/11	7.33	23.7	371	10.2
		2/23/12	7.21	22.3	354	10.5
		9/30/08	7.08	22.0	688	193
		2/18/09	7.03	21.5	691	192
	- I	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 2/15/10	7.29 7.22	21.8	731 720	185 185
BMO-2008-5B	909653	4/15/10	7.22	21.7 23.0	571	194
DIVIO-2000-3D	909033	7/7/10	6.94	22.2	551	183
		10/5/10	6.85	22.3	722	201
	l H	2/14/11	6.90	21.8	725	203
	l H	5/12/11	7.06	21.5	722	195
	l H	7/13/11	6.99	22.0	712	200
	l H	12/7/11	6.95	19.9	730	213
		2/3/12	7.16	20.2	726	215
	1	10/2/08	7.13	23.6	551	107
	l F	2/18/09	7.06	22.5	562	122
	I	4/27/09	7.50	22.9	501	111
	I	8/4/09	7.53	23.1	605	122
	l l	10/29/09	7.35	22.4	610	123
		2/15/10	7.31	22.5	581	123
	ı	4/16/10	7.28	22.6	509	125
BMO-2008-5M	909552	4/16/10 DUP	7.28	22.6	509	124
		7/7/10	7.02	23.5	482	123
		10/5/10	6.81	22.5	602	127
		2/14/11	6.95	22.2	591	124
		5/12/11	7.16	23.0	558	119
	L	7/12/11	7.22	22.7	590	126
	L	12/7/11	7.1	21.2	601	129
		2/3/12	6.99	21.5	589	130
		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
DMO 2000 CD	000446	2/15/10	7.53	21.2	391	33.5
BMO-2008-6B	909146	4/15/10	7.47	21.0	362	37.0
		7/1/10	7.24	22.2	361	40.1
		10/5/10	7.05	21.0	407	37.2
		2/14/11	7.27	21.8	397	40.2
		5/12/11	7.32	21.5	380	35.0
		7/12/11 12/7/11	7.27 7.28	21.1	390	37.8
				20.8	330	21.8
		2/3/12	7.28	20.1	346	23.0



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

		For Suitate and	1 1014 1 4141110	1010		
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
		7/10/08	М	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
BMO-2008-6M	909019	4/15/10	7.36	20.2	619	208
		7/1/10	7.15	22.0	571	198
		10/5/10	6.87	21.3	720	202
		2/14/11	6.80	21.3	731	202
		5/12/11	7.12	21.9	709	189
		7/12/11	7.06	21.8	709	194
		12/7/11	6.94	21.3	710	200
		2/3/12	7.03	21.2	720	206
		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
BMO-2008-7M	908794	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 2/14/11 DUP	7.18	22.0	465	27.5
		7/15/11	7.18 7.1	22.0 22.8	465 466	26.4 26.5
		1/30/12	7.16	22.0	454	26.4
		12/5/08	6.47	20.1	2480	1890
		2/19/09	6.19	21.0	2958	1570
	l -	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
BMO-2008-8B	910097	3/3/10	6.51	20.4	3016	1320
		4/16/10	6.06	21.4	1682	1470
		7/1/10	6.10	21.4	1594	1440
		7/15/11	6.21	21.2	2940	1380
		1/30/12	6.22	21.2	2880	1480
		1/30/12 DUP	6.22	21.2	2880	1480
		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
BMO-2008-8M	909711	11/5/09	7.30	25.4	675	104
DIVIO-2000-01VI	303/11	3/3/10	7.70	24.1	641	99.5
		4/16/10	7.29	24.5	541	97.0
		7/1/10	6.99	25.0	502	94.7
		1/24/11	7.05	23.4	595	98.2
		7/15/11	6.89	22.1	590	79.9
		1/30/12	7.36	23.9	565	77.6
		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
BMO-2008-9M	909255	11/3/09	7.82	24.9	552	56.9
		3/4/10	8.07	22.4	520	58.6
	Į.	4/6/10	6.74	23.8	484	60.1
	<u> </u>	7/1/10	7.40	24.6	425	61.0
	Ļ	2/10/11	6.79	24.0	520	64.2
		7/15/11	7.56	24.3	516	67
		2/1/12	7.54	22.4	516	67.4



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)
		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
	<u> </u>	5/12/09	6.35	26.2	2402	1120
	<u> </u>	8/11/09	6.52	27.3	2661	1030
BMO-2008-10GL	909435	11/2/09	6.52	26.7	2565	1100
	-	3/4/10	6.76	24.1	2937	1080
		4/8/10	6.03	25.6	1575	1260
		7/2/10	6.16	26.3	1338	1020
	-	7/13/11	6.32	24.8	1726	644
		2/2/12	6.45	24.8	1600	624
		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
	I -	8/11/09	6.28	22.5	3348	1690
BMO-2008-10GU	909272	11/2/09	6.27	21.8	3157	1730
	-	3/10/10	6.67	19.1	3951	1700
		4/7/10	5.96	20.4	3210	1510
	-	7/6/10	5.90	21.8	1610	1670
	-	7/13/11	6.12	22.3	3890	1670
		2/1/12	6.09	19.2	3820	1870
		8/22/08	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
B140 0000 440	I	11/9/09	8.03	25.5	339	13.9
BMO-2008-11G	909434	3/1/10	8.37	23.2	338	13.0
	-	4/9/10	6.88	24.5	301	13.0
		7/1/10	6.97	25.4	298	12.3
		2/10/11	6.99	24.0	327	11.7
		7/22/11	7.26	24.6	331	12.1
		7/22/11 DUP	7.26	24.6	331	12.0
		1/31/12	7.41	24.1	328	11.9
	-	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
BMO-2008-13B	909551	10/28/09	6.81	19.7	2259	1010
	-	2/16/10	6.87	20.8	2093	997
		4/14/10	6.38	21.2	1346	974
	⊢	7/6/10	6.37	21.8	1208	972
	⊢	7/15/11	6.44	20.8	2160	1010
	+	2/9/12	6.68	20.3	2180	1060
		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
PMO 2000 42M	000760	8/5/09	8.04	25.4	1392	387
BMO-2008-13M	909760	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
	<u> </u>	7/2/10	8.30	23.9	1027	386
	+	7/15/11	8.4	23.4	1331	388
		9/9/10	7.82	24.6	727.0	150
		11/11/10	8.68	19.9	570	98
PMO 2040 4M	240057	2/11/11	8.15	20.8	589	138
BMO-2010-1M	219957	5/12/11	7.74	23.0	710	129
	⊢	8/31/11	7.74	23.2	562	154
		12/13/11	7.63	21.3	713	149
		2/8/12	7.69	22.0	605	158



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

		roi Sullate allu				
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
		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
BMO-2010-2M	219958	5/13/11	6.54	21.1	2160	887
		7/14/11	6.62	21.5	2160	917
	_	12/13/11	6.59	20.3	2140	984
		1/30/12	6.41	21.4	2180	989
		7/29/10 11/10/10	7.48	23.1 21.2	420	16.0 14.9
		1/20/11	7.43 7.44	20.9	370 416.1	14.9
		4/7/11	7.38	20.1	424.6	14.9
BMO-2010-3B	219970	7/13/11	7.68	22.3	404.5	13.8
		10/13/11	7.63	23.4	411.2	15.9
		2/2/12	7.52	20.4	400.2	16.9
		2/2/2012 DUP	7.52	20.4	400.2	17.1
		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
BMO-2010-3M	219969	1/20/11	7.72	22.6	380.4	11.5
DIVIO 2010 SIVI	213303	4/7/11	7.38	23.5	376.5	12.3
		8/25/11	7.17	24.3	340	10.4
		10/13/11	7.73	23.6	375.8	10.5
		2/2/12	7.68	22.0	367.1	10.6
		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 2/11/09	7.57 7.23	26.0 25.0	466 363	20.5 23.9
BURKE	212268	4/28/09	7.16	26.1	369	24.2
DOMAL	212200	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
		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
CHAMBERS	629807	10/13/09 1/26/10	7.41 7.31	22.6 21.3	410 416	6.5 5.7
CHAMBERS	029007	4/23/10	7.47	20.9	427.5	8.34
		7/21/10	7.49	23.1	430	7.75
		10/19/10	8.00	23.0	440	7.04
		1/18/11	7.47	22.4	390	7.30
		4/11/11	7.18	22.0	427.3	7.74
		7/18/11	7.18	23.8	420.2	8.18
		10/12/11	7.33	22.6	425.8	7.8
		2/6/12	7.43	21.8	434.6	9.08
		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
COR MANA/ 4	002002	4/21/09	7.15	22.7	1366	720
COB MW-1	903992	7/22/09	6.94	21.6	1570	680
		7/22/09 DUP	6.94	21.6	1570	730
		10/22/09 2/4/10	6.81 7.04	22.3	1582 1653	820 680
	-	4/20/10	6.92	21.1 21.8	1653 1836	783
		7/13/10	7.02	22.3	2004	919
		1/10/10	1.02	22.0	2007	919



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

For Suitate and Field Parameters									
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)			
		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			
	L	7/22/09	7.36	21.3	483	33.5			
COB MW-2	903984	10/22/09	7.24	21.0	454	32.2			
		3/3/10	7.55	19.7	450	33.5			
		4/26/10	7.28	21.3	479.6	34.8			
		7/13/10	6.91	21.2	479.5	30.4			
		7/13/10 DUP	6.91	21.2	479.5	30.6			
		1/20/11	7.47	20.7	440	29.6			
		7/14/11 1/31/12	7.11 7.53	21.1 20.3	472.6 466.6	29.8 30.0			
	+	2/28/08	7.39	21.0	416	57.8			
		3/27/08	ND	ND	ND	57.7			
		4/30/08	ND ND	ND ND	ND ND	37.7			
		5/20/08	7.56	22.3	473	35.8			
		7/24/08	ND	ND	ND	64.9			
	F	7/30/08	7.64	22.3	541	67.3			
	F	10/9/08	ND	ND	ND	52.5			
		10/23/08	7.43	20.8	507	76.6			
COB MW-3	906823	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			
	L	7/13/10	7.41	21.7	456.7	46.5			
	 	7/14/11	7.19	21.8	440.0	40.1			
		2/22/08	6.99	20.6	919	90			
		3/24/08	ND	ND	ND	98.2			
		4/28/08	ND 7.00	ND	ND 1050	98.7			
		5/20/08 7/30/08	7.30 7.17	21.9	1053 1098	98 97.1			
		7/30/08	ND	22.0 ND	ND	100			
		10/15/08	ND ND	ND ND	ND ND	107			
		10/23/08	7.23	21.4	1075	104			
COB WL	593116	2/12/09	6.98	20.6	814	94			
		4/23/09	7.29	22.2	923	98			
		7/22/09	7.17	22.5	1037	97.3			
		10/22/09	7.17	22.4	988	96.1			
		3/3/10	7.48	21.1	1030	97.1			
		4/26/10	7.36	21.9	1038	97.7			
		4/26/10 DUP	7.36	21.9	1038	97.9			
		7/13/10	7.18	22.3	1013	88.7			
		7/14/11	6.91	21.6	1019	87.3			
	<u> </u>	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			
COLLINS	565260	2/11/09	6.68	21.4	1147	567			
COLLINS	303200	4/21/09 7/22/09	6.92 7.00	22.5 22.4	1150 1413	499 460			
		10/20/09	6.60	21.9	1413	513			
	⊢	2/2/10	6.98	21.9	1432	471			
	 	4/23/10	6.99	20.6	1472	561			
		7/20/10	6.69	25.0	1420	569			
		1,20,10	0.00	20.0	1720	505			



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)
		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
COOPER	600564	10/14/09	7.85	24.6	423	33.6
COOPER	623564	2/1/10 4/22/10	7.83 7.82	13.6 17.9	433 433	32.4 34.5
		7/19/10	7.98	29.3	420	35.0
	 	10/18/10	7.12	73.1	450	33.1
		1/19/11	8.83	18.4	410	32.1
		4/11/11	7.65	21.0	442.6	34.3
		7/11/11	7.45	24.2	426.5	32.1
		11/22/11	7.86	20.6	426.1	33.7
		2/1/12	7.97	21.8	429.2	34.1
		3/20/08	6.93	21.3	2081	880
		5/5/08 7/15/08	6.78 6.86	22.4 22.3	2139 2162	990 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
COOPER C	637069	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 10/20/10	6.84 7.16	22.9 20.9	1761 1980	921 829
		1/17/11	6.95	20.5	1880	756
	-	4/11/11	6.82	21.0	1942	834
		8/26/11	6.84	21.8	1800	847
		2/1/12	7.13	20.5	2024	867
		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 4/9/09	7.20 7.09	20.4 21.4	892 1103	51.8 50.1
		7/8/09	7.09	21.4	1153	55.9
		10/6/09	7.18	21.1	1140	49.3
	 	1/21/10	7.15	18.9	1227	44.6
DODSON	644927	4/19/10	7.46	19.9	1261	48.8
		4/19/10 DUP	7.46	19.9	1261	48.6
		7/20/10	7.16	22.7	1260	47.5
		10/18/10	6.43	21.2	1260	49.3
		1/19/11	7.88	19.5	1120	57.9
	-	4/5/11	7.03	20.9	1300	49.0
		7/12/11 10/10/11	6.86 6.79	23.7 20.9	1352 1280	52.9 50.9
	-	10/10/11 10/10/11 DUP	6.79	20.9	1280	49.6
		1/31/12	7.17	20.3	1454	50.4
		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
חוום א זיי	ND	4/26/10	7.22	23.1	1099	388
DURAZO	NR	7/20/10	7.28	23.0	1070	405
		10/19/10 1/19/11	7.28 7.94	21.9 21.6	1112 1050	398 360
		4/4/11	7.20	21.9	1119	383
		7/14/11	7.01	23.6	1101	409
		10/12/11	7.23	24.9	1000	396
	T F	2/7/12	7.26	25.3	1152	404



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

		For Sulfate and				
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
		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 10/8/09	7.33 7.29	21.2 20.8	613 593	13.8 13.4
		1/25/10	7.08	19.0	585	10.7
EAST	599796	4/21/10	7.42	20.5	616	14.4
	F	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
	L	4/5/11	7.19	20.8	612.5	13.8
		7/12/11	7.23	21.7	595.1	12.7
		10/12/11	7.31	21.4	599.7	15.1
		10/12/11 DUP	7.31	21.4	599.7	15.1
ECHAVE	219449	1/31/12 2/1/12	7.24	20.0	610	12.8 26.7
ECHAVE	219449	3/11/08	7.39 7.98	20.7 21.4	390.0 646	21.7
		5/12/08	7.21	21.7	667	24.7
		7/21/08	7.49	23.9	605	19
	F	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
EPPELE 641	805641	7/20/10	7.58	23.3	529.2	21.1
		10/20/10	7.66	21.0	572.1	17.2
		1/17/11	7.43	21.0	576.4	17.3
		4/5/11	7.43	21.5	569.2	16.7
		7/11/11 7/11/11 DUP	7.27 7.27	23.5 23.5	563.1 563.1	18.6 18.3
		10/12/11	7.38	20.9	500.0	19.6
		1/31/12	7.68	19.9	560.8	18.2
FLEMING	218386	7/15/10	6.98	24.2	1390	573
		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
	L	10/15/08	7.20	20.5	1560	680
	l ⊢	1/22/09	7.19	20.1	1178	740
FRANCO	500101	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	650 640
		1/26/10 4/23/10	6.91 7.43	18.5 15.8	1529 1559	699
		7/13/10	7.48	28.6	901.6	188
	+	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	М	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
FULTZ	212447	7/13/09	7.04	23.4	1452	81 72
		10/8/09 10/8/09 DUP	7.00 7.00	21.6 21.6	1262 1262	71.8
		1/25/10	7.00	21.8	1282	66.7
		4/20/10	7.32	21.2	1202	68.3
		7/14/10	7.75	22.2	1132	57.0
		10/20/10	7.27	20.5	1091	54.7
		1/18/11	7.23	20.4	1136	56.9
		4/5/11	7.08	22.1	1082	49.5
		4/5/11 DUP	7.08	22.1	1082	51.7
	1	0/05/44	C 4E	23.3	940	50.6
		8/25/11 10/12/11	6.45 7.22	21.7	870	48.5



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

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Well Name	ADWR 55 Registry No.	Sample Date	pH	Temp	SC (v.S.(am)	Sulfate, dissolved		
	,	·	(SU)	(deg C)	(µS/cm)	(mg/L)		
GALLANT	502527	2/11/08	7.46	20.2	604	17.9		
O/ILE/IIVI	302321	7/23/08	7.26	21.2	925	20.9		
	L	2/4/08	7.61	22.7	479	37.8		
	L	5/5/08	7.26	24.9	468	35.8		
	L	7/15/08	7.63	25.6	480	37.4		
	L	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		
GARNER 635	587635	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 1/19/11 DUP	7.82 7.82	24.1	463.4	35.7 35.7		
		4/6/11	7.82	24.1 23.4	463.4 467.4			
		7/15/11	7.76		457.40	35.8 37.7		
		10/11/11	7.19	25.0 24.2	400.0	38		
		2/2/12	7.38	22.7	469.5	39.2		
	+	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		
GGOOSE 547	628547	2/24/09	7.06	23.8	851	186		
000002017	1 0200 17	5/14/09	7.15	23.9	743	174		
	l F	8/19/09	7.10	23.8	887	175		
	l F	11/11/09	7.15	23.1	897	188		
		3/4/08	7.43	25.7	417	20.3		
		5/22/08	7.06	25.3	647	43.3		
	I	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		
GL-03	539782	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		
		2/1/12	6.57	24.1	559	42.0		
		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		
	L	10/16/08	6.98	22.4	1624	692		
	[L	1/28/09	6.82	21.3	1220	580		
		4/15/09	7.07	21.7	1423	700		
HOBAN	805290	7/14/09	6.78	22.6	1551	670		
	[L	10/15/09	6.75	22.7	1487	670		
	-	10/15/09 DUP	6.75	22.7	1487	780		
	-	3/2/10	7.12	19.8	1575	580		
		8/31/11	6.64	22.3	1772	893		
		12/14/11	6.68	20.2	1870	944		
		2/1/12	6.74	20.9	1900	993		



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

			pН	Temp	SC	Sulfate, dissolved
Well Name	ADWR 55 Registry No.	Sample Date	(SU)	(deg C)	(μS/cm)	(mg/L)
		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
	L	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
HOWARD	NR	1/27/10	7.35	20.0	1714	440
		1/27/10 DUP 4/21/10	7.35 7.16	20.0 20.8	1714 1490	520 710
		7/19/10	6.94	24.6	1350	548
	 	10/18/10	6.47	21.4	1420	568
		1/17/11	7.12	19.8	1370	520
		4/11/11	7.20	20.6	1489	616
		8/26/11	7.11	23.2	1160	498
		10/11/11	7.1	21.0	1220	545
		10/11/11 DUP	7.1	21.0	1220	538
	T T	2/1/12	7.29	20.6	1367	630
		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
KEEFER	209744	1/26/10	7.15	18.8	483	7.3
	L	4/20/10	7.44	20.5	540.9	8.77
		7/15/10	7.50	22.2	535.8	8.84
		10/19/10	6.72	20.2	470	7.89
		1/18/11	7.45	20.6	450	7.24
		4/6/11	7.48	19.1	546.2	8.04
		7/18/11	7.19	23.2	492.3	7.79
		10/11/11	7.39	20.7	486.9	7.98
	+	2/6/12	7.36 7.12	20.3	482.0	6.84 669
		8/26/11 9/26/11	6.63	25.1 22.1	1390 1502	638
MARCELL	NR	11/22/11	7.29	21.0	1536	687
		2/1/12	7.42	20.8	1557	705
	+	2/20/08	7.42	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
	Ī	10/12/09	6.77	21.7	1594	666
MCCONNELL 265	539265	1/26/10	6.71	21.5	1641	685
		4/22/10	6.95	20.1	1691	811
		7/21/10	6.86	23.5	1560	805
		10/18/10	6.97	22.0	1704	775
		1/19/11	7.38	20.6	1610	711
		4/8/11	7.04	19.8	1775	810
		7/12/11	6.60	23.7	1702	790
1	<u> </u>	10/11/11	7.18	21.8	1590	845
		2/7/12	7.14	20.6	1842	847



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

		FOI Sullate and				
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
		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
METZLER	35-71891	10/14/09	7.1	22.7	989	315
		2/1/10	7.22	21.7	1021	286
		5/18/10	7.56	21.0	1053	330
	_	7/16/10	7.20	24.1	1007	330
	_	10/19/10	7.15	22.6	1006	319
	_	1/19/11	7.55	21.1	930	298
	-	4/4/11	7.03	23.3	1018	323
	-	7/12/11	7.07	22.3	993.0	312
	-	10/12/11	7.27	22.1	910	301
		2/7/12	7.36	21.5	1019	326
	-	2/20/08	7.69	22.2	362 432	7.1
	-	5/8/08 7/16/08	7.09 7.34	22.4 23.0	482	7.5 9.8
	-	10/29/08	7.34	23.0	482 452	19.2
	-	1/29/09	7.11	21.7	328	6.6
	-	4/16/09	7.11	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
MOORE	538847	4/22/10	7.47	20.6	433	7.40
		7/15/10	7.44	24.1	431.3	7.54
		7/15/10 DUP	7.44	24.1	431.3	7.11
		10/19/10	6.79	22.1	430	7.14
		1/18/11	7.48	21.1	390	6.42
		4/6/11	7.39	21.4	426.3	6.70
		7/13/11	6.91	23.2	423.4	7.62
		10/11/11	7.31	22.5	419.0	7.31
		1/31/12	7.35	21.7	430	7.21
		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
NESS	509127	11/12/09	7.53	24.5	537	51.3
	-	2/2/10	7.67	19.7	535	48.7
	<u> </u>	4/21/10	7.70	23.5	518.9	42.1
	<u> </u>	7/19/10	7.58	28.9	524.7	48.1
	Ļ	1/18/11	7.49	21.8	536.6	50.1
	-	7/12/11	7.48 7.58	26.3	520.0 538.2	43.5 49.0
		2/3/12 2/5/08	6.70	21.1 19.9	538.2 1317	310
	-	5/13/08	6.67	23.0	1445	272
	-	7/24/08	6.68	24.2	1539	274
	F	10/23/08	6.57	23.2	1643	356
	F	1/19/09	6.38	22.9	1098	322
	-	4/7/09	6.56	23.8	1375	303
	F	7/8/09	6.55	24.6	1405	260
l	<u> </u>	10/5/09	6.48	24.1	1442	281
NOTENANI	040400	1/20/10	6.79	20.3	1450	289
NOTEMAN	212483	4/19/10	6.81	22.4	1446	307
	ļ —	7/19/10	6.77	24.6	1438	309
		10/18/10	6.08	24.6	1430	280
		1/19/11	6.84	22.3	1446	266
		4/4/11	6.72	22.9	1446	276
		4/4/11 DUP	6.72	22.9	1446	279
		7/11/11	6.78	23.9	1406	272
		10/11/11	6.96	23.4	1250	286
		2/3/12	6.68	21.3	1370	301
NOTEMAN HOUSE	212483	2/3/12	7.06	13.5	1520	324



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

FOI Suilate and Field Faranneters								
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)		
NSD-02	527587	2/5/08	ND	ND	ND	43		
NSD-02	52/58/	7/7/08	8.02	21.0	609	44		
NSD-03	527586	2/5/08	ND	ND	ND	70.7		
NSD-03	327366	7/7/08	7.64	21.0	570	58.9		
		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		
NWC-02	562944	4/21/10	7.57	22.1	413	7.26		
NVVC-02	562944	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		
	1	4/6/11	7.27	22.9	413.5	6.4		
		7/15/11	7.03	22.5	416.3	7.24		
		10/13/11	7.45	21.9	370	7.31		
		1/30/12	7.39	21.2	431.3	7.78		
		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		
	F	10/21/09	6.94	21.8	1224	444		
NWC-03	203321	2/3/10	7.24	20.7	1214	444		
	F	4/21/10	7.22	21.6	1178	433		
	F	7/20/10	7.04	22.8	1229	477		
	F	10/19/10	7.22	21.3	1172	432		
	F	1/18/11	7.09	22.8	1120	386		
	F	4/6/11	7.19	21.7	1114	361		
		7/15/11	6.91	21.8	1094	386		
	F	10/13/11	7.23	21.6	960	353		
	F	1/30/12	7.15	21.5	1061	379		



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

nH Tomp SC Sulfate discalve									
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)			
		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 5/28/09	7.21 7.01	24.1 24.1	797 933	188 210			
		6/24/09	6.93	25.6	792	169			
		7/21/09	7.48	24.3	859	193			
	F	8/19/09	7.12	24.5	906	183			
	F	9/23/09	7.16	23.8	953	202			
		10/21/09	7.18	24.3	875	191			
	F	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			
NWC-04	551849	7/20/10	7.28	28.3	873.2	188			
		8/25/10	7.55	24.8	820.9	196			
		9/29/10 10/19/10	7.38	24.5	920.2	205			
		11/4/10	7.34 7.53	23.6 23.9	870.2 853.2	195 197			
	 	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			
	F	4/5/11	7.32	23.4	878.7	196			
		5/11/11	7.32	23.1	868.1	175			
		6/17/11	7.28	23.7	856.3	204			
		7/15/11	7.06	23.5	875.1	202			
		8/25/11	7.32	25.1	780	195			
		9/26/11	6.56	26.2	875.4	198			
		9/26/11 DUP	6.56	26.2	875.4	199			
		10/13/11	7.46	23.3	770	198			
		11/22/11	7.36	22.9	853.5	201			
		12/8/11	7.33	22.3	872.2	207			
		1/30/12	7.34	23.4	914.4	217			
	 	2/17/12 3/15/12	7.45 7.39	22.9 23.9	898.1 888.2	203 207			
		3/4/08	7.39 ND	23.9 ND	ND	7.9			
		6/9/08	ND	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			
	Γ	10/21/09	7.26	23.2	413	8			
		2/3/10	7.61	20.5	404	7.5			
NWC-06	575700	2/3/10 DUP	7.61	20.5	404	7.4			
11110 00	3.3730	4/21/10	7.54	22.4	387	8.49			
		7/20/10	7.33	26.0	388.6	8.59			
		10/19/10	7.49	22.7	394.5	8.32			
		1/18/11	7.45	23.4	380	8.24			
	⊢	4/6/11	7.42	23.1	388.3	7.76			
		4/6/11 DUP	7.42	23.1	388.3	7.73			
		7/15/11 10/13/11	7.09 7.51	22.9	394.3	8.36			
	 	1/30/12	7.51	22.3 22.1	340 402.7	8.48 8.44			
	1	1/30/12	1.41	۷۷.۱	402.7	0.44			



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

		FOI Sullate and		1		
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
		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
OSBORN	643436	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 7/12/10	7.60 7.69	21.5 24.2	601.9 594.0	19.3 18.4
		7/12/10	7.87	29.8	575.9	19.5
		2/3/12	8.15	15.3	390	19.2
		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
PALMER	578819	1/20/10	7.72	11.9	510	13.8
		4/22/10	7.97	13.6	520	16.7
		7/12/10	7.62	30.2	518.8	15.7
		10/18/10	8.13	22.1	511.9	16.5
		1/18/11	7.24	17.1	517.0	15.7
	-	4/5/11	8.04	19.0	499.2	15.8
	-	7/12/11	7.65	26.6	517.6	16.4
	-	10/11/11 2/3/12	7.85 7.94	22.0	510.4	17 17.1
				10.0	521.4	410
		4/21/08 7/21/08	6.80 6.95	20.5 21.9	1228 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
PANAGAKOS	35-76413	10/6/09	6.83	21.1	1328	472
FANAGAROS	33-70413	1/21/10	7.06	18.8	1291	318
		4/20/10	7.25	21.0	1528	608
		7/20/10	6.90	24.0	1560	706
	-	10/18/10	6.38	22.1	1530	568
	-	7/14/11	6.93	23.3	1070	223
	-	8/25/11	7.17	23.4	1170	222
	-	2/6/12	6.98	20.8	1017	166
	-	2/29/12 3/15/12	7.09 7.02	20.3 21.4	1080 1138	362 282
		2/11/08	7.02	21.4	1067	360
	F	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
	F	10/20/08	7.07	22.9	1246	387
		2/13/09	7.24	22.1	965	405
	Ī	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
PARRA	576415	2/1/10	7.07	21.5	1197	353
	<u></u>	4/22/10	6.91	20.3	1219	417
	<u> </u>	7/14/10	7.13	22.2	1201	403
	_	7/14/10 DUP	7.13	22.2	1201	391
	<u> </u>	10/20/10	7.51	21.4	1270	411
	ļ-	1/19/11	7.49	20.8	1130	391
	<u> </u>	4/4/11	6.90	22.6	1207	382
	-	7/12/11 10/12/11	6.76 7.44	23.7 22.3	1156 1070	404 406
	F	2/7/12	7.44	21.4	1212	428
	<u> </u>	411114	7.04	41.4	1414	720



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)
		- 1- 1	* *		. ,	, ,
		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
DIONIKE	4,000	3/8/10	7.72	18.6	1201	406
PIONKE	613395	4/26/10	7.22	21.9	1224	438
		7/15/10	7.32	22.3	1158	474
		10/18/10	7.33	21.3	1277	473
		10/18/10 DUP	7.33	21.3	1277	487
		1/19/11	7.32	19.9	1222	471
		4/8/11	7.13	19.2	1232	467
		7/12/11	7.30	23.8	1226	500
		10/11/11	6.98	20.8	1100	502
		2/1/12	7.25	17.5	1230	481
		2/1/2012 DUP	7.25	17.5	1230	495
		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
	509518	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
POOL		7/20/09	7.76	22.9	579	122
POOL		10/20/09	7.22	21.2	577	122
		2/24/10	7.56	22.4	577	110
		4/22/10	7.75	20.2	606.5	130
		7/14/10	7.38	21.7	580.9	117
		10/20/10	7.79	21.3	620	115
		1/20/11	7.71	20.5	530	112
		1/20/11 DUP	7.71	20.5	530	114
		4/6/11	7.37	21.6	567.4	114
POWER	624535	2/12/08	7.11	18.9	428	15.5
		7/22/08	7.10	21.7	795	20.2
	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
RAMIREZ		10/6/09	7.30	23.8	388	8.4
RAWIREZ		1/25/10	7.48	22.4	390	7.8
		4/21/10	7.45	22.6	397	9.04
		7/21/10	7.38	25.1	420	8.98
		10/19/10	7.91	23.7	450	10.8
		1/18/11	7.52	23.1	380	8.18
		4/11/11	7.24	23.2	408.5	8.65
		7/18/11	7.27	25.4	402.6	8.44
		10/12/11	7.40	23.3	412.7	8.55
		1/30/12	7.38	22.3	412.2	8.80



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

For Suitate and Field Parameters								
Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)		
		2/15/08	7.30	19.1	1540	159		
		4/21/2008 ¹	6.92	21.3	1418	125		
	L	5/13/2008 ¹	7.05	20.9	1418	123		
	<u> </u>	6/23/20081	6.87	21.1	1593	130		
	_	7/29/20081	6.98	21.8	1411	120		
		8/28/2008 ¹	M	21.1	1519	129		
		9/23/2008 ¹ 10/22/08	6.90 6.96	22.2 20.8	1519 1604	125 145		
	-	1/20/09	6.92	20.6	1355	88		
	803772	4/8/09	6.85	21.4	1759	178		
DAY		7/9/09	6.93	22.3	1434	126		
RAY		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		
	L	10/20/10	7.14	19.6	1368	127		
		1/17/11	7.04	20.8	1451	132		
		1/17/11 DUP	7.04	20.8	1451	125		
		4/5/11 7/11/11	7.03 7.07	20.8 22.8	1387 1345	132 126		
		10/12/11	7.06	21.6	1250	130		
	-	1/31/12	7.28	20.5	1360	131		
		10/19/09	6.89	23.3	1360	590		
D00ED0 500	570500	11/5/09	6.79	21.9	1418	540		
ROGERS 596	573596	2/25/10	6.99	19.6	1603	520		
		4/22/10	7.21	18.2	1641	710		
		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		
		7/29/20081	6.78	23.1	339	134		
		8/28/2008	7.18	21.6	635	128		
	-	9/23/2008 ¹ 10/22/08	7.24 7.36	21.9 21.3	599 650	133 144		
	-	2/10/09	7.42	17.9	475	141		
ROGERS 803	641803	4/29/09	7.52	21.9	506	211		
		8/3/09	7.39	24.2	674	150		
		7/16/10	7.46	23.9	643.4	169		
		10/19/10	7.32	21.1	643.8	154		
		10/19/10 DUP	7.32	21.1	643.8	154		
		1/20/11	7.44	18.1	610	143		
		4/8/11	7.30	20.2	658.2	160		
		7/14/11	7.12	23.5	653.5	166		
		10/12/11	7.41	21.8	665.3	175		
	+	1/30/12	7.40	20.0	580	171		
		2/4/08 5/7/08	7.40 7.18	21.0 22.2	435 415	4.6 5.9		
	216018	7/17/08	7.18	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		
ROGERS E		1/25/10	7.52	20.6	414	5.1		
		4/21/10	7.44	21.1	421	6.04		
		7/21/10	7.37	23.8	430	6.47		
		10/19/10	7.80	22.8	460	5.92		
		1/18/11	7.39	21.5	390	5.50		
		4/11/11 7/18/11	7.19 7.12	22.7 24.3	427.2 418.5	6.13 6.00		
		10/13/11	7.12	24.3	370	5.99		
		1/30/12	7.38	20.8	427.2	6.22		
		1/00/12	1.00	20.0	741.4	0.22		



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

	15145 == 5		pН	Temp	SC	Sulfate, dissolved
Well Name	ADWR 55 Registry No.	Sample Date	(SU)	(deg C)	(µS/cm)	(mg/L)
		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
	<u> </u>	10/20/08	7.04	22.0	995	238
	<u> </u>	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 2/1/10	7.09 7.08	20.6 20.9	920 934	227 236
RUIZ	531770	4/26/10	7.00	22.5	920.1	240
	-	7/20/10	7.08	22.5	880	240
		10/20/10	7.52	20.7	970	231
		1/18/11	7.19	20.2	860	213
		4/8/11	7.09	19.8	923.3	236
		8/26/11	6.85	22.6	800	220
		10/13/11	7.19	21.5	810	230
	T	2/7/12	7.28	20.7	915.6	230
		2/7/12 DUP	7.28	20.7	915.6	228
		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
	<u> </u>	8/28/2008 ¹	M	22.3	669	131
	<u> </u>	9/23/2008 ¹	7.27	22.2	607	124
		10/22/2008	7.31	22.0	653	135
		11/19/2008	7.38	21.1	612	140
		12/17/2008	6.78	21.6	472	144
		1/29/2009	7.08	22.0	475	124
		2/23/2009 ¹	7.33	22.1	610	123
SCHWARTZ	210865	4/17/09 7/10/09	7.46	22.2	520	120
		7/10/09 7/10/09 DUP	7.52 7.52	22.8	651 651	116 117
		10/6/09	7.52	22.8 22.5	613	120
		1/22/10	7.79	19.5	664	133
	 	4/21/10	7.50	20.9	638	129
		7/21/10	7.43	22.0	650	134
		10/19/10	7.76	21.2	710	147
		1/17/11	7.15	21.2	620	116
		4/11/11	7.20	21.5	656.9	128
		7/18/11	7.36	23.7	612.4	116
		10/12/11	7.35	22.4	635.8	124
		2/6/12	7.32	21.3	629.7	116
		2/6/2012 DUP	7.32	21.3	629.7	114
SRC	211345	4/23/08	7.57	25.8	380	19
	=::0.0	8/5/08	7.40	27.2	452	15.4
		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 4/7/09	7.05 7.21	20.4	391 447	19.8 19.9
	⊢	7/8/09	7.21	21.5 23.1	477	18.5
SWAN	NR	10/5/09	7.18	21.4	496	19.7
	NR .	1/21/10	7.10	19.5	501	18.4
		4/21/10	7.49	20.3	512.1	20.9
		7/19/10	7.42	23.8	518.6	22.2
		1/18/11	7.19	17.8	483.6	18.7
		7/12/11	7.05	22.4	478.2	19.1
		2/3/12	7.40	20.5	484.5	20.1



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

Well Name ADWR 55 Registry No. Sample Discription of the control o	(SU) 8.67 8.67 7.75 8.7.84 8.80 8.10 8.06 8.34 8.16 8.13 UP 8.13 UP 8.13 6.96 7.38 6.93 7.92 7.89 7.51 7.08 8.7.47 9.7.21 UP 7.21 1.7.47 9.7.55 7.56 7.55 7.56	Temp (deg C) 22.6 22.9 26.4 23.9 24.8 26.7 26.9 26.3 25.2 25.2 24.6 24.6 20.2 24.8 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.8 21.6 20.6	SC (μS/cm) 302 321 369 375 340 320 398 381 351 363 343 359 349 360 778 828 590 737 737 695 822 761 748	Sulfate, dissolved (mg/L) 12.3 14.7 14.4 21.9 20.3 18.7 20 21.8 21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 102 109 98 106 99
TM-02A 522574 522574 11/4/09 TM-02A 522574 11/4/09 3/10/10	7.75 3 7.84 8 8.07 9 8.10 8.06 9 8.34 9 8.15 9 8.13 UP 8.13 UP 8.13 6.96 7.38 6.93 7.92 7.89 8 7.51 7.08 8 7.51 7.08 9 7.55 7.56 9 7.55	22.9 26.4 23.9 24.8 26.7 26.9 26.3 25.2 25.2 24.6 24.6 20.2 24.8 22.2 21.6 20.5 21.8 21.8 21.8 21.8 21.6	321 369 375 340 320 398 381 351 363 343 359 349 360 778 828 590 737 737 695 822 761	14.7 14.4 21.9 20.3 18.7 20 21.8 21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 109 98 106
TM-02A 522574 11/4/09 TM-02A 522574 11/4/09 TM-02A 522574 11/4/09 3/10/10 D 4/6/10 7/6/10 2/10/11 7/13/11 2/2/12 5/20/08 8/6/08 11/12/09 2/26/09 D TM-03 522575 5/13/09 3/2/10 4/14/10 7/7/10 2/1/12	7.75 3 7.84 8 8.07 9 8.10 8.06 9 8.34 9 8.15 9 8.13 UP 8.13 UP 8.13 6.96 7.38 6.93 7.92 7.89 8 7.51 7.08 8 7.51 7.08 9 7.55 7.56 9 7.55	22.9 26.4 23.9 24.8 26.7 26.9 26.3 25.2 25.2 24.6 24.6 20.2 24.8 22.2 21.6 20.5 21.8 21.8 21.8 21.8 21.6	321 369 375 340 320 398 381 351 363 343 359 349 360 778 828 590 737 737 695 822 761	14.7 14.4 21.9 20.3 18.7 20 21.8 21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 109 98 106
TM-02A 522574 11/4/08 TM-02A 522574 11/4/09 3/10/10 3/10/10 4/6/10 7/6/10 2/10/11 7/33/11 2/2/12 5/20/08 8/6/08 11/12/00 2/26/09 D TM-03 522575 5/13/09 3/2/10 4/14/10 7/7/10 2/1/12	8 8.07 8.10 8.06 9 8.34 9 8.16 9 8.13 UP 8.13 UP 8.13 UP 8.13 6.96 7.38 6.93 7.92 7.89 7.89 7.51 7.08 8 7.47 9 7.21 UP 7.21 UP 7.21 UP 7.21 O 7.47 O 7.48 O 7.55 O 7.55 O 7.55 O 7.55 O 7.55 O 7.19	23.9 24.8 26.7 26.9 26.3 25.2 25.2 24.6 24.6 20.2 24.8 22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.6	375 340 320 398 381 351 363 343 359 349 360 778 828 590 737 737 695 822 761	21.9 20.3 18.7 20 21.8 21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 102 109 98 106
TM-02A 522574 11/4/08 TM-02A 522574 11/4/08 3/10/10 D 4/6/10 7/6/10 2/10/11 7/13/11 2/2/1/2 5/20/08 8/6/08 11/12/09 2/26/09 D TM-03 522575 5/13/08 8/18/09 11/10/00 3/2/10 4/14/10 7/7/10 2/1/12	8.10 8.06 8.34 9. 8.16 9. 8.13 UP 8.13 UP 8.13 6.96 7.38 6.93 7.92 7.89 7.51 7.08 8 7.47 9 7.21 UP 7.21 UP 7.21 O 7.48 9 7.55 7.56 0 7.55 7.19	24.8 26.7 26.9 26.3 25.2 25.2 24.6 24.6 20.2 24.8 22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.6	340 320 398 381 351 363 343 359 349 360 778 828 590 737 737 695 822 761	20.3 18.7 20 21.8 21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 102 109 98 106
TM-02A 522574 11/4/09 8/12/09 11/4/09 3/10/10 D 3/10/10 D 4/6/10 7/6/10 2/10/11 7/13/11 2/2/12 5/20/08 8/6/08 11/12/09 2/26/09 D 2/26/09 D 5/13/09 8/18/09 11/10/09 3/2/10 4/14/10 7/7/10 2/1/12 C 2/10/11 2/1/12 C 2/10/11 2/1/12 C 2/10/11 2/1/12 C 2/10/11 2/1/10/09 2/10/10 2/1/10/09 2/10/10 2/10 2	8.06 8.34 8.16 8.13 UP 8.13 6.96 7.38 6.93 7.92 7.89 7.51 7.08 8 7.47 9 7.21 UP 7.25 7.56 7.55 7.19	26.7 26.9 26.3 25.2 25.2 24.6 24.6 20.2 24.8 22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.6	320 398 381 351 351 363 343 359 349 360 778 828 590 737 737 695 822 761	18.7 20 21.8 21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 102 109 98 106
TM-02A 522574 11/4/09 3/10/10 D 3/10/10 D 4/6/10 2/10/11 7/6/10 2/10/11 7/13/11 2/2/12 5/20/08 8/6/08 11/12/09 2/26/09 D TM-03 522575 5/13/09 3/2/10 4/14/10 7/7/10 2/1/12	8.34 8.16 8.13 UP 8.13 UP 8.13 6.96 7.38 6.93 7.92 7.89 8 7.51 7.08 8 7.47 UP 7.21 UP 7.21 UP 7.21 0 7.47 9 7.55 7.56 7.55 7.19	26.9 26.3 25.2 25.2 24.6 24.6 20.2 24.8 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.6	398 381 351 351 363 343 359 349 360 778 828 590 737 737 695 822 761	20 21.8 21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 102 109 98 106
TM-02A 522574 11/4/09 3/10/10 3/10/10 4/6/10 7/6/10 2/10/11 7/13/11 2/2/12 5/20/08 8/6/08 11/12/09 2/26/09 D TM-03 522575 5/13/09 3/2/10 4/14/10 7/7/10 2/1/12	8.16 8.13 UP 8.13 6.96 7.38 6.93 7.92 7.89 8 7.51 7.08 8 7.47 9 7.21 UP 7.21 UP 7.21 0 7.47 9 7.55 7.56 0 7.55 7.19	26.3 25.2 25.2 24.6 24.6 20.2 24.8 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.6	381 351 351 363 343 359 349 360 778 828 590 737 737 695 822 761	21.8 21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 102 109 98 106
3/10/10 D 3/10/10 D 4/6/10 7/6/10 2/10/11 7/3/11 7/3/11 2/2/12 5/20/08 8/6/08 11/12/09 2/26/09 D 2/26/09 D 5/20/08 8/18/09 11/10/09 3/2/10 4/14/10 7/7/10 2/1/12	8.13 UP 8.13 0.96 7.38 6.93 7.92 7.89 6.7.51 7.08 8.7.47 0.7.21 UP 7.21 UP 7.21 0.7.47 7.48 9.7.55 7.56 0.7.55 7.56 0.7.55 7.19	25.2 25.2 24.6 24.6 20.2 24.8 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.8 21.8	351 351 363 343 359 349 360 778 828 590 737 737 695 822 761	21.4 21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 109 98 106
3/10/10 D 4/6/10 4/6/10 7/6/10 2/10/11 7/13/11 2/2/12 5/20/08 8/6/08 11/12/0 2/26/09 D 2/26/09 D 11/10/0 3/2/10 4/14/10 7/7/10 2/1/12	UP 8.13 6.96 7.38 6.93 7.92 7.89 6.7.51 7.08 8.7.47 9.7.21 UP 7.21 UP 7.21 9.7.47 9.7.48 9.7.55 7.56 0.7.55 7.19	25.2 24.6 24.6 20.2 24.8 22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.8	351 363 343 359 349 360 778 828 590 737 737 695 822 761	21.3 25.6 22.1 22.9 22.5 23.0 110 97 128 107 102 109 98 106
TM-03	6.96 7.38 6.93 7.92 7.89 7.51 7.08 8 7.47 7.21 UP 7.21 0 7.47 7.48 9 7.55 7.56 7.56 7.19	24.6 24.6 20.2 24.8 22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.6	363 343 359 349 360 778 828 590 737 737 695 822 761	25.6 22.1 22.9 22.5 23.0 110 97 128 107 102 109 98 106
TM-03 TM	7.38 6.93 7.92 7.89 7.51 7.08 8 7.47 9 7.21 UP 7.21 0 7.48 9 7.55 7.56 0 7.55 7.19	24.6 20.2 24.8 22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.8 21.8	343 359 349 360 778 828 590 737 737 695 822 761	22.1 22.9 22.5 23.0 110 97 128 107 102 109 98
2/10/11	6.93 7.92 7.89 7.51 7.08 8 7.47 9 7.21 UP 7.21 0 7.47 9 7.55 7.56 7.56 7.19	20.2 24.8 22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.8 21.6	359 349 360 778 828 590 737 737 695 822 761	22.9 22.5 23.0 110 97 128 107 102 109 98 106
T/13/11 2/2/12 5/20/08 8/6/08 11/12/09 2/26/09 D TM-03 522575 5/13/09 4/14/10 7/7/10 2/1/12	7.92 7.89 7.51 7.08 8 7.47 9 7.21 UP 7.21 0 7.47 9 7.55 7.56 7.55 7.19	24.8 22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.8 21.6	349 360 778 828 590 737 737 695 822 761	22.5 23.0 110 97 128 107 102 109 98 106
2/2/12 5/20/08 8/6/08 11/12/0 2/26/09 D TM-03 522575 5/13/09 11/10/09 3/2/10 4/14/10 7/7/10 2/1/12	7.89 7.51 7.08 7.08 7.47 7.21 7.47 7.47 7.48 9 7.55 7.56 7.56 7.57	22.2 22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.8 21.6	360 778 828 590 737 737 695 822 761	23.0 110 97 128 107 102 109 98 106
5/20/08 8/6/08 8/6/08 11/12/06 2/26/09 2/26/09 D TM-03 522575 5/13/09 8/18/00 11/10/06 3/2/10 4/14/10 7/7/10 2/1/12	7.51 7.08 8 7.47 7.21 UP 7.21 7.47 7.48 9 7.55 7.56 7.55 7.19	22.2 21.6 20.5 21.8 21.8 22.2 22.4 21.8 21.6	778 828 590 737 737 695 822 761	110 97 128 107 102 109 98 106
8/6/08 11/12/08 2/26/09 D 2/26/09 D 5/13/09 8/18/09 11/10/09 3/2/10 4/14/10 7/7/10 2/1/12	7.08 8 7.47 0 7.21 UP 7.21 0 7.47 0 7.48 9 7.55 7.56 0 7.55 7.19	21.6 20.5 21.8 21.8 22.2 22.4 21.8 21.6	828 590 737 737 695 822 761	97 128 107 102 109 98 106
TM-03 522575 TM-03 522575 TM-03 522575 TM-03 522575 TM-03 522575 TM-03 522575 TM-03 TM-	8 7.47 0 7.21 UP 7.21 0 7.47 0 7.48 9 7.55 7.56 0 7.55 7.19	20.5 21.8 21.8 22.2 22.4 21.8 21.6	590 737 737 695 822 761	128 107 102 109 98 106
2/26/09 D TM-03 522575 5/13/09 8/18/09 11/10/03 3/2/10 4/14/10 7/7/10 2/1/12	7.21 UP 7.21 7.47 7.48 7.55 7.56 7.55 7.56 7.55	21.8 21.8 22.2 22.4 21.8 21.6	737 737 695 822 761	107 102 109 98 106
TM-03 522575 5/13/09 D TM-03 522575 5/13/09 8/18/09 11/10/09 3/2/10 4/14/10 7/7/10 2/1/12	UP 7.21 7.47 7.48 9 7.55 7.56 7.55 7.51	21.8 22.2 22.4 21.8 21.6	737 695 822 761	102 109 98 106
TM-03 522575 5/13/09 8/18/09 11/10/09 3/2/10 4/14/10 7/7/10 2/1/12	7.47 7.48 9 7.55 7.56 7.55 7.19	22.2 22.4 21.8 21.6	695 822 761	109 98 106
8/18/09 11/10/09 3/2/10 4/14/10 7/7/10 2/1/12	7.48 9 7.55 7.56 7.55 7.19	22.4 21.8 21.6	822 761	98 106
11/10/05 3/2/10 4/14/10 7/7/10 2/1/12	9 7.55 7.56 7.55 7.19	21.8 21.6	761	106
3/2/10 4/14/10 7/7/10 2/1/12	7.56 7.55 7.19	21.6		
4/14/10 7/7/10 2/1/12	7.55 7.19		748	99
7/7/10 2/1/12	7.19	20.6		
2/1/12			635	103
		21.4	566	103
	7.48	21.1	744	112
2/27/08		19.6	457	13.9
5/20/08		20.7	506	32.7
8/4/08	7.41	20.7	529	31.3
10/29/08		20.2	531	34.5
2/26/09		20.4	574	32.7
TM-06 MILLER 522695 5/13/09		20.9	465	30.6
8/18/09 8/48/00 D		20.9	560	30.9
8/18/09 D		20.9	560	29.9
11/12/09		20.4	530	31.1
4/14/10 7/2/10	7.35	19.4 20.1	461 438	29.0 29.8
7/2/10		20.1	516	31.7
3/6/08	7.54	20.1	726	22.5
5/22/08		20.8	385	22.5
8/6/08	7.04	22.8	519	22.9
11/4/08		20.6	347	31.2
2/20/09		19.9	376	22.5
5/13/09		22.9	559	130
8/17/00		22.6	442	134
TM-07 522576 6/17/09		21.8	441	134
3/2/10	7.67	21.6	422	124
5/25/10		21.2	398	42.6
7/6/10		22.0	350	44.7
2/11/11		20.1	393	24.9
7/21/11		21.4	402	41.7
2/9/12		23.0	670	171
2/13/08		24.1	511	24.1
TM-08 SWAN 522817 5/14/08		24.4	480	12.6
7/23/08		28.1	522	12.6
12/9/11		19.6	381	16.8
TM-10 USBP 522696 3/15/12		20.2	382.3	15.1



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)
		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
TM-15 MILLER	522699	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
	L	2/24/10	7.66	22.8	381	14.4
	L	4/27/10	7.71	23.0	383.6	14.9
	L	7/20/10	7.77	23.0	324	14.3
		7/12/11	7.36	23.2	380	14.2
	-	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
TM-16	522578	8/19/09	7.08	21.2	1354	468
	L	11/10/09	7.02	21.0	1310	505
	L	3/2/10	7.13	20.4	1313	451
	L	4/14/10	6.90	19.9	987	484
	L	7/2/10	6.81	20.8	858	474
	L	7/14/11	6.97	20.5	1285	511
		7/16/11	6.97	20.5	1285	513
		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
TM-19A	522581	8/12/09	7.61	24.4	554	61.3
IIVI-13A	322301	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
	_ I	7/7/10	6.93	23.8	428	63.2
	_ I	2/14/11	6.69	21.4	511	61.9
		7/15/11	7.11	24.1	499	62.1
		2/2/12	7.13	22.5	498	62.2
		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
	L	2/18/09	6.72	22.3	1245	429
		5/7/09	6.88	24.5	1155	430
TM-42	562554	5/7/09 DUP	6.88	24.5	1155	445
1111 74	332304	8/18/09	7.04	24.4	1336	428
		11/3/09	7.07	23.1	1266	430
		2/24/10	7.13	22.7	1236	390
		4/19/10	6.87	21.5	985	444
		7/2/10	6.81	23.9	827	407
		7/12/11	6.83	22.0	1205	441
		2/9/12	6.76	20.5	1172	444
TM-43	564729	3/3/08	8.57	21.0	341	2.1
1 IVI-43	304729	8/4/08	8.14	25.7	436	<5
TM-43A	564726	3/3/08	6.17	19.9	2788	1420
I IVI-43A	304720	8/4/08	6.03	21.6	3149	1320
		3/3/08	6.79	20.6	514	0.7
TM-43B	565004	8/5/08	6.89	21.0	507	31.8
	F	8/5/08 DUP	6.89	21.0	507	32.5



Table 3
Compilation of Analytical Results
For Sulfate and Field Parameters

	45W5 == 5 M		рН	Temp	SC	Sulfate, dissolved
Well Name	ADWR 55 Registry No.	Sample Date	(SU)	(deg C)	(µS/cm)	(mg/L)
		3/20/08	7.48	20.0	488	31.3
	-	5/7/08 7/15/08	7.13	20.4	494	32.6
	-	10/15/08	7.39 7.45	21.9 22.3	532 490	37.6 36.6
		2/11/09	7.32	20.1	391	27.6
		4/17/09	7.36	19.3	418	28.1
TVI 236	802236	4/17/09 DUP	7.36	19.3	418	28.3
		7/21/09	7.59	22.9	484	31.3
		10/19/09 2/2/10	7.31 7.39	22.1 20.4	513 497	33.2 26
		4/23/10	7.46	20.0	504.6	30.9
		7/15/10	7.37	21.5	499.4	39.3
		7/15/11	6.80	22.4	499.6	42.9
		2/21/08	7.28	21.1	739	244
		5/7/08 7/15/08	7.09 7.27	21.2 22.4	833 925	250 274
		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
TVI 875	568875	10/19/09 2/2/10	7.23 7.32	21.9 20.8	822 939	247 250
1 11 07 3	300073	4/23/10	7.34	20.8	939	250
		7/15/10	7.46	21.8	842.5	262
		10/20/10	7.79	21.9	890	242
		1/20/11	7.39	21.0	780	226
	-	4/11/11 7/15/11	7.20	21.1	820.6	235 239
l	-	10/12/11	6.75 7.35	22.2 22.7	791.9 868.5	262
		2/3/12	7.20	20.5	850	299
WALKER	200393	2/13/08	7.05	20.2	650	20
WALKER	200090	7/23/08	7.25	20.7	740	45.4
	-	2/14/08	7.74	21.7	323	11.1
	-	5/15/08 7/30/08	7.22 7.42	22.7 32.0	365 407	12.6 11.5
		10/20/08	8.10	31.6	407	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 2/1/10	7.34 7.60	21.6 20.8	381 382	12.7 12.2
WEED	544535	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 4/11/11	7.62 7.44	21.1 21.5	383.6 386.6	12.2 13
		7/18/11	7.56	22.0	379.3	12.7
		10/12/11	7.02	21.7	382.8	13.3
		2/6/12	7.60	21.4	385.0	13.5
		2/15/08	7.48	20.0	1072	500
		5/7/08 7/16/08	7.10 7.07	21.8 22.2	1251 1399	483 560
		10/28/08	6.98	20.8	1401	602
	1	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
	1	10/15/09 2/2/10	6.89 7.22	21.4 20.4	1216 1319	484 451
WEISKOPF	641802	4/22/10	7.30	19.3	1329	572
	[7/19/10	7.06	23.1	1330	573
		10/20/10	7.64	21.6	1360	515
] [10/20/10 DUP	7.64	21.6	1360	529
		1/17/11	7.16	22.0	1270	481
		4/11/11 8/26/11	6.88	22.4 23.5	1365 1200	557 549
		10/13/11	7.07	22.8	1299	539
		2/3/12	7.35	21.5	1363	583
WMD-2011-03M	913037	2/2/12	6.66	22.0	1190	391



Table 3 **Compilation of Analytical Results** For Sulfate and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
		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
ZANDER	205126	1/26/10	7.49	20.3	411	5.7
ZANDER	203120	4/2/10	7.55	20.0	416	6.70
		7/21/10	7.38	22.7	388.2	6.78
		10/19/10	6.78	21.3	430	6.56
		1/18/11	7.59	18.9	380	6.14
		1/18/11 DUP	7.59	18.9	380	6.06
		4/6/11	7.20	19.7	425.8	6.12
	-	7/13/11	7.29	22.9	410.10	6.43
		10/12/11	7.35	22.2	426.2	6.38
		1/31/12	7.29	20.3	420	6.59

ADWR = Arizona Department of Water Resources

deg C = degrees Celsius

M = Multi-Meter Malfunction

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

mg/L = milligrams per liter
DUP = Blind duplicate



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)
					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
ANDERSON	613396	601134.729	3468816.065	4588.51	1/27/10	147.31	4441.20
					4/21/10	147.57	4440.94
					7/19/10	148.34	4440.17
					10/19/10	147.75	4440.76
					1/17/11	148.63	4439.88
					4/11/11	149.46	4439.05
				7/14/11	149.92	4438.59	
					10/11/11	150.19	4438.32
				2/1/12	150.19	4438.32	
					8/27/08	121.12	4426.52
					4/8/08 ²	116	4431.64
AWC-02	616586	598907.911	3468549.357	4547.64	10/23/08 ³	115	4432.64
71110 02	010000	000007.101.1	0 1000 10.007	1017.01	4/22/09 ³	118	4429.64
					10/9/09 ³	117	4430.64
					4/23/10 ³	119	4428.64
					8/27/08	119.40	4420.12
					4/8/2008 ²	112	4427.52
AWC-03	616585	599090.322	3468681.898	4539.52	10/23/08 ³	106	4433.52
7.110 00	010000	000000.022	3400001.898	1000.02	4/22/09 ³	114	4425.52
					10/9/09 ³	116	4423.52
					4/23/10 ³	116	4423.52
					8/18/08	112.56	4427.92
					4/8/2008 ²	108	4432.48
AWC-04	616584	598949.929	3468717.084	4540.48	10/23/08 ³	111.31	4429.17
7	0.000.	0000101020	0.007.11.001	10.101.10	4/22/09 ³	110	4430.48
					10/9/09 ³	110	4430.48
					4/23/10 ³	109	4431.48
					8/27/08	299.65	4242.86
					4/8/08	284	4258.51
					10/23/08	284	4258.51
AWC-05 5906	590620	599269.904	3468541.692	4542.51	4/22/09	286	4256.51
					6/3/09	125	4417.51
					10/9/09 ³	289	4253.51
	1				4/23/10 ³	278	4264.51



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)
					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
BANKS 987	647987	606981.921	3469206.175	4648.18	2/25/10	216.98	4431.20
					4/20/10	219.35	4428.83
					7/20/10	235.60	4412.58
					10/20/10	230.24	4417.94
					1/17/11	215.28	4432.90
					4/5/11	221.68	4426.50
					7/11/11	237.39	4410.79
					10/12/11	237.34	4410.84
					1/31/12	228.95	4419.23
					5/12/08	113.71	4578.65
					7/23/08	113.56	4578.80
DARTONIALA	044040	000040.050	0.400070.000	4000.00	10/16/08	113.20	4579.16
BARTON 919	644919	606243.850	3469076.689	4692.36	3/11/09	112.92	4579.44
					4/10/09	112.89	4579.47
					7/7/09	112.86	4579.50
			3472151.593		3/4/08	348.99	4486.24
					5/23/08	348.80	4486.43
				4835.23	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
BF-01	539783	604169.077			8/17/09	348.73	4486.50
					11/4/09	348.65	4486.58
					3/1/10	348.84	4486.39
					4/7/10	348.70	4486.53
					7/6/10	348.69	4486.54
					7/13/11	348.67	4486.56
					2/1/12	347.84	4487.39
					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
BIMA	577927	606001.245	3471852.804	4802.05	7/8/09	365.44	4436.61
2.1411 (30 <u>2</u> ,	333331.210	3302.001	.552.55	10/5/09	370.11	4431.94
					4/19/10	382.25	4419.80
					7/21/10	386.89	4415.16
					10/18/10	387.39	4414.66
					1/19/11	391.47	4410.58
					4/4/11	395.22	4406.83



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)
					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
DMO 2000 4C	909474	000407.004	3471723.644	4005.40	10/27/09	63.61	4741.49
BMO-2008-1G	909474	606467.681	34/1/23.044	4805.10	2/17/10	64.51	4740.59
					4/15/10	65.05	4740.05
					7/7/10	65.83	4739.27
					2/10/11	67.74	4737.36
					7/12/11	69.37	4735.73
					2/8/12	70.33	4734.77
					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
DMO 2000 2D	000447	000040 000	2407040 502	4500.07	10/26/09	139.60	4444.37
BMO-2008-3B 90	909147	602012.923	3467919.582	4583.97	3/3/10	140.03	4443.94
					4/8/10	140.07	4443.90
					7/1/10	140.70	4443.27
					2/14/11	141.41	4442.56
					7/12/11	142.21	4441.76
					2/23/12	143.90	4440.07
			3468383.430		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
BMO-2008-4B	910096	601099.405		4573.17	2/24/10	131.82	4441.35
					4/16/10	132.65	4440.52
					7/2/10	133.20	4439.97
					2/15/11	133.78	4439.39
					7/22/11	134.80	4438.37
					2/23/12	134.64	4438.53
					9/30/08	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
BMO-2008-5B	909653	600438.159	3468994.715	4585.10	4/15/10	145.80	4439.30
					7/7/10	146.59	4438.51
					10/5/10	147.00	4438.10
					2/14/11	147.56	4437.54
					5/12/11	148.04	4437.06
					7/13/11	148.31	4436.79
					12/7/11	148.45	4436.65
					2/3/12	148.47	4436.63



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)
					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
BMO-2008-5M	909552	600445.074	2469004 292	4585.02	4/16/10	147.34	4437.68
BIVIO-2008-5IVI	909552	600445.071	3468994.282	4585.02	7/7/10	148.28	4436.74
					10/5/10	148.68	4436.34
					2/14/11	148.74	4436.28
					5/12/11	149.66	4435.36
					7/12/11	150.20	4434.82
					12/7/11	150.30	4434.72
				2/3/12	150.05	4434.97	
					7/16/08	190.13	4437.31
					11/4/08	190.23	4437.21
			3469820.644		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
		600366.523			2/15/10	190.82	4436.62
BMO-2008-6B	909146			4627.44	4/15/10	190.75	4436.69
					7/1/10	191.43	4436.01
					10/5/10	192.50	4434.94
					2/14/11	192.19	4435.25
					5/12/11	192.70	4434.74
					7/12/11	193.30	4434.14
					12/7/11	193.85	4433.59
					2/3/12	193.60	4433.84
					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
BMO-2008-6M	909019	600367.943	3469813.885	4626.90	4/15/10	191.64	4435.26
					7/1/10	192.53	4434.37
					10/5/10	192.96	4433.94
					2/14/11	193.14	4433.76
					5/12/11	193.68	4433.22
					7/12/11	194.47	4432.43
					12/7/11	194.92	4431.98
					2/3/12	194.65	4432.25



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)
					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
DMO 0000 7M	000704	000000 405	0.470000.000	4000.00	10/27/09	239.55	4448.78
BMO-2008-7M	908794	603099.165	3470029.283	4688.33	2/17/10	239.98	4448.35
					4/15/10	240.13	4448.20
					7/6/10	240.28	4448.05
					2/14/11	241.26	4447.07
					7/15/11	241.81	4446.52
					1/30/12	242.44	4445.89
					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
BMO-2008-8B	910097	604171.347	3471141.719	4753.25	3/3/10	298.37	4454.88
БМО-2000-0В	910097		34/1141./19	4/53.25	4/16/10	298.46	4454.79
					7/1/10	298.64	4454.61
					2/11/11	299.56	4453.69
					5/13/11	299.78	4453.47
					7/15/11	300.00	4453.25
					1/30/12	300.52	4452.73
		604167.912	3471127.902		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
BMO-2008-8M	909711			4752.45	3/3/10	299.18	4453.27
20 2000 0	0007.11	0011011012		02. 10	4/16/10	299.42	4453.03
					7/1/10	299.70	4452.75
					1/24/11	300.46	4451.99
					5/13/11	301.00	4451.45
					7/15/11	300.96	4451.49
					1/30/12	301.60	4450.85
					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
BMO-2008-9M	909255	604668.669	3471121.675	4762.61	3/4/10	287.45	4475.16
					4/6/10	287.81	4474.80
					7/1/10	288.26	4474.35
					2/10/11	289.77	4472.84
					5/13/11	290.47	4472.14
					7/15/11	290.95	4471.66
					2/1/12	293.44	4469.17



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)				
					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				
BMO-2008-10GL	909435	605264.072	3471702.043	4792.21	11/2/09	509.43	4282.78				
				3/4/10	510.88	4281.33					
				4/8/10	506.31	4285.90					
					7/2/10	511.80	4280.41				
					7/13/11	512.16	4280.05				
					2/2/12	511.34	4280.87				
					8/4/08	299.28	4494.17				
					11/5/08	295.89	4497.56				
					2/25/09	289.84	4503.61				
BMO-2008-10GU 909272				5/6/09	289.35	4504.10					
					8/11/09	289.09	4504.36				
	909272	605267.551	3471731.866	4793.45	11/2/09	289.77	4503.68				
					3/10/10	289.58	4503.87				
					4/7/10	289.5	4503.95				
					7/6/10	288.93	4504.52				
					7/13/11	301.02	4492.43				
					2/1/12	326.51	4466.94				
					8/22/08	577.76	4266.91				
								11/12/08	576.80	4267.87	
			3472626.482		4/8/09	575.46	4269.21				
					8/12/09	574.84	4269.83				
D140 0000 440	000404			40.44.07	11/9/09	573.41	4271.26				
BMO-2008-11G	909434	603800.995		4844.67	3/1/10	573.68	4270.99				
					4/9/10	573.56	4271.11				
					7/1/10	572.97	4271.70				
					2/10/11	571.61	4273.06				
					7/22/11	571.20	4273.47				
					1/31/12	569.83	4274.84				
					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				
DMO 0000 10D	000554	004057.040	0.470070.050	4040.04	2/16/10	207.26	4441.95				
BMO-2008-13B	909551	601657.612	3470076.358	4649.21	4/14/10	207.27	4441.94				
					7/6/10	207.68	4441.53				
					2/10/11	208.51	4440.70				
					5/13/11	208.95	4440.26				
					7/15/11	209.36	4439.85				
					2/9/12	209.78	4439.43				



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)
					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
DMO 0000 40M	000700	004050 405	0.4700.40 455	40.47.45	2/16/10	209.16	4437.99
BMO-2008-13M	909760	601650.495	3470040.455	4647.15	4/13/10	209.20	4437.95
					7/2/10	209.30	4437.85
					2/10/11	210.36	4436.79
					5/13/11	210.50	4436.65
					7/15/11	210.67	4436.48
					2/6/12	210.90	4436.25
					9/7/10	224.13	4494.42
					11/10/10	222.97	4495.58
					2/11/11	222.01	4496.54
BMO-2010-1M	219957	605581.263	3469935.750	4718.55	5/12/11	223.08	4495.47
					8/31/11	224.38	4494.17
					12/13/11	222.86	4495.69
					2/8/12	222.97	4495.58
					9/7/10	264.13	4482.03
					11/11/10	263.94	4482.22
					2/10/11	264.13	4482.03
BMO-2010-2M	219958	605685.549	3470564.646	4746.16	5/13/11	266.97	4479.19
					7/14/11	268.05	4478.11
					12/13/11	270.98	4475.18
					1/30/12	271.50	4474.66
					7/28/10	115.38	4435.21
					11/10/10	115.80	4434.79
					1/20/11	115.46	4435.13
BMO-2010-3B	219970	599977.962	3468347.363	4550.59	4/7/11	116.11	4434.48
					7/13/11	117.30	4433.29
					10/13/11	117.72	4432.87
					2/2/12	117.18	4433.41
					7/30/10	118.63	4431.90
					11/10/10	118.75	4431.78
					1/20/11	118.32	4432.21
BMO-2010-3M	219969	599970.801	3468353.543	4550.53	4/7/11	119.09	4431.44
					8/25/11	120.74	4429.79
					10/13/11	120.67	4429.86
					2/2/12	119.91	4430.62
		_			4/22/08	606.55	4249.75
					8/5/08	605.86	4250.44
BURKE	212268	602230.087	3473029.816	1956 20	10/28/08	604.88	4251.42
DUKKE	212200	002230.007	3473029.010	4856.30	2/19/09	603.91	4252.39
					4/28/09	603.70	4252.60
					8/19/09	602.66	4253.64



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)
					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
COB MW-1	903992	000450 050	3469889.889	4683.26	4/21/09	234.99	4448.27
COB MINN-1	903992	603153.259	3409889.889	4083.20	7/22/09	234.34	4448.92
					10/22/09	234.69	4448.57
					2/4/10	235.15	4448.11
					4/20/10	235.47	4447.79
					7/13/10	235.68	4447.58
					7/14/11	236.98	4446.28
					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
		600973.257	3468114.836		7/22/09	124.91	4441.30
COB MW-2 903984	903984			4566.21	10/22/09	125.33	4440.88
					3/3/10	124.93	4441.28
					4/26/10	125.47	4440.74
					7/13/10	126.54	4439.67
					1/20/11	126.46	4439.75
					7/14/11	128.17	4438.04
					1/31/12	128.04	4438.17
					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
COB MW-3	906823	599169.225	3468726.000	4538.63	7/22/09	124.09	4414.54
					10/22/09	118.03	4420.60
					3/3/10	120.14	4418.49
					4/26/10	123.12	4415.51
					7/13/10	128.60	4410.03
					7/14/11	132.41	4406.22
					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
COB WL	593116	606357.506	3472502.012	4832.06	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
					1/13/10	07.02	7704.04



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)
					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
COLLINS	565260	602551.286	3471341.335	4733.72	4/21/09	290.66	4443.06
COLLING	303200	002331.200	347 1341.333	4733.72	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	
					3/4/08	155.08	4444.06
					5/5/08	155.34	4443.80
					7/15/08	156.01	4443.13
COOPER C 637069				10/16/08	155.85	4443.29	
				1/27/09	155.62	4443.52	
		601349.987	3468913.011	4599.14	4/14/09	155.86	4443.28
					7/14/09	156.50	4442.64
					10/12/09	156.89	4442.25
	637069				1/27/10	157.03	4442.11
					4/22/10	157.31	4441.83
					7/21/10	158.00	4441.14
					10/20/10	158.41	4440.73
					1/17/11	158.37	4440.77
					4/11/11	158.74	4440.40
					8/26/11	159.51	4439.63
					10/13/11	159.81	4439.33
					2/1/12	159.80	4439.34
					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
DODSON	644927	605594.560	3469063.772	4686.34	1/21/10	88.54	4597.80
DODGON	0-4321	000034.000	J 4 03003.112	4000.34	4/19/10	89.53	4596.81
					7/20/10	90.79	4595.55
					10/18/10	90.33	4596.01
					1/19/11	90.34	4596.00
					4/5/11	91.05	4595.29
					7/12/11	92.07	4594.27
					10/10/11	93.11	4593.23
					1/31/12	93.68	4592.66



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)
					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
DOUGLASS 791	592791	607632.993	3470222.677	4703.27	7/7/09	31.04	4672.23
					10/5/09	31.49	4671.78
					1/21/10	34.55	4668.72
					4/19/10	36.40	4666.87
					7/12/10	36.74	4666.53
					1/18/11	25.96	4677.31
					1/30/12	27.72	4675.55
					2/13/08	87.76	4593.97
					5/13/08	87.21	4594.52
					7/22/08	86.90	4594.83
		607607.541			10/16/08	86.45	4595.28
DOUGLASS 792			3469829.115	4681.73	1/20/09	86.26	4595.47
					4/8/09	86.04	4595.69
	592792				7/7/09	86.16	4595.57
D000LA00 792	392192				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
					7/12/11	88.38	4593.35
					1/30/12	88.92	4592.81
					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
EAST	599796	607076.365	3468712.215	4626.01	1/25/10	59.35	4566.66
					4/21/10	58.88	4567.13
					7/14/10	61.86	4564.15
					10/20/10	61.20	4564.81
					1/18/11	59.79	4566.22
					4/5/11	59.73	4566.28
					7/12/11	63.79	4562.22
					10/12/11	63.64	4562.37
					1/31/12	63.82	4562.19
ECHAVE	219449	599701	3470168	4648	2/1/12	216.71	4431.29



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)
					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
EPPELE 641	805641	607165.354	3469229.942	4642.86	10/7/09	29.92	4612.94
					7/20/10	50.38	4592.48
					10/20/10	48.88	4593.98
					1/17/11	51.13	4591.73
					4/5/11	53.81	4589.05
					7/11/11	56.82	4586.04
					10/12/11	37.62	4605.24
					1/31/12	46.80	4596.06
					2/18/09	299.30	4394.38
					4/8/09	301.81	4391.87
					7/7/09	304.60	4389.08
FLEMING					10/6/09	307.84	4385.84
		605565.701	3469342.523	4693.68	1/21/10	311.73	4381.95
	218386				4/20/10	315.26	4378.42
					7/15/10	318.32	4375.36
					11/4/10	349.62	4344.06
					1/19/11	356.89	4336.79
					7/12/11	364.72	4328.96
					2/3/12	370.84	4322.84
	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
FULTZ					7/13/09	54.94	4587.98
TOLIZ					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
		-			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
GARNER 557	558557	602659.240	3468962.415	4638.45	2/2/10	193.33	4445.12
					4/22/10	193.49	4444.96
					7/20/10	193.93	4444.52
					10/19/10	194.29	4444.16
					1/19/11	194.61	4443.84
					4/6/11	194.86	4443.59
					7/15/11	195.25	4443.20
					10/11/11	195.72	4442.73
					2/2/12	196.09	4442.36



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)
					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
GARNER 635 587635	587635	602665.352	3468967.902	4640.74	2/2/10	195.32	4445.42
					4/22/10	196.01	4444.73
					8/25/10	195.57	4445.17
				10/19/10	225.83	4414.91	
				1/19/11	196.89	4443.85	
					4/6/11	197.40	4443.34
					7/15/11	198.07	4442.67
					10/11/11	197.75	4442.99
					2/2/12	199.50	4441.24
					5/21/08	220.91	4496.20
			3469820.260		8/15/08	238.48	4478.63
				4717.11	10/29/08	235.90	4481.21
		606256.657			2/24/09	236.13	4480.98
000005 547	000547				5/14/09	236.17	4480.94
GGOOSE 547	628547				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
					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
0					8/12/09	656.56	4267.75
GL-03	539782	604386.940	3473747.943	4924.31	8/12/09	656.56	4267.75
					11/10/09	655.31	4269.00
					3/2/10	655.52	4268.79
					4/9/10	655.35	4268.96
					7/7/10	655.05	4269.26
					2/1/12	651.72	4272.59



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)
					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
GOAR RANCH	610695	602454.751	3468892.471	4631.13	7/7/09	185.36	4445.77
GOAR RAINCH	610695	602454.751	3400092.471	4031.13	10/12/09	185.72	4445.41
					2/2/10	186.25	4444.88
					4/22/10	186.44	4444.69
					7/13/10	186.76	4444.37
				1/19/11	187.52	4443.61	
					7/12/11	188.24	4442.89
					2/6/12	189.02	4442.11
					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
HOBAN	805290	601705.848	3468880.329	4597.21	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
					8/31/11	167.76	4429.45
					12/14/11	168.13	4429.08
					2/1/12	168.09	4429.12
					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
HOWARD ⁴	NR	601281.159	3468770.377	4593.91	1/27/10	152.20	4441.71
					4/21/10	152.30	4441.61
					7/19/10	153.16	4440.75
					10/18/10	153.53	4440.38
					1/17/11	153.51	4440.40
					4/11/11	154.24	4439.67
					8/26/11	154.79	4439.12
					10/11/11	155.02	4438.89
					2/1/12	155.08	4438.83



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)
					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
KEEFER	209744	599879.175	3468119.015	4572.03	1/26/10	136.26	4435.77
					4/20/10	136.26	4435.77
					7/15/10	137.29	4434.74
					10/19/10	137.68	4434.35
					1/18/11	137.42	4434.61
					4/6/11	137.91	4434.12
					7/18/11	140.39	4431.64
					10/11/11	141.68	4430.35
					2/6/12	139.27	4432.76
					2/20/08	156.15	4444.55
					5/6/08	156.40	4444.30
					7/15/08	157.07	4443.63
		601463.094	3468840.139		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
MCCONNELL 265	539265			4600.70	1/26/10	158.35	4442.35
					4/22/10	158.68	4442.02
					7/21/10	159.37	4441.33
					10/18/10	159.63	4441.07
					1/19/11	159.69	4441.01
					4/8/11	159.10	4441.60
					7/12/11	160.77	4439.93
					10/11/11	161.17	4439.53
					2/7/12	161.31	4439.39
					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
METZLER	35-71891	602091.308	3471381.176	4728.53	2/1/10	288.38	4440.15
					5/18/10	288.65	4439.88
					7/16/10	288.88	4439.65
					10/19/10	289.09	4439.44
					1/19/11	289.54	4438.99
					4/4/11	289.87	4438.66
					7/12/11	289.98	4438.55
					10/12/11	290.47	4438.06
					2/7/12	290.92	4437.61



NESS 509127 607866.391 3471419.494 4761.23 272509 536.40 4224.83 671109 568.7 291.34 4216.59 811109 568.87 291.34 4216.59 811109 568.87 291.34 4223.89 271.09 537.34 4223.89 271.09 537.34 4223.89 471.09 568.7 1419.34 471.09 568.73 4419.34 471.09 568.73 4419.34 471.09 568.73 4419.34 471.09 568.73 4419.34 471.09 573.02 471.09 573.02 471.09 573.02 471.09 571.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 573.02 471.00 571.00	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)
NESS 509127 607866.391 3471419.494 4761.23 566.637 4194.36 6110.09 566.637 4194.36 6110.09 566.637 4194.36 6110.09 566.637 4194.36 6110.09 566.637 4194.36 6110.09 567.34 4223.89 22710 533.85 42223.89 4223.99 422110 558.81 4193.12 771910 573.02 4188.21 171811 541.80 4219.43 771211 597.71 4103.52 22712 591.24 4169.39 57124 4169.39 57124 4169.39 57124 4169.39 57124 4169.39 57124 4169.39 57124 4169.39 57124 4169.39 57124 4169.39 57124 4169.39 571220 57122 5712 57122 5712 57122 5712 5712 5						7/24/08	557.90	4203.33
NESS 509127 607866.391 3471419.494 4761.23						10/16/08	549.30	4211.93
NESS 509127 607866.391 3471419.494 4761.23						2/25/09	536.40	4224.83
NESS 509127 607866.391 3471419.494 4761.23						5/11/09	544.64	4216.59
NESS 509127 607866.991 3471419.494 4761.23 2/2/10 531.85 4229.38 4/21/10 568.11 4193.12 4/21/10 568.11 4193.12 4/21/10 568.11 4193.12 1/18/11 597.71 4163.52 4/21/11 107/109 322.66 4478.42 4/23/11 107/109 101.17 4430.21 3/16/10 99.43 4431.35 5/25/10 101.63 4422.05 4/22.06 4/21/11 102.68 4428.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 101.63 4422.07 5/25/10 84.49 443.57 5/25/10 84.49 4/25/10 84.49 4/25/10 84.49 4/25/10 84.49 4/25/10 84.49 4/25/10 84.49 4/25/10 84.49 4/25/10 84.49 4/25/10 84.49 4/25/10 84.49 8/25/10 84.49 8/25/10 8/25/10 84.49 8/25/10 8/25/						8/11/09	566.87	4194.36
NOTEMAN 212483 606053,800 3471576,400 4800,68 4800,68 573,02 4188,21 4169,32 4169,33 4169,43	NECC	500407	007000 004	2474440 404	4704.00	11/12/09	537.34	4223.89
NOTEMAN 212483 606053.800 3471576.400 4800.68 71311 551.40 419.39 4149.39 4178.42 1178208 322.26 4478.42 1178208 322.26 4478.42 1178208 322.26 4478.42 1178208 322.26 4478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 1478.42 1178208 322.26 117	INESS	509127	007000.391	347 1419.494	4/01.23	2/2/10	531.85	4229.38
NOTEMAN 212483 606053.800 3471576.400 4800.68 23717 41653.52 23712 591.24 4169.99 5125 4478.24 1169.99 1101.17 4430.91 1172.018 4443.51 1172.018 11						4/21/10	568.11	4193.12
NOTEMAN 212483 606053.800 3471576.400 4800.68 51308 339.77 4460.91 51308 339.77 4460.91 51308 339.77 4460.91 51308 339.77 4460.91 51308 339.77 4460.91 607174.91 607174 60718						7/19/10	573.02	4188.21
NOTEMAN 212483 606053.800 3471576.400 480.68 5/13/08 3339.77 4460.91 5/13/08 3339.77 4460.91 606053.800 3471576.400 480.68 5/13/08 3339.77 4460.91 11/22/08 322.26 4478.42 2725/09 327.54 4473.41 4456.34 11/22/08 322.26 4478.42 2725/09 327.54 4473.41 4473.41 107/09 101.17 4430.21 3/16/10 99.43 4431.95 5/25/10 102.38 4429.00 32/10/10 102.98 4422.09 12/7/11 104.41 4426.95 12/7/11 109.29 4422.09 12/7/11 109.29 4422.09 13/16/10 83.51 4437.95 12/7/11 104.41 4426.95 13/16/10 83.51 4432.66 3/16/10 85.51 4432.66 3/16/10 85.51 4432.66 13/17/11 86.76 4431.52 6/17/11 86.76 4431.						1/18/11	541.80	4219.43
NOTEMAN 212483 606053.800 3471576.400 4800.68 673708 339.77 4460.91 82708 342.26 4478.20 4456.34 11/2/208 322.26 4478.20 4473.14 11/2/208 322.26 4478.20 4473.14 11/2/208 322.26 4478.20 11/2/208 322.26 4478.20 11/2/208 322.26 4478.20 11/2/208 322.26 4478.20 11/2/208 322.26 4478.20 11/2/208 322.26 4478.20 11/2/208 322.26 327.54 4473.14 11/2/208 324.26 1473.14 11/2/208 324.26 1473.14 11/2/208 324.26 1473.14 11/2/208 324.26 1473.14 11/2/208 324.26 1472.08 11/2/7/11 100.238 4429.00 11/2/7/11 100.238 4429.00 11/2/7/11 100.238 4422.09 11/2/7/11 100.41 1426.97 13/6/10 100.238 1479.20 11/2/7/11 100.41 1426.97 13/6/10 100.238 1479.20 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 1479.20 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 1472.08 11/2/7/11 100.43 11/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/						7/12/11	597.71	4163.52
NOTEMAN 212483 606053.800 3471576.400 4800.68 827/08 344.34 4456.34 11/22/08 322.26 4478.42 2/25/09 327.54 4473.14 107/09 101.17 4430.21 3/16/10 99.43 4431.95 5/25/10 101.63 4429.75 5/25/10 101.63 4429.75 8/25/10 101.63 4429.75 8/25/10 101.63 4429.00 127/11 102.68 4428.70 127/11 102.68 4428.70 127/11 104.41 4426.97 3/6/12 104.30 4427.08 107/09 85.62 4432.66 3/16/10 83.51 4434.77 5/25/10 84.49 4433.79 127/11 88.76 4429.52 127/11 88.76 4429.52 127/11 88.76 4429.03 3/17/11 86.76 4431.52 6/17/11 88.76 4429.04 127/11 88.76 4429.04 127/11 88.76 4429.04 127/11 88.76 1429.05 127/11 89.30 1428.98 131.48 1444.98 127/11 88.76 127/11 88.						2/3/12	591.24	4169.99
NOTEMAN 212483 606053.800 3471576.400 4800.68 11/22/08 322.26 4478.42 2/25/09 327.54 4473.14 1077/09 101.17 4430.21 37/6010 99.43 4431.95 5/25/10 101.63 4429.05 37/711 102.68 4429.05 37/711 102.68 4429.05 37/711 102.68 4429.07 3/6012 104.30 4427.08 1077/09 85.62 4432.66 37/6010 83.51 4439.77 5/25/10 84.49 4433.79 8/25/10 85.70 4432.58 37/711 86.76 4431.52 127/711 89.70 4432.58 37/711 88.76 4429.52 127/711 89.30 4429.90 37/711 88.76 4429.52 127/711 89.30 4429.90 37/711 88.76 4429.52 127/711 89.30 4429.90 37/711 88.76 4429.52 127/711 89.30 4429.90 36/12 89.24 4429.90 10/27/08 160.51 4439.39 4429.90 36/12 89.24 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.51 4439.39 4429.90 10/27/08 160.5 4439.39 4429.90 10/27/08 131.4444.93 11/27/08 131.48 4443.51 14/29/09 131.48 4443.51 14/29/09 131.48 4443.51 14/29/09 131.48 4443.51 14/29/09 131.60 4444.90 10/27/09 131.26 4444.90 10						5/13/08	339.77	4460.91
NSD-02 527587 598820.051 3468821.474 4531.38	NOTEMAN	212483	606053 800	3471576 400	4800 68	8/27/08	344.34	4456.34
NSD-02 527587 598820.051 3468821.474 4531.38	IVO I EMINIT	212400	000000.000	347 137 0.400	4000.00	11/22/08	322.26	4478.42
NSD-02 527587 598820.051 3468821.474 4531.38 3/16/10 99.43 4431.95 5/25/10 101.63 4429.75 8/25/10 102.38 4429.00 4429.00 3/17/11 102.68 4428.70 6/17/11 109.29 4422.09 127/111 104.41 4426.97 3/6/12 104.30 4427.08 4429.00 4427.08 4429.00 4427.08 4429.00 4427.08 4429.00 4427.08 4429.00 4427.08 4429.00 4427.08 4432.66 3/16/10 83.51 4434.77 5/25/10 84.49 4432.58 3/16/10 85.70 4432.58 3/17/11 86.76 4432.58 3/17/11 88.76 4429.52 12/7/11 89.30 4428.90 429.52 12/7/11 89.30 4428.90 429.52 12/7/11 89.30 4428.90 429.52 12/7/11 89.30 4428.90 429.60						2/25/09	327.54	4473.14
NSD-02 527587 598820.051 3468821.474 4531.38 5/25/10 101.63 4429.75 8/25/10 102.38 4429.00 3/17/11 102.68 4428.70 6/17/11 109.29 4422.09 12/7/11 104.41 4426.97 3/6/12 104.30 4427.08 107/09 85.62 4432.66 107/09 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 4432.58 3/17/11 88.76 4429.52 12/7/11 89.30 4428.98 3/6/12 89.24 4429.04 10/27/08 160.51 4439.94 10/27/08 160.51 4439.94 10/27/08 160.51 4439.94 9/10/95 155 4445.44 4/2010 131.86 4444.59 11/3/08 131.48 4443.51 13/18 131.48 131.48 1444.59 11/3/08 131.48 131.48 1444.59 11/3/08 131.48 131.48 1444.59 11/3/08 131.48 131.48 1444.59 11/3/08 131.48 131.48 1444.59 11/3/08 131.48 131.48 1444.59 11/3/08 131.48 131.48 1444.59 11/3/08 131.48 131.48 1444.59 11/3/08 131.4						10/7/09	101.17	4430.21
NSD-02 527587 598820.051 3468821.474 4531.38 8/25/10 102.38 4429.00 3/17/11 102.68 4428.70 6/17/11 109.29 4422.09 127/111 104.41 4426.97 3/6/12 104.30 4427.08 107/109 85.62 4432.66 3/16/10 83.51 4434.77 5/25/10 84.49 4433.79 8/25/10 85.70 4432.58 3/17/11 86.76 4431.52 6/17/11 86.76 4431.52 127/11 89.30 4428.98 3/6/12 89.24 4429.04 10/27/08 160.51 4439.93 16/12 89.24 4429.04 10/27/08 160.55 4439.94 17/20/10 131.34 4444.99 10/27/08 131.48 4443.51 11/20/8 131.48 4443.51 11/20/8 131.48 4443.51 11/20/8 131.48 4443.51 11/20/8 131.48 4443.51 11/20/8 131.48 4443.51 11/20/8 131.48 4443.51 11/20/8 131.48 4443.51 11/20/8 131.48 4443.51 11/20/9 131.00 4444.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.99 10/20/9 130.03 4442.20 10/20/9 130.62 4444.99 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.82 10/20/9 131.66 4441.86 10/20/9 131.66 4441.86 10/20/9 131.66 4441.88 10/20/9 131.66 4440.96 10/20/9 131.66 4440.96 10/20/9 131.66 4440.96 10/20/9 131.60 4441.88 10/20/9 131.60 4441.88 10/20/9 131.60 4441.88 10/20/9 131.60 4441.88 10/20/9 13						3/16/10	99.43	4431.95
NSD-02 527887 598820.051 3468821.474 4531.38 3/17/11 102.68 4428.70 (6/17/11 109.29 4422.09 12/7/11 104.41 4426.97 3/6/12 104.30 4427.08 107/09 85.62 4432.66 3/16/10 83.51 4434.77 5/25/10 84.49 443.51 434.77 5/25/10 84.49 443.51 434.77 5/25/10 84.49 443.51 442.92 442.						5/25/10	101.63	4429.75
NSD-03 527586 598070.538 3468694.259 4518.28	NSD-02	527587	598820 051	3468821 474	4531 38	8/25/10	102.38	4429.00
NSD-03 527586 598070.538 3468694.259 4518.28	NSD-02	02.00.	390020.031	3400021.474	4001.00	3/17/11	102.68	4428.70
NSD-03 527586 598070.538 3468694.259 4518.28						6/17/11	109.29	4422.09
NSD-03 527586 598070.538 3468694.259 4518.28						12/7/11	104.41	4426.97
NSD-03 527586 598070.538 3468694.259 4518.28 4518.28 598070.538 3468694.259 4518.28 3/16/10 83.51 4434.77 5/25/10 84.49 4433.79 4432.58 3/17/11 86.76 4431.52 6/17/11 89.30 4428.98 3/6/12 89.24 4429.04 4429.04 4429.04 4429.05 10/27/08 160.51 4439.93 4428.98 4429.04 4429.06 10/27/08 160.5 4439.94 4/29/09 155 4445.44 4/2010 131.48 443.51 4/2010 131.48 443.51 4/2010 131.48 443.51 4/2010 131.60 4444.99 10/9/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.56 10/21/09 131.60 4441.22 2/3/10 131.34 4441.48						3/6/12	104.30	4427.08
NSD-03			598070.538	3468694.259	4518.28	10/7/09	85.62	4432.66
NSD-03 527586 598070.538 3468694.259 4518.28 8/25/10 85.70 4432.58 3/17/11 86.76 4431.52 6/17/11 88.76 4429.52 12/7/11 89.30 4428.98 3/6/12 89.24 4429.04 10/27/08 160.51 4439.93 4/29/09 ⁵ 160.5 4439.94 4/2010 ⁵ 131 4469.44 1/2010 ⁵ 131 4469.44 1/2010 ⁵ 131 4469.44 1/2010 ⁵ 131 4469.44 1/2010 ⁵ 130 4444.99 1/20/90 ⁵ 126 4448.99 1/20/90 ⁵ 126 4444.99 1/20/90 ⁵ 126 1/20/90 126 1/2		527586				3/16/10		4434.77
NSD-03 527886 598070.538 3468694.259 4518.28 3/17/11 86.76 4431.52 6/17/11 88.76 4429.52 12/7/11 89.30 4428.98 3/6/12 89.24 4429.04 10/27/08 160.51 4439.93 4428.98 10/27/08 160.51 4439.93 4428.98 160.51 4439.94 429.09 155 4445.44 429.09 155 4444.99 160.51 131 4469.44 17.09 131.48 16.09 160.51 17.09 131.48 16.09 160.51 17.09 131.60 4444.99 17.09 131.26 4441.56 17.20 131.34 4441.48 17.20 17.20 131.34 4441.48 17.20 17.20 131.34 4441.48 17.20 17.20 131.34 4441.48 17.20 17.20 131.34 4441.48 17.20 17.20 131.36 4440.96 17.20 10 131.50 4441.32						5/25/10	84.49	4433.79
NWC-02 562944 600177.435 3467474.673 4600.44 89.24 4429.04 429.05 10/27/08 160.51 4439.94 429.06 10/27/08 160.51 4439.94 429.06 1153.857 3468350.838 4574.99 4729/09 ⁵ 155 4445.44 143.25 12/2/09 130.03 4442.79 10/2/09 ⁵ 126 4448.99 10/9/09 ⁵ 125 4449.90 10/9/09 ⁵ 126 4448.99 10/9/09 ⁵ 126 4442.20 10/9/09 ⁵ 126 4441.56 10/9/09 ⁵ 126 4441.56 10/21/09 131.26 4441.56 10/21/09 131.26 4441.26 10/21/09 131.34 4441.48 13.26 10/21/09 131.34 4441.48 13.26 10/21/09 131.36 4441.32 13.26 10/21/09 131.36 4441.32 13.26 10/21/09 131.36 4441.32 13.26 10/21/09 131.36 131.34 4441.48 13.26 10/21/09 131.36 13	NSD-03							
NWC-02 562944 600177.435 3467474.673 4600.44 10/27/08 160.51 4439.93 4/29/09 ⁵ 160.5 4439.94 4/29/09 ⁵ 155 4445.44 4/2010 ⁵ 131 4469.44 11/3/08 131.48 4443.51 4/29/09 ⁵ 126 4448.99 10/9/09 ⁵ 126 4448.99 10/9/09 ⁵ 125 4449.99 10/9/09 ⁵ 126 4442.20 10/9/09 ⁵ 126 4442.20 10/9/09 ⁵ 126 4441.56 10/21/09 131.26 4441.56 10/21/09 131.60 4441.22 10/9/10/9/10/9/10/9/10/9/9/10/9/9/10/9/9/10/9/9/10/9/9/10/9/9/9/10/9/9/9/9								
NWC-02 562944 600177.435 3467474.673 4600.44 10/27/08 160.51 4439.93 4/29/09 ⁵ 160.5 4443.94 4/2010 ⁵ 131 4469.44 442.90 4/2010 ⁵ 131 4469.44 443.51 4/2010 ⁵ 130 4444.99 4/29/09 ⁵ 126 4448.99 10/9/09 ⁵ 125 4449.99 10/9/09 ⁵ 126 4442.20 7/21/09 131.26 4441.56 10/21/09 131.60 4441.22 2/3/10 131.34 4441.48 10/21/09 131.60 4441.22 1/3/10 131.34 4441.48 10/21/09 131.50 4441.32								
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NWC-03 203321 601153.857 3468350.838 4574.99 44574.99 11/3/08 131.48 4443.51 4429/09 ⁵ 130 4444.99 9/10/09 ⁵ 126 4448.99 10/9/09 ⁵ 125 4449.99 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 NWC-03 CAP ⁶ 627684 601151.704 3468343.653 4572.82 4/21/10 131.86 4440.96 7/20/10 131.50 4441.32	NWC-02	562944	600177.435	3467474.673	4600.44			
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 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 NWC-03 CAP ⁶ 627684 601151.704 3468343.653 4572.82 4/21/10 131.86 4440.96 7/20/10 131.50 4441.32								
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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 4441.48 441.								
NWC-03 CAP ⁶ 627684 601151.704 3468343.653 4572.82 4/23/09 130.62 4442.20 7/21/09 131.26 4441.22 2/3/10 131.34 4441.48 4440.96 7/20/10 131.50 4441.32								
NWC-03 CAP ⁶ 627684 601151.704 3468343.653 4572.82 7/21/09 131.26 4441.56 10/21/09 131.60 4441.48 441.48 441.48 7/20/10 131.86 4440.96 7/20/10 131.50 4441.32								
NWC-03 CAP ⁶ 627684 601151.704 3468343.653 4572.82 10/21/09 131.60 4441.22 2/3/10 131.34 4441.48 4441.49 47/20/10 131.50 4441.32								
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NWC-03 CAP ⁶ 627684 601151.704 3468343.653 4572.82 4/21/10 131.86 4440.96 7/20/10 131.50 4441.32								
7/20/10 131.50 4441.32	NIMO OS CADO	627604	6011E1 704	2469242 652	4570.00			
	INVVC-U3 CAP	02/084	001131.704	Ა 4 00343.003	4312.82			
1/16/11 132.91 4439.91								
7/45/44 404.40 4400.40								
7/15/11 134.42 4438.40								
10/13/11 134.73 4438.09 1/31/12 134.50 4438.32								



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)
					12/2/08	352.11	4338.66
NWC-04	551849	605829.808	3469071.959	4690.77	4/29/09 ⁵	328	4362.77
NVVC-04	551849	605829.808	3469071.959	4690.77	9/10/09 ⁵	324	4366.77
					4/2010 ⁵	216	4474.77
					4/29/09 ⁵	156	4436.50
NWC-06	575700	599822.821	2467740.054	4592.50	9/10/09 ⁵	155	4437.50
NVVC-06	5/5/00	599022.021	3467749.954	4592.50	10/9/09 ⁵	148	4444.50
					4/2010 ⁵	140	4452.50
					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
OSBOBNI	642426	607031.823	3470270.548	4711.95	7/8/09	96.61	4615.34
OSBORN 643436	043430	607031.623	3470270.546	4711.95	10/5/09	75.09	4636.86
					1/21/10	75.37	4636.58
					4/19/10	81.59	4630.36
					7/12/10	83.00	4628.95
					7/12/11	74.60	4637.35
					2/3/12	74.57	4637.38
					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
		605304.234			1/21/10	166.92	4524.48
					4/20/10	167.11	4524.29
PANAGAKOS	35-76413		3469323.140	4691.40	7/20/10	171.78	4519.62
					10/18/10	176.39	4515.01
					7/14/11	173.78	4517.62
					8/25/11	172.89	4518.51
					2/6/12	169.09	4522.31
					2/29/12	169.32	4522.08
					3/15/12	169.64	4521.76
					5/15/08	279.78	4447.43
					8/18/08	280.06	4447.15
PARRA	576415	602170.716	3471263.549	4727.21	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
					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
PIONKE	613395	601045.471	3468960.981	4592.13	4/26/10	151.32	4440.81
					7/15/10	151.90	4440.23
					10/18/10	152.38	4439.75
					1/19/11	152.38	4439.75
					4/8/11	153.04	4439.09
					7/12/11	153.57	4438.56
					10/11/11	153.87	4438.26
					2/1/12	153.92	4438.21



POOL 509518 599683.603 3470013.823 4639.09 204.72 4434 POOL 509518 599683.603 3470013.823 4639.09 4639.09 204.74 4434 7/30/9 204.87 4434 4/21/09 204.87 4434 7/20/09 205.69 4433 10/20/09 206.06 4433 2/24/10 205.59 4433 7/14/10 206.58 4433 7/14/10 206.58 4433 10/20/10 206.74 4434 10/20/10 206.74 4434 10/27/08 159.45 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 10/6/09 160.36 4436 10/25/10 160.10 4436 RAMIREZ 216425 599730.649 3467584.363 4596.61 4/21/10 159.96 4436	4.37 3.53 4.03 4.35 4.22 3.40 3.03 3.50 3.61 2.51 2.35 7.16
POOL 509518 599683.603 3470013.823 4639.09 7/31/08 205.56 4433 10/21/08 205.06 4434 2/13/09 204.74 4434 4/21/09 205.69 4433 10/20/09 205.69 4433 10/20/09 205.69 4433 2/24/10 205.59 4433 4/22/10 205.48 4433 7/14/10 206.58 4433 10/20/10 206.74 4432 10/27/08 159.45 4437 1/29/09 158.74 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 11/25/10 160.10 4436 11/25/10 160.10 4436	3.53 4.03 4.35 4.22 3.40 3.03 3.50 3.61 2.51 2.35 7.16
POOL 509518 599683.603 3470013.823 4639.09 10/21/08 205.06 4434 2/13/09 204.74 4434 4/21/09 204.87 4434 7/20/09 205.69 4433 10/20/09 206.06 4433 2/24/10 205.59 4433 4/22/10 205.48 4433 7/14/10 206.58 4432 10/20/10 206.74 4432 10/27/08 159.45 4437 11/29/09 158.74 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 11/25/10 160.10 4436 11/25/10 159.96 4436	4.03 4.35 4.22 3.40 3.03 3.50 3.61 2.51 2.35 7.16
POOL 509518 599683.603 3470013.823 4639.09 204.74 4432 4/21/09 204.87 4433 4/21/09 205.69 4433 10/20/09 206.06 4433 4/22/10 205.59 4433 10/20/10 206.58 4432 10/20/10 206.74 4432 10/20/10 206.74 4432 10/20/10 206.74 4432 10/20/10 206.74 4433 1/29/09 158.74 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 10/6/09 160.36 4436 10/6/09 160.36 4436 11/25/10 160.10 4436 11/25/10 160.10 4436 11/25/10 159.96 4436	4.35 4.22 3.40 3.03 3.50 3.61 2.51 2.35 7.16
POOL 509518 599683.603 3470013.823 4639.09 4/21/09 204.87 4432 7/20/09 205.69 4433 10/20/09 206.06 4433 2/24/10 205.59 4433 7/14/10 206.58 4432 10/20/10 206.74 4432 10/27/08 159.45 4437 1/29/09 158.74 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 10/6/09 160.36 4436 11/25/10 160.10 4436	4.22 3.40 3.03 3.50 3.61 2.51 2.35 7.16
POOL 509518 599683.603 3470013.823 4639.09 7/20/09 205.69 4433 10/20/09 206.06 4433 2/24/10 205.59 4433 4/22/10 205.48 4433 7/14/10 206.58 4433 10/20/10 206.74 4433 10/20/10 206.74 4433 10/27/08 159.45 4437 1/29/09 158.74 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 10/6/09 160.36 4436 11/25/10 160.10 4436 11/25/10 159.96 4436	3.40 3.03 3.50 3.61 2.51 2.35 7.16
7/20/09 205.69 443: 10/20/09 206.06 443: 2/24/10 205.59 443: 4/22/10 205.48 443: 7/14/10 206.58 443: 10/20/10 206.74 443: 10/20/10 206.74 443: 11/29/09 158.74 443: 11/29/09 158.66 443: 11/29/09 158.66 443: 11/29/09 158.66 443: 11/29/09 158.66 443: 11/25/10 160.36 443: 11/25/10 160.10 443: RAMIREZ 216425 599730.649 3467584.363 4596.61 4/21/10 159.96 443:	3.03 3.50 3.61 2.51 2.35 7.16
2/24/10	3.50 3.61 2.51 2.35 7.16
## A ##	3.61 2.51 2.35 7.16
7/14/10 206.58 4432 10/20/10 206.74 4432 10/27/08 159.45 4437 1/29/09 158.74 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 11/25/10 160.10 4436 RAMIREZ 216425 599730.649 3467584.363 4596.61 4/21/10 159.96 4436	2.51 2.35 7.16
10/20/10 206.74 4432 10/27/08 159.45 4437 1/29/09 158.74 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 1/25/10 160.10 4436 1/25/10 159.96 4436	2.35 7.16
RAMIREZ 216425 599730.649 3467584.363 4596.61 10/27/08 159.45 4437 1/29/09 158.74 4437 4/16/09 158.66 4437 7/10/09 159.64 4436 10/6/09 160.36 4436 1/25/10 160.10 4436 4/21/10 159.96 4436	7.16
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RAMIREZ 216425 599730.649 3467584.363 4596.61 4/21/10 159.96 4436	7.87
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RAMIREZ 216425 599730.649 3467584.363 4596.61 4/21/10 159.96 4436	6.97
RAMIREZ 216425 599730.649 3467584.363 4596.61 4/21/10 159.96 4436	6.25
	6.51
	6.65
7/21/10 161.05 4435	5.56
10/19/10 161.23 4435	
1/18/11 161.22 4438	
4/11/11 161.48 4438	5.13
7/18/11 162.39 4434	
10/12/11 163.04 4433	
2/15/08 40.85 4607	
5/13/08 43.82 4604	
7/29/08 45.25 4602	
10/22/08 44.54 4603	
1/20/09 44.31 4603	
4/8/09 44.68 4603	
7/9/09 48.99 4598	
PAY 903773 607093 433 3460406 447 04 4647 04 470640 47 64 4667	
RAY 803772 607083.422 3469195.147 4647.91 1/26/10 47.61 4600 4/20/10 49.78 4598	
7/14/10 51.36 4596 10/20/10 49.85 4598	
1/17/11 50.51 4597	
4/5/11 51.84 4596	
7/11/11 55.74 4592	
10/12/11 53.63 4594	
1/31/12 53.21 4594	
11/11/09 135.46 4441	
2/25/10 135.89 4441	
4/22/10 135.62 4441	
7/16/10 136.63 4440	
10/19/10 136 61 4440	
ROGERS 596 573596 601001.503 3468491.639 4577.35 1/20/11 134.21 4443	
	9.67
10/12/11 138.09 4439	9.67 9.26
1/30/12 137.91 4439	9.26



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)
					2/7/08	129.85	4449.17
					7/29/08	131.86	4447.16
ROGERS 750 ⁷	641750	600977.690	3468417.386	4579.02	10/22/08	132.08	4446.94
ROGERS 750	041750	000977.090	3400417.300	4579.02	2/10/09	130.62	4448.40
					4/29/09	131.33	4447.69
					8/3/09	135.07	4443.95
					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
DOCEDO E	246040	000440 040	3467636.029	4590.66	10/6/09	150.76	4439.90
ROGERS E	216018	600449.648	3407636.029	4590.66	1/25/10	150.64	4440.02
					4/21/10	150.97	4439.69
					8/25/10	151.15	4439.51
					10/19/10	151.57	4439.09
					10/13/11	153.79	4436.87
					1/30/12	153.56	4437.10
					2/5/08	293.29	4441.89
					5/15/08	293.57	4441.61
					7/30/08	293.86	4441.32
		602857.357			10/20/08	294.18	4441.00
			3471424.219	4735.18	2/12/09	294.62	4440.56
RUIZ	531770				4/21/09	294.66	4440.52
					8/3/09	294.98	4440.20
					10/28/09	295.33	4439.85
					2/1/10	295.70	4439.48
					4/26/10	295.96	4439.22
					4/8/11	297.20	4437.98
					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
SCHWARTZ ⁸	210865	600811.014	3468269.622	4564.49	1/22/10	124.32	4440.17
					4/21/10	124.65	4439.84
					7/21/10	125.80	4438.69
					10/19/10	126.30	4438.19
					1/17/11	125.35	4439.14
					4/11/11	127.50	4436.99
					7/18/11	127.67	4436.82
					10/12/11	127.51	4436.98
					2/6/12	127.34	4437.15



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)
					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
STEPHENS	808560	606981.766	3469072.799	4651.22	10/7/09	50.33	4600.89
					1/26/10	51.13	4600.09
					4/20/10	51.24	4599.98
					7/14/10	51.91	4599.31
					1/18/11	52.98	4598.24
					7/11/11	54.44	4596.78
					1/31/12	55.65	4595.57
					2/6/08	352.10	4454.42
		531 605998.250	3471735.149		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
SUNBELT	201531			4806.52	7/8/09	356.99	4449.53
					10/5/09	Dry	<4426
					1/21/10	Dry	<4426
					4/19/10	Dry	<4426
					7/12/10	Dry	<4426
					1/19/11	Dry	<4426
					8/25/11	Dry	<4426
					2/3/12	Dry	<4426
					2/13/08 5/14/08	26.50 30.69	4690.09 4685.90
					7/24/08	30.69	4685.90
					10/16/08	32.06 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
SWAN	NR	607378.547	3470648.298	4716.59	10/5/09	35.12	4681.47
					1/21/10	36.64	4679.95
					4/21/10	38.06	4679.93
					7/19/10	39.67	4676.92
					1/18/11	35.06	4681.53
					7/12/11	39.32	4677.27
					2/3/12	37.86	4678.73



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)
					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
TM-02A	522574	604152.059	3472008.794	4808.43	11/4/09	348.97	4459.46
					3/10/10	348.19	4460.24
					4/6/10	353.86	4454.57
					7/6/10	349.20	4459.23
				2/10/11	347.60	4460.83	
				7/13/11	348.14	4460.29	
				2/2/12	346.94	4461.49	
	1				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
TM-03 52257					2/26/09	126.94	4770.91
		606366.130	3473711.046	4897.85	5/13/09	113.86	4783.99
	522575				8/18/09	128.80	4769.05
					11/10/09	125.38	4772.47
					3/2/10	128.02	4769.83
					4/14/10	130.56	4767.29
					7/7/10	131.25	4766.60
					2/1/12	135.04	4762.81
			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
TM 00 MULED	500005	000055.075			5/13/09	158.81	4549.07
TM-06 MILLER	522695	606055.975			8/18/09	158.91	4548.97
					11/12/09	158.96	4548.92
					3/8/10	158.99	4548.89
					4/14/10	159.02	4548.86
					7/2/10	159.13	4548.75
					7/21/11	159.88	4548.00
TM-10 USBP	522696	601586.268	3471816.397	4741.18	3/15/12	279.30	4461.88
					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
TM 40	E20E70	605500 075	2460942400	4747 74	5/13/09	82.01	4635.70
TM-16	522578	605588.075	3469842.199	4717.71	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
1				-	7/2/10	83.51	4634.20
					7/14/11	80.41	4637.30



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)
					3/6/08	199.85	4446.02
TM-19A		602458.710	3469197.426	4645.87	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
	522581				8/12/09	201.46	4444.41
	522561				11/4/09	201.16	4444.71
					3/10/10	201.34	4444.53
					4/9/10	201.55	4444.32
					7/7/10	202.35	4443.52
					2/14/11	203.00	4442.87
					7/15/11	203.30	4442.57
					2/2/12	203.84	4442.03
			3469104.903		3/5/08	211.04	4455.63
		603698.271			5/22/08	210.98	4455.69
				4666.67	8/6/08	211.55	4455.12
	562554				11/6/08	207.05	4459.62
					2/18/09	212.31	4454.36
TM 40					5/7/09	212.37	4454.30
TM-42					8/18/09	212.77	4453.90
					11/3/09	213.05	4453.62
					2/24/10	213.36	4453.31
					4/19/10	213.51	4453.16
					7/2/10	213.52	4453.15
					7/12/11	214.62	4452.05
		600552.215	3467978.431	4561.98	5/7/08	123.30	4438.68
TVI 236					7/15/08	121.55	4440.43
	802236				10/15/08	122.35	4439.63
					2/11/09	121.28	4440.70
					4/17/09	122.73	4439.25
					7/21/09	123.96	4438.02
					10/19/09	123.88	4438.10
					2/2/10	122.26	4439.72
					4/23/10	122.70	4439.28
					7/15/10	125.08	4436.90
					7/15/11	127.23	4434.75



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)
					5/7/08	127.10	4440.12
TVI 713		600729.095	3468412.946	4707.00	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
	567713				2/2/10	126.71	4440.51
	567713			4567.22	4/23/10	127.53	4439.69
					7/15/10	129.14	4438.08
					10/20/10	130.84	4436.38
					1/20/11	134.36	4432.86
					4/11/11	135.72	4431.50
					7/15/11	131.61	4435.61
					10/12/11	130.33	4436.89
					2/3/12	130.01	4437.21
		601154.951	3468658.855	4586.89	2/15/08	143.31	4443.58
					5/7/08	143.90	4442.99
WEISKOPF	641802				7/16/08	144.22	4442.67
					10/28/08	145.81	4441.08
					1/29/09	143.99	4442.90
					4/15/09	144.38	4442.51
					7/15/09	144.99	4441.90
					10/15/09	145.66	4441.23
					2/2/10	145.28	4441.61
					4/22/10	145.72	4441.17
					7/19/10	146.46	4440.43
					10/20/10	147.11	4439.78
					1/17/11	146.72	4440.17
					4/11/11	146.31	4440.58
					8/26/11	148.06	4438.83
					10/13/11	148.30	4438.59
					2/1/12	148.23	4438.66
WMD-2011-03M	913037	605360.830	3470671.273	4746.28	2/2/12	226.66	4519.62



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)
ZANDER	205126	26 599678.880	3467998.486	4580.94	2/4/08	144.85	4436.09
					5/6/08	145.33	4435.61
					7/16/08	146.40	4434.54
					10/28/08	146.01	4434.93
					2/10/09	144.83	4436.11
					4/16/09	144.94	4436.00
					7/14/09	146.14	4434.80
					10/13/09	146.77	4434.17
					1/26/10	146.34	4434.60
					4/22/10	146.27	4434.67
					7/21/10	147.81	4433.13
					10/19/10	147.80	4433.14
					1/18/11	147.52	4433.42
					4/6/11	147.84	4433.10
					7/13/11	148.91	4432.03
					10/12/11	149.50	4431.44
					1/31/12	149.31	4431.63

ADWR = Arizona Department of Water Resources

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

ft amsl = feet above mean sea level

NR = No Record

ND = No Data



¹ Survey Source: Survey conducted by Gilbert Technical Service, Inc and Arizona Land Specialists, 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

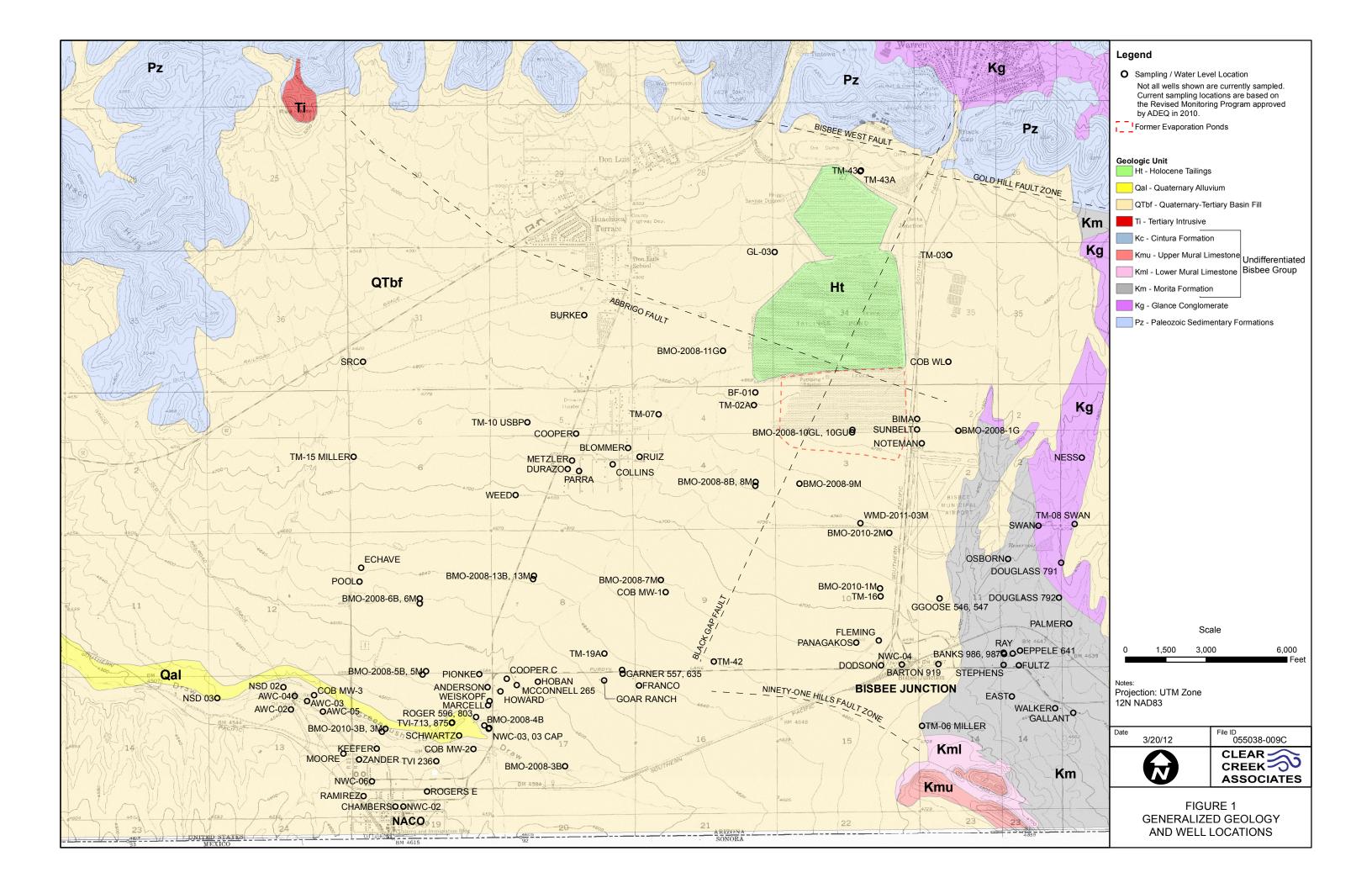
⁵ Depth to Water measurement provided by Naco Water Company

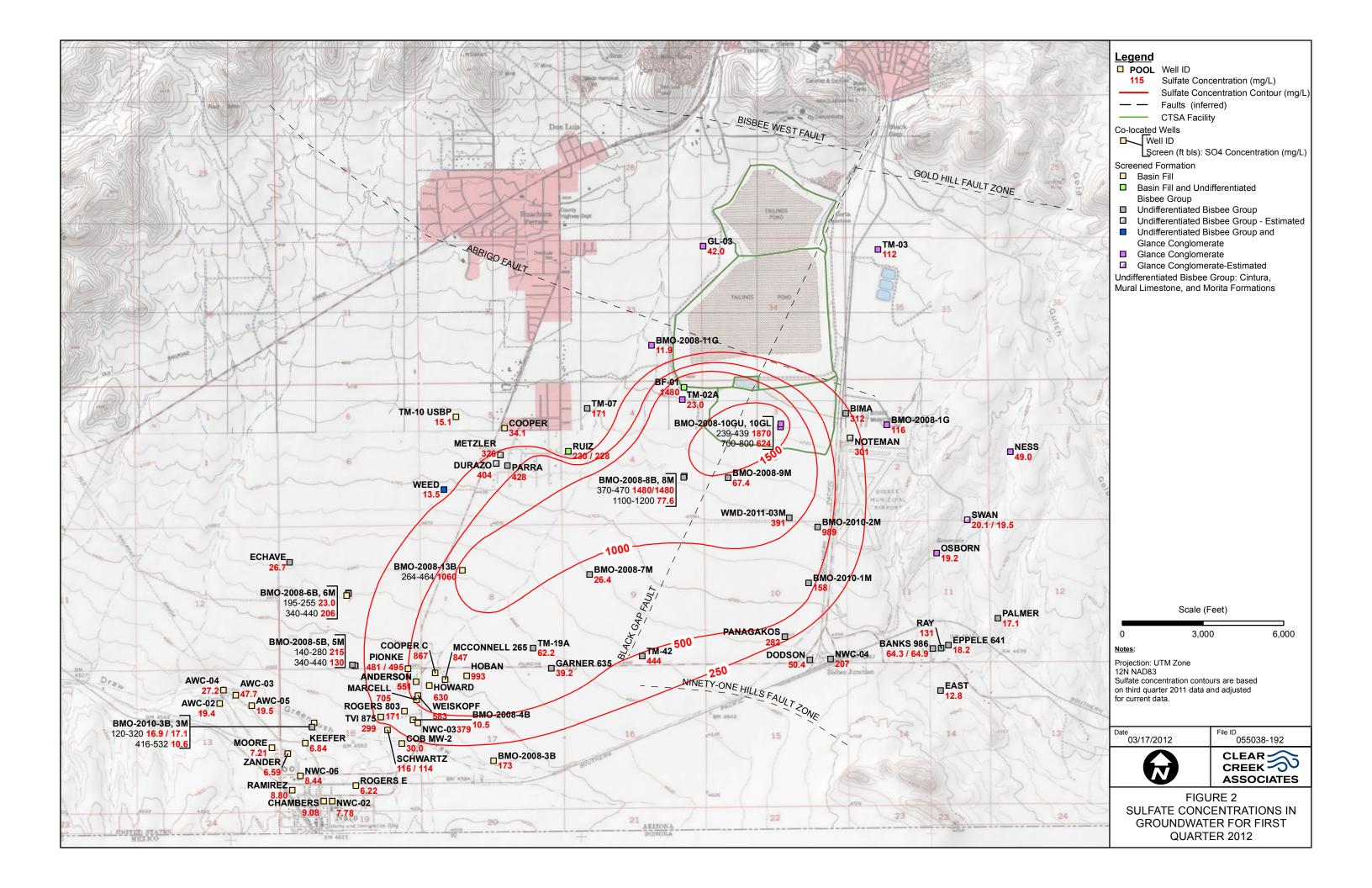
⁶ Measuring point elevation for second quarter 2009 changed to reflect well survey completed on April 27, 2009

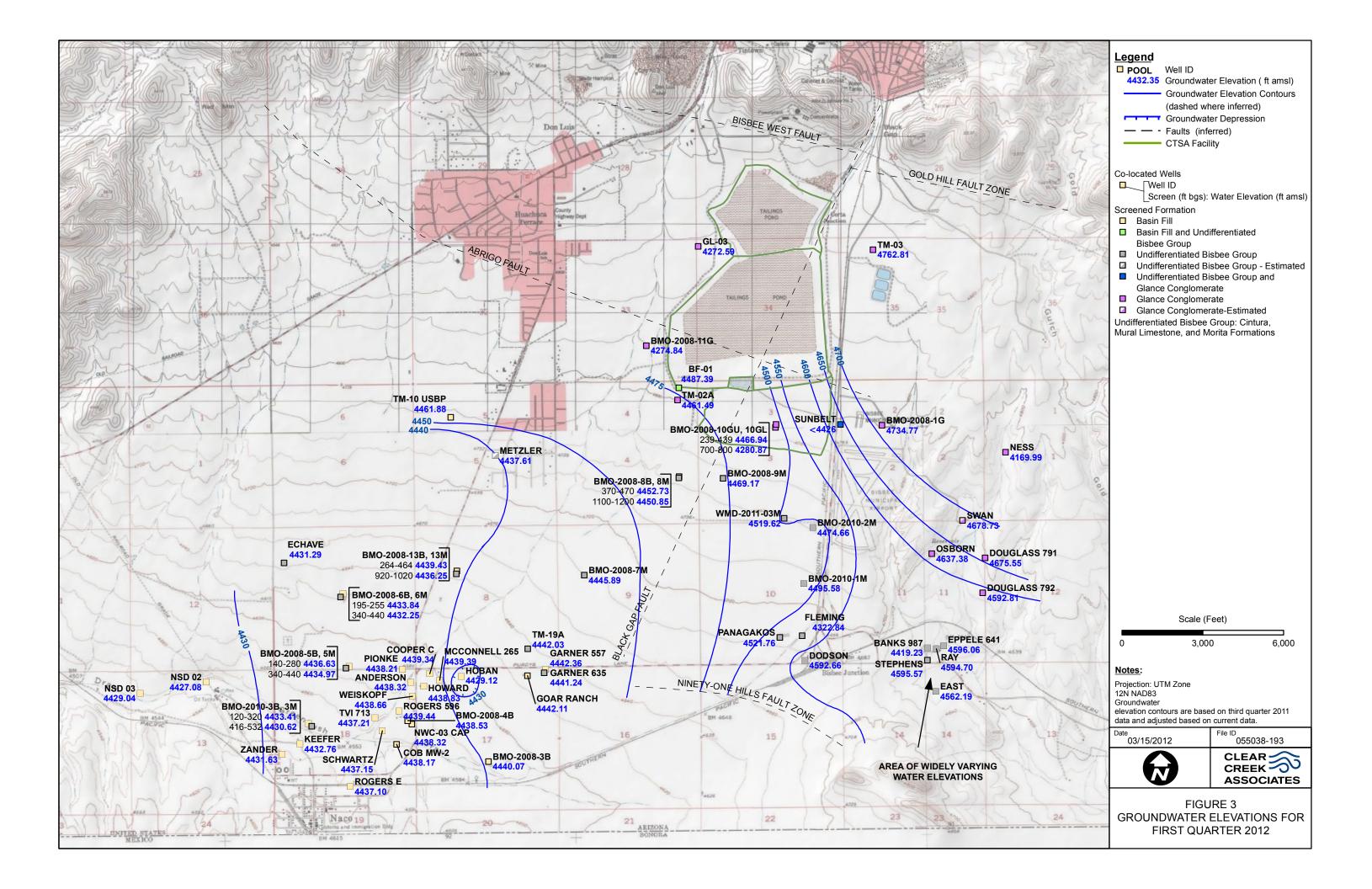
 $^{^{7}}$ Well previously identified as ROGERS 803

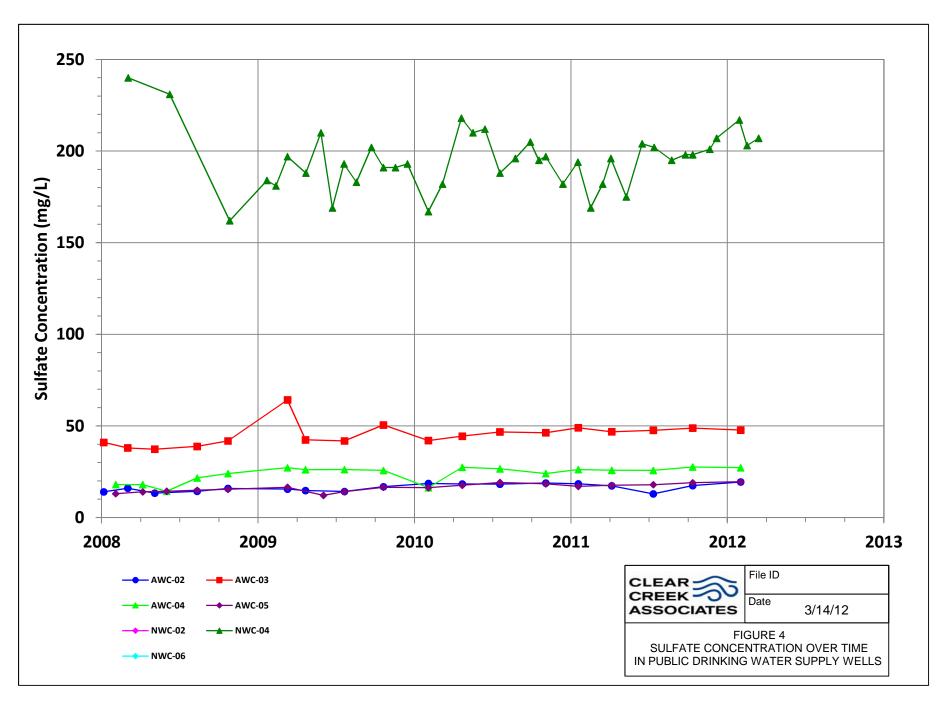
⁸ Measuring point elevation changed to reflect survey results September 10, 2010 and applied to all measurements collected

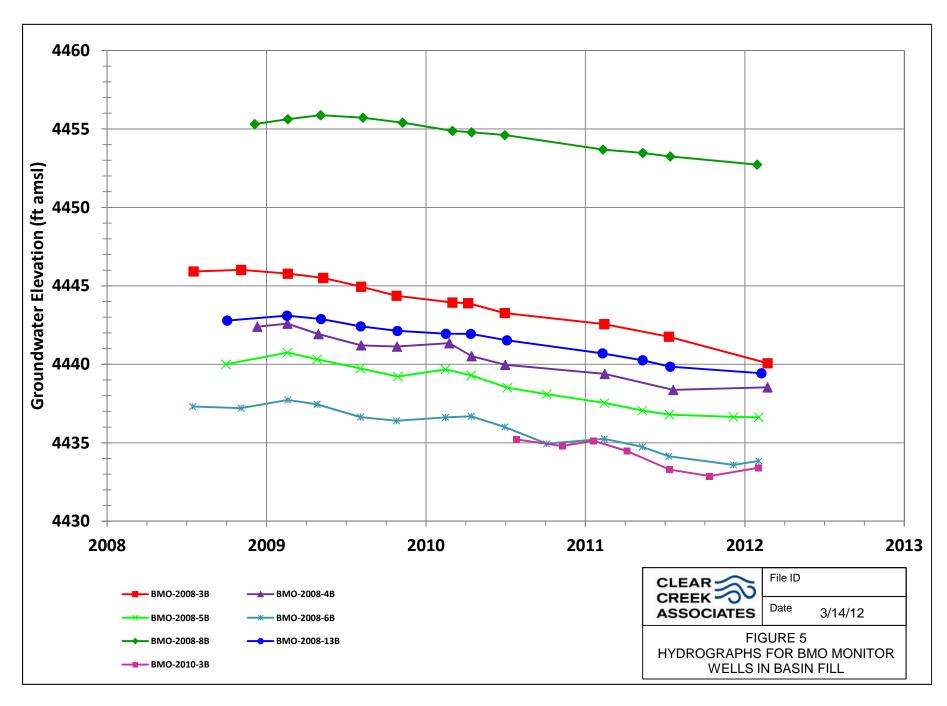
FIGURES



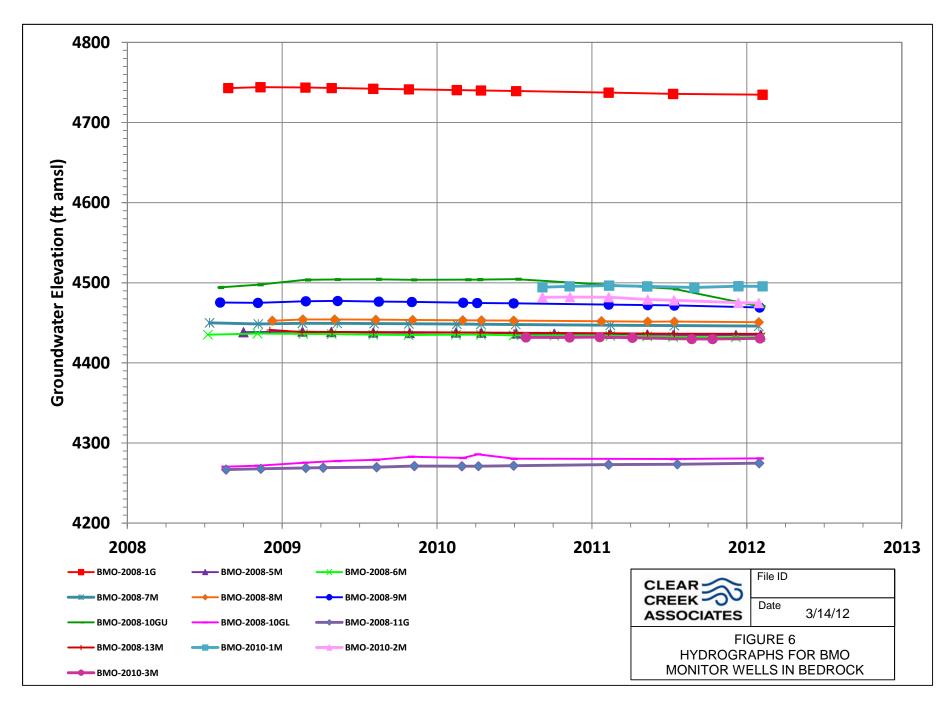








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APPENDIX A DATA VERIFICATION REPORT

APPENDIX A

DATA VERIFICATION REPORT

FIRST QUARTER 2012 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

March 30, 2012

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1. INTRODUCTION

This report summarizes the data verification review of groundwater samples collected and analyzed during the first quarter 2012 by Clear Creek Associates (Clear Creek) and Freeport-McMoRan Corporation Copper Queen Branch (CQB) pursuant to Mitigation Order on Consent Docket No. P-121-07 (ADEQ, 2007). Clear Creek and CQB collected groundwater samples pursuant to the groundwater monitoring program approved by ADEQ in April 2010 (CQB, 2010 and ADEQ, 2010). Analytical results for groundwater samples collected for this project during the first quarter 2012 were provided to Clear Creek by SVL Analytical, Inc. (SVL) of Kellogg, Idaho for preparation of the first quarter 2012 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 2012 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. One sample result was deemed invalid based on the re-analysis described in Section 4.5.5. The analytical results for all 97 samples collected by Clear Creek and CQB are contained in 9 reports having the SVL Project numbers identified in the following table.

SVL ID	WELLS REPORTED							
Number of wells sampled: 75 Number of well samples collected: 80 Number of duplicate samples collected: 7 Number of field and equipment blanks collected: 10 Total number of samples collected: 97								
W2B0030	BMO-2008-7M, BMO-2008-8B, BMO-2008-8M, BMO-2010-2M, DUP20120113A							
W2B0055	NWC-02, NWC-03, NWC-04, NWC-06, RAMIREZ, ROGERS 803, ROGERS E, BANKS 986, COB MW-2, DODSON, EPPELE-641, EAST, MOORE, RAY, ZANDER, DUP20120131, FB20120201, EQB20120201, ANDERSON, HOWARD, MARCELL, PIONKE, DUP20120201							
W2B0123	BMO-2008-10GL, TM-2A, WMD-2011-03M, TM-19A, BMO-2008-5M, BMO-2008-5B, BMO-2008-6M, BMO-2008-6B, BMO-2008-11G, GL-3, BF-01, BMO-2008-9M, BMO-2008-10GU, TM-03, HOBAN							
W2B0147	NESS, WEISKOPF, EQB20120203, FB20120203, CHAMBERS, KEEFER, PANAGAKOS, SCHWARTZ, WEED, DUP 20120206, EQB20120206, FB20120206, DURAZO, MCCONNELL 265, METZLER, PARRA, RUIZ, DUP20120207, EQB20120207, FB20120207							
W2B0150	COOPER C, COOPER, ECHAVE, AWC-02, AWC-03, AWC-04, AWC-05, BMO-2010-3B, BMO-2010-3M, GARNER 635, DUP20120202, EQB20120202, FB20120202, BIMA, NOTEMAN, NOTEMAN HOUSE, OSBORN, PALMER, SWAN, TVI-875, DUP20120203							
W2B0258	BMO-2008-13M, BMO-2008-1M, BMO-2008-1G, TM-42, BMO-2008-13B, TM-7							
W2B0439	NWC-04, BMO-2008-4B, BMO-2008-3B							
W2C0029	PANAGAKOS							
W2C0330	PANAGAKOS, NWC-04, TM-10 USBP							

2. FIELD OPERATIONS

Field operations for this project consisted of the following for all monitoring wells sampled by

Clear Creek and CQB:

• Static water level measurement if possible,

• Well purging,

• Collection of water quality field parameters (pH in standard units [SU], specific conductance [SC] in microSiemens per centimeter [μS/cm], and temperature in

degrees Celsius [°C]),

Collection of groundwater samples for water quality analysis,

Collection of groundwater QA and QC samples, 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, an attempt was made to collect groundwater samples from wells

designated in the groundwater monitoring program approved by ADEQ (ADEQ, 2010).

Construction and location information for the wells sampled for water quality and water level

measurements is listed in Tables 2, 3, and 4 of the main text.

Pre-Sampling Field Activities 2.2.1

On each day of sampling, the pH¹ and SC² 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.

Well Purging, Field Measurements, and Sample Collection

Three wetted casing volumes were purged from each well prior to sampling, when possible. However, when three casing volumes could not be purged, this information was noted on the groundwater sampling form (Appendix C) at each well for which this was the case. Purge water was discharged to the ground surface.

Field measurements were collected at varying intervals during well purging at each well where a water quality sample was collected. If possible, field parameters were monitored until the measurements stabilized within 0.3 standard units for pH, 2 degrees Celsius for temperature and 100 microSiemen/centimeter for specific conductance as described in Section 4.2.1.2 of the QAPP.

During this monitoring period 80 well samples were collected for analysis from 75 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.

² Field SC meter was calibrated using a standard stock solution of 3900 μS/cm or 1288 μS/cm



¹ Field pH meter was calibrated using a three point calibration and pH buffers 4, 7, and 10

2.2.3 Post-Sampling Field Activities

Post-sampling field activities consisted of equipment decontamination, sample storage, and sample shipping. Field equipment that came into contact with the sample was decontaminated using a small amount of Alconox[®] detergent and deionized water. After washing, the equipment was rinsed with deionized water.

After sample collection, samples from each well were placed into a plastic bag and stored on ice until they could be packed securely for shipping to SVL. In addition, the sample collected from each well was placed in a bag 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. Laboratory reports include the date and time the samples were received by SVL. As noted on the analytical data reports from SVL, all of the sample bottles were received intact, properly preserved, and in good condition. The samples were shipped within one to four days of sample collection and the time between sample collection and receipt of samples by SVL was one to five days. The samples were collected, shipped, and received by SVL within the established holding time for dissolved sulfate analysis in accordance with United States Environmental Protection Agency (EPA) Method 300.0.

4. LABORATORY QUALITY CONTROL

As specified in the QAPP, laboratory QC was maintained for all analyses through proper licensure, the use of approved analytical methods, QC measurements, appropriate turn-around-time for analysis (timeliness), method detection limits (MDLs), and practical quantitation limits (PQLs). Each of these controls is discussed in the following subsections.

The review of laboratory QC included a review to identify any qualified data and an assessment to determine their significance. Additionally, the laboratory QC summaries were reviewed to verify that results met QA criteria.

4.1 Licensure

SVL is licensed with the Arizona Department of Health Services (license number AZ0538) and is accredited in accordance with the National Environmental Laboratory Accreditation Conference.

4.2 Analytical Method

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

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

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

Method	MDL	RL	Target MDL ¹
	(mg/L)	(mg/L)	(mg/L)
EPA 300.0	0.07	0.30	10

mg/L = milligrams per liter

1 Target MDL from Table F.2 of QAPP

4.4 Timeliness

All samples submitted for sulfate analysis were analyzed within the twenty-eight day holding time specified by EPA Method 300.0.

4.5 Quality Control Measurements

The following QC samples were prepared and analyzed:

- Calibration blanks and calibration verification standards
- Analytical spike samples
- Laboratory duplicate samples
- Field blank samples

4.5.1 Calibration Blanks and Calibration Verification Standards

Results from the analyses of the initial calibration blanks and initial calibration verification standards conducted by EPA Method 300.0 were reviewed. The results of each initial calibration blank analyzed showed no detections of the target analyte. All analytical results for the initial calibration verification standards and laboratory fortified blanks showed percent recoveries that were within the acceptance criteria specified by the SVL QA plan and the QAPP.

4.5.2 Analytical Spike

Analytical spike samples were analyzed for the EPA Method 300.0. The spike samples were prepared by adding a sulfate spike to randomly chosen samples. Instances in which analytical spike recoveries were unusable were qualified with an "M3" flag indicating that the analyte concentration was disproportionate to the spike level or an "M1" flag indicating that the spike level was too high. 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 <u>Laboratory Duplicate Samples</u>

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 2012, one field sample (BMO-2008-13M) was re-analyzed by SVL at the request of Clear Creek Associates based on comparison to historical results. The February 6, 2012 sample concentration was reported as 166 mg/L which was the lowest reported concentration at that well since sampling began in 2008. The sample was reanalyzed twice on March 15, 2012 with concentrations reported as 244 mg/L and 238 mg/L, however the reanalysis was completed outside of the hold time of 28 days. The sample data are considered invalid and are not reported on Table 3 and Figure 2 of the main text because the reanalysis does not meet quality control criteria described in the QAPP and the original sample result could not be confirmed. BMO-2008-13M will continue to be sampled according to the schedule in the revised groundwater monitoring program approved by ADEQ in 2010.

4.5.5 Field Blank Samples

During the first quarter 2012, 10 field blank samples were collected, including five field blanks (FB20120201, FB20120202, FB20120203, FB20120206, and FB20120207) and five equipment blanks (EQB20120201, EQB20120202, EQB20120203, EQB20120206, and EQB20120207). Field blank samples were collected in accordance with procedures described in Section 4.2.1.5 of the QAPP. 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.

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 2012 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 seven field filtered duplicate samples (DUP20120131, DUP20120131A, DUP20120201, DUP20120206, DUP20120207, DUP20120202, and DUP20120203) were collected by Clear Creek and CQB for analysis. The collection of seven duplicate samples meets QA/QC method and quantity goal as stated in Section 4.2.1.5 of the QAPP.

Sulfate results for the seven duplicate samples collected are provided in the table below. The range of RPD values was between 0 and 17.79 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
W2B0030	BMO-2008-8B	DUP20120231A	1480	1480	0.00%
W2B0055	BANKS 986	DUP20120231	54.3	64.9	17.79%
W2B0055	PIONKE	DUP20120201	481	495	2.87%
W2B0147	SCHWARTZ	DUP20120206	116	114	1.74%
W2B0147	RUIZ	DUP20120207	230	228	0.87%
W2B0150	BMO-2010-3B	DUP20120202	16.9	17.1	1.18%
W2B0150	SWAN	DUP20120203	20.1	19.5	3.03%

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 revised groundwater monitoring program (CQB, 2010) 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 except the sample collected at BMO-2008-13M. The completeness of analytical results is 98 percent which exceeds the minimum 90 percent completeness in Section 3.3.6 of the QAPP.

5.7 Sensitivity

The analytical method used to analyze the samples 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.
- Freeport McMoRan Copper Queen Branch (CQB). 2010. Correspondence from Rebecca Sawyer, CQB, to Cynthia Campbell, ADEQ, Re: Request to Modify Groundwater Monitoring Program Mitigation Order on Consent No. P-121-07. January 25, 2010.
- Hydro Geo Chem, Inc. 2008. Revision 1, Work Plan to Characterize and Mitigate Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Concentrator Tailing Storage Area, Cochise County, Arizona. July 3, 2008.

APPENDIX B ANALYTICAL REPORTS



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

Freeport McMoRan - Bisbee Project Name: Copper Queen Waters - Inorganic Screen 2012

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0030

Reported: 13-Feb-12 16:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
BMO-2008-7M	W2B0030-01	Ground Water	30-Jan-12 08:20	BD	31-Jan-2012
BMO-2008-8B	W2B0030-02	Water	30-Jan-12 12:50	BD	31-Jan-2012
BMO-2008-8M	W2B0030-03	Water	30-Jan-12 11:55	BD	31-Jan-2012
BMO-2010-2M	W2B0030-04	Water	30-Jan-12 14:00	BD	31-Jan-2012
DUP20120113A	W2B0030-05	Water	30-Jan-12 10:15	BD	31-Jan-2012

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

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

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

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



EPA 300.0

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

Freeport McMoRan - Bisbee Project Name: Copper Queen Waters - Inorganic Screen 2012

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0030**Reported: 13-Feb-12 16:19

Client Sample ID: BMO-2008-7M

SVI_Sample ID: W2B0030-01 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	BVE Sample IB. WZB	3	ampie Keport	1 age 1 01 1						
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatogra	phy								

0.30

0.04

W206038

AEW

02/06/12 22:50

mg/L

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

26.4

John Kern

Sulfate as SO4



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Freeport McMoRan - Bisbee Project Name: Copper Queen Waters - Inorganic Screen 2012

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0030

Reported: 13-Feb-12 16:19

 Client Sample ID:
 BMO-2008-8B
 Sample Report Page 1 of 1
 Sample 30-Jan-12 12:50

 SVL Sample ID:
 W2B0030-02 (Water)
 Sample Report Page 1 of 1
 Sample Report Page 1 of 1
 Sample Report Page 1 of 1

	S TE Sumple 1B. 112B	56	ampic report	rage rorr	Sampled By: BD					
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	s by Ion Chromatograp	phy								
EPA 300.0	Sulfate as SO4	1480	mg/L	15.0	1.95	50	W206038	AEW	02/06/12 23:01	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 Project Name: Copper Queen Waters - Inorganic Screen 2012

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0030**Reported: 13-Feb-12 16:19

Client Sample ID: BMO-2008-8M

SVI_Sample ID: W2B0030-03 (Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sample 1B. WZB	Sample Report 1 age 1 of 1				Sampled By: BD				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions	s by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	77.6	mg/L	1.50	0.20	5	W206038	AEW	02/06/12 23:12	D2

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

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Freeport McMoRan - Bisbee Project Name: Copper Queen Waters - Inorganic Screen 2012

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0030**Reported: 13-Feb-12 16:19

 Client Sample ID:
 BMO-2010-2M
 Sample Report Page 1 of 1
 Sample Report Page 1 of

	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					- uge - 01 -	Sampled by. BD			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	ns by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	989	mg/L	15.0	1.95	50	W206038	AEW	02/06/12 23:23	D2

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

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Freeport McMoRan - Bisbee Project Name: Copper Queen Waters - Inorganic Screen 2012

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0030**Reported: 13-Feb-12 16:19

 Client Sample ID:
 DUP20120113A
 Sample Report Page 1 of 1
 Sample Received:
 30-Jan-12 10:15 Received:
 31-Jan-12 Sampled By:
 BD

	*	, ,				Sampled By. BB				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	s by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	1480	mg/L	15.0	1.95	50	W206038	AEW	02/06/12 23:35	D2

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

John Kern



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

Freeport McMoRan - Bisbee Project Name: Copper Queen Waters - Inorganic Screen 2012

36 West Hwy 92 Bisbee, AZ 85603 Work Order: **W2B0030**Reported: 13-Feb-12 16:19

Quality Cont	rol - BLANK Data							
Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Dissolved Anio EPA 300.0	ns by Ion Chromatogr Sulfate as SO4	raphy mg/L	<0.30	0.04	0.30	W206038	06-Feb-12	

Quality Control - LABORATORY CONTROL SAMPLE Data													
Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes				
Dissolved Anio	ons by Ion Chromatog	raphy											
EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	90 - 110	W206038	06-Feb-12					

Quality Cont	rol - DUPLICATE Dat	ta							
Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatogi	anhv							
EPA 300.0	Sulfate as SO4	mg/L	70.7	72.2	2.1	20	W206038	07-Feb-12	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 Ani	ons by Ion Chromatog	raphy										
EPA 300.0	Sulfate as SO4	mg/L	14.8	4.60	10.0	102	90 - 110	W206038	07-Feb-12			
				72.2	10.0	95.2	90 - 110	W206038	07-Feb-12	D2,M3		

Notes and Definitions

D2 Sample required dilution due to high concentration of target analyt	te.
--	-----

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



36 West Highway 92

Bisbee, AZ 85603

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

Freeport McMoRan - Copper Queen Branch Sulfate Mitigation Order

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W2B0055**Reported: 15-Feb-12 12:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
NWC-02	W2B0055-01	Ground Water	30-Jan-12 13:52	ML	02-Feb-2012
NWC-03	W2B0055-02	Ground Water	30-Jan-12 12:48	ML	02-Feb-2012
NWC-04	W2B0055-03	Ground Water	30-Jan-12 12:18	ML	02-Feb-2012
NWC-06	W2B0055-04	Ground Water	30-Jan-12 13:26	ML	02-Feb-2012
RAMIREZ	W2B0055-05	Ground Water	30-Jan-12 17:00	ML	02-Feb-2012
ROGERS 803	W2B0055-06	Ground Water	30-Jan-12 17:06	ML	02-Feb-2012
ROGERS E	W2B0055-07	Ground Water	30-Jan-12 15:29	ML	02-Feb-2012
BANKS 986	W2B0055-08	Ground Water	31-Jan-12 16:57	ML	02-Feb-2012
COB-MW-2	W2B0055-09	Ground Water	31-Jan-12 10:46	ML	02-Feb-2012
DODSON	W2B0055-10	Ground Water	31-Jan-12 14:07	ML	02-Feb-2012
EPPELE 641	W2B0055-11	Ground Water	31-Jan-12 11:22	ML	02-Feb-2012
EAST	W2B0055-12	Ground Water	31-Jan-12 14:20	ML	02-Feb-2012
MOORE	W2B0055-13	Ground Water	31-Jan-12 15:25	ML	02-Feb-2012
RAY	W2B0055-14	Ground Water	31-Jan-12 12:04	ML	02-Feb-2012
ZANDER	W2B0055-15	Ground Water	31-Jan-12 16:55	ML	02-Feb-2012
DUP20120131	W2B0055-16	Ground Water	31-Jan-12 18:00	ML	02-Feb-2012
FB20120201	W2B0055-17	Ground Water	01-Feb-12 09:50	ML	02-Feb-2012
EQB20120201	W2B0055-18	Ground Water	01-Feb-12 09:55	ML	02-Feb-2012
ANDERSON	W2B0055-19	Ground Water	01-Feb-12 12:12	ML	02-Feb-2012
HOWARD	W2B0055-20	Ground Water	01-Feb-12 13:40	ML	02-Feb-2012
MARCELL	W2B0055-21	Ground Water	01-Feb-12 12:43	ML	02-Feb-2012
PIONKE	W2B0055-22	Ground Water	01-Feb-12 11:30	ML	02-Feb-2012
DUP20120201	W2B0055-23	Ground Water	01-Feb-12 18:00	ML	02-Feb-2012

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL. Sample preparation is defined by the client as per their Data Quality Objectives.

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

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



Kellogg ID 83837-0929

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: NWC-02

SVL Sample ID: W2B0055-01 (Ground Water)

Sample Report Page 1 of 1

Sampled: 30-Jan-12 13:52 Received: 02-Feb-12

Sampled By: ML

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
D: 1 1 1 1	1 1 61 4									

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 7.78 mg/L 0.30 0.04 W206038 AEW 02/06/12 23:46

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

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: NWC-03

SVL Sample ID: W2B0055-02 (Ground Water)

Sample Report Page 1 of 1

Sampled: 30-Jan-12 12:48 Received: 02-Feb-12

Received.	02-16
Commlad Dry	MI

s · E sample is: 1122000 02 (Ground Trate)				Sample Report Lage 1 of 1 Sampled By: ML						
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	379	mg/L	3.00	0.39	10	W206259	AEW	02/10/12 19:32	D2

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 **Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: NWC-04

SVL Sample ID: W2B0055-03 (Ground Water)

Sample Report Page 1 of 1

Sampled: 30-Jan-12 12:18 Received: 02-Feb-12

Received.	02-160
Compled Dy	MI

SVE Sample 1D. WZB0033-03 (Ground Water)				Sample Report Fage 1 of 1			Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	ns by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	217	mg/L	3.00	0.39	10	W206259	AEW	02/10/12 20:05	D2

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 **Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: NWC-06

SVL Sample ID: W2B0055-04 (Ground Water)

Sample Report Page 1 of 1

Sampled: 30-Jan-12 13:26 Received: 02-Feb-12

Sampled By: ML

				Sample Report 1 age 1 of 1 Sampled By: Mil					ed By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	8.44	mg/L	0.30	0.04		W206259	AEW	02/10/12 20:16	

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: RAMIREZ

SVL Sample ID: W2B0055-05 (Ground Water)

Sample Report Page 1 of 1

Sampled: 30-Jan-12 17:00 Received: 02-Feb-12

Sampled By: ML

		Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
--	--	--------	---------	--------	-------	----	-----	----------	-------	---------	----------	-------

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 Sulfate as SO4 8.80 mg/L 0.30 0.04 W206259 AEW 02/10/12 20:27

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

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Method

EPA 300.0

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: ROGERS 803

SVL Sample ID: W2B0055-06 (Ground Water) Result

171

Units

mg/L

RL

3.00

Sample Report Page 1 of 1

0.39

Sampled: 30-Jan-12 17:06 Received: 02-Feb-12

Sumple Report 1	uge I of I		Sample	JBy: ML	
MDL	Dilution	Batch	Analyst	Analyzed	Notes

Dissolved Anions by Ion Chromatography

John Ken

Sulfate as SO4

W206259 AEW 02/10/12 20:38

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: ROGERS E

SVL Sample ID: W2B0055-07 (Ground Water)

Sample Report Page 1 of 1

Sampled: 30-Jan-12 15:29 Received: 02-Feb-12

Sampled By: ML

		*	•			0		Sumpre	Bumpied By. 141E		
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	s by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	6.22	mg/L	0.30	0.04		W206259	AEW	02/10/12 20:49		

John Ken

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: BANKS 986

SVL Sample ID: W2B0055-08 (Ground Water)

Sample Report Page 1 of 1

Sampled: 31-Jan-12 16:57 Received: 02-Feb-12

Sampled By:	ML	

3 VL Sample 1D. W2B0033-06 (Ground Water)				5	ampie Keport	rage 1 of 1	Sampled By: ML				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	64.3	mg/L	3.00	0.39	10	W206259	AEW	02/10/12 21:22	D2	

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

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: COB-MW-2

SVL Sample ID: W2B0055-09 (Ground Water)

Sample Report Page 1 of 1

Sampled: 31-Jan-12 10:46 Received: 02-Feb-12

Samp	led	$\mathbf{R}_{\mathbf{W}}$	MI.	

	3 VL Sample ID. WZD0033-03 (Glound Water)				Sampled F				ed By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	ns by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	30.0	mg/L	1.50	0.20	5	W206259	AEW	02/10/12 21:32	D1

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: **DODSON**

SVL Sample ID: W2B0055-10 (Ground Water)

Sampled: 31-Jan-12 14:07 Received: 02-Feb-12

Sampled By:	ML	

SVL Sample ID. WZB0055-10 (Ground Water)				S	Page 1 of 1	Sampled By: ML				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	50.4	mg/L	1.50	0.20	5	W206259	AEW	02/10/12 21:43	D2

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

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 **Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: **EPPELE 641**

SVL Sample ID: W2B0055-11 (Ground Water)

Sample Report Page 1 of 1

Sampled: 31-Jan-12 11:22 Received: 02-Feb-12

Sampled By: ML

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 18.2 mg/L 0.30 0.04 W206259 AEW 02/10/12 21:54

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: EAST

SVL Sample ID: W2B0055-12 (Ground Water)

Sample Report Page 1 of 1

Sampled: 31-Jan-12 14:20 Received: 02-Feb-12

	5 v E Sample 15: W E BOOOG-12 (Cloude Water)				ampie Keport	i age i oi i	Sample			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	12.8	mg/L	0.30	0.04		W206259	AEW	02/10/12 22:16	

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 **Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: MOORE

SVL Sample ID: W2B0055-13 (Ground Water)

Sample Report Page 1 of 1

Sampled: 31-Jan-12 15:25 Received: 02-Feb-12

Sampled By: ML

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 Sulfate as SO4 7.21 mg/L 0.30 0.04 W206259 AEW 02/10/12 22:27

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

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 **Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: RAY

SVL Sample ID: W2B0055-14 (Ground Water)

Sample Report Page 1 of 1

Sampled: 31-Jan-12 12:04 Received: 02-Feb-12

	S + 2 Sumple 13: 11250000 11 (Stoulia Tratol)			Sample Report 1 age 1 of 1			Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved An	ions by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	131	mg/L	3.00	0.39	10	W206259	AEW	02/10/12 22:38	D2

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Method

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: ZANDER

SVL Sample ID: **W2B0055-15 (Ground Water)**Analyte Result U

6.59

Sample Report Page 1 of 1

Sampled: 31-Jan-12 16:55 Received: 02-Feb-12

Sampled By: ML

Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

EPA 300.0 Sulfate as SO4

John Ken

Units

mg/L

0.30 0.04

RL

Batch

W206259

Dilution

AEW

02/10/12 22:49

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

J

John Kern Laboratory Director



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: DUP20120131

SVL Sample ID: W2B0055-16 (Ground Water)

Sampled: 31-Jan-12 18:00 Received: 02-Feb-12

ne Keport	e Keport Page 1 of 1		Sampled By: ML							
MDI	D.1 4.	D 4 1	A 1 .	A 1 1	NT 4					

		(0:00:10			ampie report	1 mgc 1 01 1		Sample	ed By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anie	ons by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	64.9	mg/L	1.50	0.20	5	W206259	AEW	02/13/12 10:25	D2

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

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: FB20120201

Sampled: 01-Feb-12 09:50 Received: 02-Feb-12

	SVL Sample ID: W2B (0055-17 (Ground V	Vater)	Sa	ample Report	Page 1 of 1		Sample	ed By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion (Chromatography									
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.04		W206181	AEW	02/09/12 12:48	

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Method

EPA 300.0

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: EQB20120201

Sulfate as SO4

SVL Sample ID: W2B0055-18 (Ground Water)

Sample Report Page 1 of 1

Dilution

Sampled: 01-Feb-12 09:55 Received: 02-Feb-12

Sampled By:	ML	

02/09/12 12:59

Anions	hv	Ion	Chromatography
Amons	D.y	1011	Chiomatography

mg/L

0.04

RL

0.30

W206181

Batch

Analyst

AEW

Analyzed No

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

Result

< 0.30

John Ken

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: ANDERSON

SVL Sample ID: W2B0055-19 (Ground Water)

Sample Report Page 1 of 1

Sampled: 01-Feb-12 12:12 Received: 02-Feb-12

Sampled By:	ML	
-------------	----	--

SVE Sumple 15. WEBOOK 16 (Cround Water)				Sample Report 1 age 1 of 1			Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	551	mg/L	7.50	0.98	25	W206259	AEW	02/10/12 23:33	D2

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

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: HOWARD

SVL Sample ID: W2B0055-20 (Ground Water)

Sample Report Page 1 of 1

Sampled: 01-Feb-12 13:40 Received: 02-Feb-12

	SVE Sumple 1B. WZBC	7000-20 (Cround	water,	3.	ашріс Керогі	i age i oi i		Sample	d By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	ns by Ion Chromatograp	hy								
EPA 300 0	Sulfate as SO4	630	mg/L	7.50	0.98	25	W206259	AEW	02/10/12 23:44	D2

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

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: MARCELL

SVL Sample ID: W2B0055-21 (Ground Water)

Sample Report Page 1 of 1

Sampled: 01-Feb-12 12:43 Received: 02-Feb-12

	STE Sample IB. WEBOOD ET (Ground Water)				Sample Report 1 age 1 of 1			Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anio	ons by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	705	mg/L	7.50	0.98	25	W206259	AEW	02/10/12 23:54	D2	

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

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: PIONKE

SVL Sample ID: W2B0055-22 (Ground Water)

Sample Report Page 1 of 1

Sampled: 01-Feb-12 11:30 Received: 02-Feb-12

	SVL Sample ID. WZBU	055-22 (Ground	water)	5	ampie Kepori	rage 1 of 1		Sampl	ed By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anior	ns by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	481	mg/L	7.50	0.98	25	W206259	AEW	02/11/12 00:05	D2

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Method

EPA 300.0

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

Reported: 15-Feb-12 12:05

Client Sample ID: DUP20120201

SVL Sample ID: W2B0055-23 (Ground Water)

Sample Report Page 1 of 1

Sampled: 01-Feb-12 18:00 Received: 02-Feb-12

	ampie Keport	1 age 1 of 1		Sample	d By: ML	
RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes

Dissolved Anions by Ion Chromatography

John Ken

Sulfate as SO4

0.98 25 W206259 AEW 02/11/12 00:16

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

Result

495

Units

mg/L

7.50

John Kern



36 West Highway 92

Freeport McMoRan - Copper Queen Branch

Kellogg ID 83837-0929

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Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0055

)3							Repor	ted: 15-Feb-1	2 12:05
Quality Contro	ol - BLANK Data									
Method	Analyte	Units	Resul	t	MDL	Ν	/IRL	Batch ID	Analyzed	Notes
Anions by Ion C EPA 300.0	Chromatography Sulfate as SO4	mg/L	<0.30	1	0.04	0	.30	W206181	09-Feb-12	
Dissolved Anion EPA 300.0	ns by Ion Chromatogr		<0.20		0.04	0	.30	W207038	06 E-h 12	
EPA 300.0 EPA 300.0	Sulfate as SO4 Sulfate as SO4	mg/L mg/L	<0.30 <0.30		0.04		.30	W206038 W206259	06-Feb-12 10-Feb-12	
Quality Contro	ol - LABORATORY (CONTROL SA	MPLE Data							
Method	Analyte	Units	LCS Result		LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion C EPA 300.0	Chromatography Sulfate as SO4	mg/L	10.4		10.0	104	90 - 110	W206181	09-Feb-12	
Dissolved Anion EPA 300.0	ns by Ion Chromatogr Sulfate as SO4		10.4		10.0	104	90 - 110	W207038	06 E-1-12	
EPA 300.0 EPA 300.0	Sulfate as SO4 Sulfate as SO4	mg/L mg/L	10.4 10.4		10.0 10.0	104 104	90 - 110	W206038 W206259	06-Feb-12 10-Feb-12	
Quality Contro	ol - DUPLICATE Dat	a								
Method	Analyte	Units	Duplica Result		Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Anions by Ion C EPA 300.0	Chromatography Sulfate as SO4	mg/L	1460		1480	1.4	20	W206181	09-Feb-12	D2
	ns by Ion Chromatogr		267		270	2.2	20	W20/250	10 F-k 12	D2
EPA 300.0 EPA 300.0	Sulfate as SO4 Sulfate as SO4	mg/L mg/L	367 70.7		379 72.2	3.3 2.1	20 20	W206259 W206038	10-Feb-12 07-Feb-12	D2 D2
Quality Contro	ol - MATRIX SPIKE	Data								
Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Anions by Ion (Chromatography									
EPA 300.0 EPA 300.0	Sulfate as SO4 Sulfate as SO4	mg/L mg/L	1490 249	1480 238	10.0 10.0	R > 4S 109	90 - 110 90 - 110	W206181 W206181	09-Feb-12 09-Feb-12	D2,M3 D2,M3
Dissolved Anion	ıs by Ion Chromatogr	apny								
EPA 300.0	Sulfate as SO4	mg/L	14.8	4.60	10.0	102	90 - 110	W206038	07-Feb-12	_
			14.8 81.7 391	4.60 72.2 379	10.0 10.0 10.0	102 95.2 R > 4S	90 - 110 90 - 110 90 - 110	W206038 W206038 W206259	07-Feb-12 07-Feb-12 10-Feb-12	D2,M3 D2,M3



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Freeport McMoRan - Copper Queen Branch Sulfate Mitigation Order

Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Highway 92 Work Order: **W2B0055**Bisbee, AZ 85603 Reported: 15-Feb-12 12:05

Notes and Definitions

D1 Sample required dilution due to matrix.

D2 Sample required dilution due to high concentration of target analyte.

M1 Matrix spike recovery was high, but the LCS recovery was acceptable.

M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was

acceptable.

LCS Laboratory Control Sample (Blank Spike)

RPD Relative Percent Difference

UDL A result is less than the detection limit

R > 4S % recovery not applicable, sample concentration more than four times greater than spike level

<RL A result is less than the reporting limit

MRL Method Reporting Limit
MDL Method Detection Limit

N/A Not Applicable



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
BMO-2008-10GL	W2B0123-01	Ground Water	02-Feb-12 10:25	CLS	07-Feb-2012
TM-2A	W2B0123-02	Ground Water	02-Feb-12 11:05	CLS	07-Feb-2012
WMD-2011-03M	W2B0123-03	Ground Water	02-Feb-12 12:25	CLS	07-Feb-2012
TM-19A	W2B0123-04	Ground Water	02-Feb-12 13:35	CLS	07-Feb-2012
BMO-2008-5M	W2B0123-05	Ground Water	03-Feb-12 07:40	CLS	07-Feb-2012
BMO-2008-5B	W2B0123-06	Ground Water	03-Feb-12 08:15	CLS	07-Feb-2012
BMO-2008-6M	W2B0123-07	Ground Water	03-Feb-12 09:15	CLS	07-Feb-2012
BMO-2008-6B	W2B0123-08	Ground Water	03-Feb-12 10:10	CLS	07-Feb-2012
BMO-2008-11G	W2B0123-09	Ground Water	31-Jan-12 13:15	CLS	07-Feb-2012
GL-3	W2B0123-10	Ground Water	01-Feb-12 07:45	CLS	07-Feb-2012
BF-01	W2B0123-11	Ground Water	01-Feb-12 10:50	CLS	07-Feb-2012
BMO-2008-9M	W2B0123-12	Ground Water	01-Feb-12 09:40	CLS	07-Feb-2012
BMO-2008-10GU	W2B0123-13	Ground Water	01-Feb-12 11:40	CLS	07-Feb-2012
TM-03	W2B0123-14	Ground Water	01-Feb-12 12:40	CLS	07-Feb-2012
HOBAN	W2B0123-15	Ground Water	01-Feb-12 14:05	CLS	07-Feb-2012

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL. Sample preparation is defined by the client as per their Data Quality Objectives.

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

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



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BMO-2008-10GL

SVI_Sample ID: W2B0123-01 (Ground Water)

Sample Report Page 1 of 1

Sample ID: W2B0123-01 (Ground Water)

	5 v E sample 1B. W E Bo 120-01 (Ground Water)				Sample Report Lage 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anion	ns by Ion Chromatogra	phy										
EPA 300.0	Sulfate as SO4	624	mg/L	7.50	0.98	25	W207092	AEW	02/14/12 14:46	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0123 Bisbee, AZ 85603 Reported: 17-Feb-12 10:01

Sampled: 02-Feb-12 11:05 Client Sample ID: TM-2A Received: 07-Feb-12 SVL Sample ID: W2B0123-02 (Ground Water) Sample Report Page 1 of 1

	5 v E Sample 1B. WEBO 120-02 (Ground Water)				Sample Report Lage 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anion	ns by Ion Chromatograp	ohy										
EPA 300.0	Sulfate as SO4	23.0	mg/L	0.30	0.04		W207092	AEW	02/14/12 14:57			

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

John Ken

John Kern **Laboratory Director**



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: WMD-2011-03M

SVI. Sample ID: W2B0123-03 (Ground Water)

SVI. Sample ID: W2B0123-03 (Ground Water)

Sample Report Page 1 of 1

	5 v E sample 15. WEBO 120-00 (Ground Water)				Sample Report Lage 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anio	ns by Ion Chromatograp	phy										
EPA 300.0	Sulfate as SO4	391	mg/L	7.50	0.98	25	W207092	AEW	02/14/12 15:30	D2		

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: TM-19A

SVI_Sample ID: W2B0123-04 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVL Sample ID. W2B0123-04 (Ground Water)				Sample Report Page 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anion	ıs by Ion Chromatograj	ohy										
EPA 300.0	Sulfate as SO4	62.2	mg/L	1.50	0.20	5	W207092	AEW	02/14/12 15:40	D2		

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BMO-2008-5M

SVI_Sample ID: W2B0123-05 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 v E Sample 1D. W2D0123-03 (Ground Water)				ашріе керогі	ragerori	Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	ns by Ion Chromatogra	phy								
EPA 300.0	Sulfate as SO4	130	mg/L	3.00	0.39	10	W207092	AEW	02/14/12 15:51	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BMO-2008-5B

SVL Sample ID: W2B0123-06 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 v E Sample 1D. WZBO 125-00 (Clound Water)				Sample Report 1 age 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anio	ns by Ion Chromatograp	ohy										
EPA 300.0	Sulfate as SO4	215	mg/L	3.00	0.39	10	W207092	AEW	02/14/12 16:02	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BMO-2008-6M

SVI. Sample ID: W2B0123-07 (Ground Water)

Sample Report Page 1 of 1

Sample ID: W2B0123-07 (Ground Water)

	5 v E sample 15. WEBO 120-07 (Ground Water)				Sample Report Lage 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anion	ns by Ion Chromatograp	phy										
EPA 300.0	Sulfate as SO4	206	mg/L	3.00	0.39	10	W207092	AEW	02/14/12 16:35	D2		

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

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EPA 300.0

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BMO-2008-6B

SVI_Sample ID: W2B0123-08 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

		SVE Sample ID. WZB	0125-00 (Ground V	vater)	3	ampie Keport	1 age 1 01 1		Sampled	By: CLS	
	Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
]	Dissolved Anion	is by Ion Chromatogra	phy								

0.30

0.04

W207092

AEW

02/14/12 16:46

mg/L

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

23.0

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Sulfate as SO4



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BMO-2008-11G

SVL Sample ID: W2B0123-09 (Ground Water)

Sample Report Page 1 of 1

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 11.9 mg/L 0.30 0.04 W207092 AEW 02/14/12 16:57

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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: GL-3

SVL Sample ID: W2B0123-10 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 v E Sample 15. W250125-10 (Ground Water)				Sample Report 1 age 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anior	ıs by Ion Chromatograp	ohy										
EPA 300.0	Sulfate as SO4	42.0	mg/L	1.50	0.20	5	W207092	AEW	02/14/12 17:08	D1		

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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BF-01

SVI_Sample ID: W2B0123-11 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 v E Sample 1D. W2D0125-11 (Oloulla Water)				Sample Report 1 age 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anio	ons by Ion Chromatograp	ohy										
EPA 300.0	Sulfate as SO4	1480	mg/L	30.0	3.90	100	W207092	AEW	02/14/12 17:30	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BMO-2008-9M

SVI, Sample ID: W2B0123-12 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 VE Sample 1D. W2D0125-12 (Ground Water)					1 age 1 01 1		Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	ns by Ion Chromatograp	phy									
EPA 300.0	Sulfate as SO4	67.4	mg/L	1.50	0.20	5	W207092	AEW	02/14/12 17:41	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: BMO-2008-10GU

SVI_Sample ID: W2B0123-13 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sample 1D. WZD0123-13 (Ground Water)					ragerori	Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anior	ns by Ion Chromatogra	phy								
EPA 300.0	Sulfate as SO4	1870	mg/L	30.0	3.90	100	W207092	AEW	02/14/12 17:51	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: TM-03

SVI_ Sample ID: W2B0123-14 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 v L Sample 1D. W2D0125-14 (Glodila Water)					Sample Report Fage 1 of 1				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	112	mg/L	1.50	0.20	5	W207092	AEW	02/14/12 18:02	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: W2B0123
Reported: 17-Feb-12 10:01

Client Sample ID: HOBAN

SVL Sample ID: W2B0123-15 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sample 1B. W2B	SVE Sample ID. W250123-13 (Glound Water)					Sample Report 1 age 1 01 1 Sampled B				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	ns by Ion Chromatograj	ohy									
EPA 300.0	Sulfate as SO4	993	mg/L	30.0	3.90	100	W207092	AEW	02/14/12 18:13	D2	

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

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Bisbee, AZ 85603 Work Order: **W2B0123**Reported: 17-Feb-12 10:01

Quality Con	trol - BLANK Data							
Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Dissolved Ani EPA 300.0	ons by Ion Chromatog Sulfate as SO4	raphy mg/L	<0.30	0.04	0.30	W207092	14-Feb-12	

Quality Cont	Quality Control - LABORATORY CONTROL SAMPLE Data											
Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes			
Dissolved Anio EPA 300.0	ons by Ion Chromatog Sulfate as SO4	raphy mg/L	10.2	10.0	102	90 - 110	W207092	14-Feb-12				

Quality Cont	Quality Control - DUPLICATE Data											
Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes			
Dissolved Anio	Dissolved Anions by Ion Chromatography											
EPA 300.0	Sulfate as SO4	mg/L	22.7	23.0	1.1	20	W207092	14-Feb-12				

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
issolved Ani	ons by Ion Chromatog	ranhv								
issolved Ani PA 300.0	ons by Ion Chromatog Sulfate as SO4	raphy mg/L	33.6	23.0	10.0	106	90 - 110	W207092	14-Feb-12	

Notes and Definitions

D1	Sample require	ad dilution .	dua to matrix
171	Sample require	ou ununun i	uuc to mama.

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: **W2B0147**Reported: 20-Feb-12 14:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
NESS	W2B0147-01	Ground Water	03-Feb-12 13:15	ML	08-Feb-2012
WEISKOPF	W2B0147-02	Ground Water	03-Feb-12 14:45	ML	08-Feb-2012
EQB20120203	W2B0147-03	Ground Water	03-Feb-12 13:07	ML	08-Feb-2012
FB20120203	W2B0147-04	Ground Water	03-Feb-12 13:09	ML	08-Feb-2012
CHAMBERS	W2B0147-05	Ground Water	06-Feb-12 09:54	ML	08-Feb-2012
KEEFER	W2B0147-06	Ground Water	06-Feb-12 11:00	ML	08-Feb-2012
PANAGAKOS	W2B0147-07	Ground Water	06-Feb-12 14:14	ML	08-Feb-2012
SCHWARTZ	W2B0147-08	Ground Water	06-Feb-12 12:45	ML	08-Feb-2012
WEED	W2B0147-09	Ground Water	06-Feb-12 15:12	ML	08-Feb-2012
DUP20120206	W2B0147-10	Ground Water	06-Feb-12 18:00	ML	08-Feb-2012
EQB20120206	W2B0147-11	Ground Water	06-Feb-12 10:50	ML	08-Feb-2012
FB20120206	W2B0147-12	Ground Water	06-Feb-12 10:52	ML	08-Feb-2012
DURAZO	W2B0147-13	Ground Water	07-Feb-12 09:22	ML	08-Feb-2012
MCCONNELL 265	W2B0147-14	Ground Water	07-Feb-12 14:05	ML	08-Feb-2012
METZLER	W2B0147-15	Ground Water	07-Feb-12 12:42	ML	08-Feb-2012
PARRA	W2B0147-16	Ground Water	07-Feb-12 11:12	ML	08-Feb-2012
RUIZ	W2B0147-17	Ground Water	07-Feb-12 10:09	ML	08-Feb-2012
DUP20120207	W2B0147-18	Ground Water	07-Feb-12 18:00	ML	08-Feb-2012
EQB20120207	W2B0147-19	Ground Water	07-Feb-12 09:57	ML	08-Feb-2012
FB20120207	W2B0147-20	Ground Water	07-Feb-12 10:00	ML	08-Feb-2012

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL. Sample preparation is defined by the client as per their Data Quality Objectives.

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

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

(Q6) SVL received the following containers outside of published EPA guidelines for preservation temperatures (0-6°C). The guidelines do not pertain to nitric-preserved metals.

Default Cooler	(Received Temperature	: -0.2°C)			
Labnumber	Container	Client ID	<u>Labnumber</u>	Container	Client ID
W2B0147-01 B	Filtered Raw HDPE	NESS	W2B0147-02 B	Filtered Raw HDPE	WEISKOPF
W2B0147-03 A	Raw HDPE	EQB20120203	W2B0147-04 A	Raw HDPE	FB20120203
W2B0147-05 B	Filtered Raw HDPE	CHAMBERS	W2B0147-06 B	Filtered Raw HDPE	KEEFER
W2B0147-07 B	Filtered Raw HDPE	PANAGAKOS	W2B0147-08 B	Filtered Raw HDPE	SCHWARTZ
W2B0147-09 B	Filtered Raw HDPE	WEED	W2B0147-10 B	Filtered Raw HDPE	DUP20120206
W2B0147-11 A	Raw HDPE	EQB20120206	W2B0147-12 A	Raw HDPE	FB20120206
W2B0147-13 B	Filtered Raw HDPE	DURAZO	W2B0147-14 B	Filtered Raw HDPE	MCCONNELL 265
W2B0147-15 B	Filtered Raw HDPE	METZLER	W2B0147-16 B	Filtered Raw HDPE	PARRA
W2B0147-17 B	Filtered Raw HDPE	RUIZ	W2B0147-18 B	Filtered Raw HDPE	DUP20120207
W2B0147-19 A	Raw HDPE	EQB20120207	W2B0147-20 A	Raw HDPE	FB20120207



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: NESS

SVI. Sample ID: W2B0147-01 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	3 VE Sample 1D. WZB0147-01 (Glound Water)					ragerori		Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	ıs by Ion Chromatograj	ohy									
EPA 300.0	Sulfate as SO4	49.0	mg/L	1.50	0.20	5	W207094	AEW	02/14/12 12:08	D1	

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: WEISKOPF

SVI_Sample ID: W2B0147-02 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 VL Sample 1D. VVZDO 147-02 (Ground vvater)				Sample Report Fage 1 of 1			Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anio	ns by Ion Chromatogra	phy									
EPA 300.0	Sulfate as SO4	583	mg/L	7.50	0.98	25	W207094	AEW	02/14/12 12:41	D2	

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

 Client Sample ID:
 EQB20120203
 Sample Report Page 1 of 1
 Sampled:
 03-Feb-12 13:07

 SVL Sample ID:
 W2B0147-03 (Ground Water)
 Sample Report Page 1 of 1
 Sampled By:
 ML

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Anions by Ion Chromatography

John Ken

EPA 300.0 Sulfate as SO4 < 0.30 mg/L 0.30 0.04 W207151 AEW 02/16/12 10:47

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EPA 300.0

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0147 Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Sampled: 03-Feb-12 13:09 Client Sample ID: FB20120203 Received: 08-Feb-12 SVI. Sample ID: W2B0147-04 (Ground Water) Sample Report Page 1 of 1

	5 v E Sumple 1B. WEBO 141-04 (Oloulla Water)				Sample Report 1 age 1 of 1			Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Anions by Ion Chromatography											

0.30

0.04

W207151

AEW

02/16/12 11:20

mg/L

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< 0.30

John Ken John Kern

Sulfate as SO4



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: CHAMBERS

SVL Sample ID: W2B0147-05 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sampled By: MI

	SVE Sample ID: WEDOTHI OO (GIOGNA Water)				ampic Kepori	1 age 1 of 1	Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions by Ion Chromatography										
EPA 300.0	Sulfate as SO4	9.08	mg/L	0.30	0.04		W207094	AEW	02/14/12 12:53	

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0147 Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Sampled: 06-Feb-12 11:00 Client Sample ID: KEEFER Received: 08-Feb-12 SVL Sample ID: W2B0147-06 (Ground Water) Sample Report Page 1 of 1

Sampled By: ML Method Result Units RLDilution Batch Analyst Analyzed Notes Dissolved Anions by Ion Chromatography EPA 300.0 Sulfate as SO4 mg/L 0.30 0.04 W207094 AEW 02/14/12 13:04

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John Ken

John Kern **Laboratory Director**



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: PANAGAKOS

Sumple ID: W2B0147-07 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 v E Sample 1D. 112 DO 147-07 (Ground Water)					Sampled By: ML						
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anion	ns by Ion Chromatogra	phy										
EPA 300.0	Sulfate as SO4	166	mg/L	3.00	0.39	10	W207094	AEW	02/14/12 13:15	D2		

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: SCHWARTZ

SVI, Sample ID: W2B0147-08 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sumple 15. WEBS147-00 (Stoutha Water)					Sampled By: ML						
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anion	s by Ion Chromatogra	phy										
EPA 300.0	Sulfate as SO4	116	mg/L	1.50	0.20	5	W207094	AEW	02/14/12 13:26	D2		

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: WEED

SVL Sample ID: W2B0147-09 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

SVL Sample ID: W2B0147-09 (Ground Water)

Sample Report Page 1 of 1

Sampled By: ML

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

EPA 300.0 Sulfate as SO4 13.5 mg/L 0.30 0.04 W207094 AEW 02/14/12 13:59

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: DUP20120206

SVI_ Sample ID: W2B0147-10 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sample 1D. WZBC	water)	3:	ampie Kepori	ragerori	ed By: ML				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anior	ns by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	114	mg/L	1.50	0.20	5	W207094	AEW	02/14/12 21:08	D2

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

 Client Sample ID:
 EQB20120206
 Sample Report Page 1 of 1
 Sample described:
 06-Feb-12 10:50

 SVL Sample ID:
 W2B0147-11 (Ground Water)
 Sample Report Page 1 of 1
 Sample Report Page 1 of 1
 Sample Report Page 1 of 1

	S / E Sumpre 12: VIII	orn ir (Ground i	ruto.,	5	ampie report	Tage Toll		Sample	a By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ior	ı Chromatography									

Anions by Ion Chromatography

John Ken

EPA 300.0 Sulfate as SO4 < 0.30 mg/L 0.30 0.04 W207151 AEW 02/16/12 11:31

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0147 Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Sampled: 06-Feb-12 10:52 Client Sample ID: FB20120206 Received: 08-Feb-12 SVL Sample ID: W2B0147-12 (Ground Water) Sample Report Page 1 of 1

	S VE Sumple 1B. WEE	70147 12 (Ground V	·utoi,		ampic Keport	1 age 1 01 1		Sample	d By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ior	n Chromatography									

EPA 300.0 Sulfate as SO4 < 0.30 mg/L

0.30 0.04 W207151 AEW 02/16/12 11:41

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: DURAZO
SVL Sample ID: W2B0147-13 (Ground Water)
Sample Report Page 1 of 1
Sample Report Page 1 of 1
Sample By: MI

	1	, , , , , , ,	, ,		р г	8		Sampi	ed by. ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anions	by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	404	mg/L	7.50	0.98	25	W207094	AEW	02/14/12 14:32	D2

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: MCCONNELL 265

SVL Sample ID: W2B0147-14 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	S . E Sample 12. VIEE		56	impic report	rage rorr	Sampled By: ML				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved An	ions by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	847	mg/L	15.0	1.95	50	W207094	AEW	02/14/12 14:43	D2

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: METZLER

SVI_Sample ID: W2B0147-15 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 v E Sample 15. WEBS 147-15 (Stoulid Water)					Sampled By: ML						
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anion	ns by Ion Chromatogra	phy										
EPA 300.0	Sulfate as SO4	326	mg/L	3.00	0.39	10	W207094	AEW	02/14/12 14:54	D2		

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: PARRA

SVI_Sample ID: W2B0147-16 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	BVE Bumple 1B. WZB	water)	Sampled By: ML							
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	428	mg/L	7.50	0.98	25	W207094	AEW	02/14/12 15:05	D2

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: RUIZ

SVI_Sample ID: W2B0147-17 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sample 1D. W2B0147-17 (Ground Water)					Sampled By: ML						
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anion	ns by Ion Chromatogra	phy										
EPA 300.0	Sulfate as SO4	230	mg/L	3.00	0.39	10	W207094	AEW	02/14/12 15:16	D2		

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

 Client Sample ID:
 DUP20120207
 Sample Report Page 1 of 1
 Sample Received:
 07-Feb-12 18:00

 SVL Sample ID:
 W2B0147-18 (Ground Water)
 Sample Report Page 1 of 1
 Sample Report Page 1 of 1
 Sample Report Page 1 of 1

	S TE Sumple 18: 1128	···ator,		ampic report	rage rorr	Sampled By: ML				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Ani	ons by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	228	mg/L	3.00	0.39	10	W207094	AEW	02/14/12 15:27	D2

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: EQB20120207

SVI_Sample ID: W2B0147-19 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sumple 1B. WZBC	71-77-13 (Ground	rater,		ашріс Керогі	1 age 1 01 1		Sample	ed By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion	Chromatography									
FPA 300 0	Sulfate as SO4	< 0.30	mg/L	0.30	0.04	•	W207151	AFW	02/16/12 11:52	

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0147**Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

Client Sample ID: FB20120207

SVI_Sample ID: W2B0147-20 (Ground Water)

Semple Penert Page 1 of 1

Sample ID: W2B0147-20 (Ground Water)

	SVL Sample ID: W2B	0147-20 (Ground)	water)	Sa	ample Report	Page I of I	Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion	Chromatography									
EPA 300.0	Sulfate as SO4	< 0.30	mg/L	0.30	0.04		W207151	AEW	02/16/12 12:03	

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Bisbee, AZ 85603

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Freeport McMoRan - Bisbee

36 West Hwy 92

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: W2B0147

Reported: 20-Feb-12 14:50

Disocc, AZ 630							Керог	20-1 00-1	2 17.50
Quality Cont	trol - BLANK Data								
Method	Analyte	Units	Result	MDL	N	ИRL	Batch ID	Analyzed	Notes
- Memou			1100411				Butti 1B	111111111111111111111111111111111111111	110105
Anions by Ion	Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	< 0.30	0.04	0	.30	W207151	15-Feb-12	
Dissolved Anio	ons by Ion Chromatogr	anhv							
EPA 300.0	Sulfate as SO4	mg/L	< 0.30	0.04	0	.30	W207094	14-Feb-12	
Quality Cont	trol - LABORATORY (CONTROL SA	MPLE Data						
Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Withou	rmaryte	Cints	Result	True	Nec.	Lillits	Dutch 1D	7 maryzeu	110103
Anions by Ion	Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W207151	15-Feb-12	
Dissolved Anio	ons by Ion Chromatogr	anhv							
EPA 300.0	Sulfate as SO4	mg/L	10.7	10.0	107	90 - 110	W207094	14-Feb-12	
Quality Cont	trol - DUPLICATE Dat	a							
			Duplicate	Sample		RPD			
Method	Analyte	Units	Result	Result	RPD	Limit	Batch ID	Analyzed	Notes
Anions by Ion	Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	< 0.30	< 0.30	UDL	20	W207151	16-Feb-12	
Dissolved Anic EPA 300.0	ons by Ion Chromatogr Sulfate as SO4	aphy mg/L	48.2	49.0	1.8	20	W207094	14-Feb-12	D1
L171 300.0	Surface as 504	mg/L	40.2	47.0	1.0	20	W 207074	14-1 00-12	Di
Quality Cont	trol - MATRIX SPIKE	Data							
	ioi milimi oi ine		Spike Sample	Spike	%	Acceptance			
Method	Analyte	Units	Result Result (I		Rec.	Limits	Batch ID	Analyzed	Notes
Anions by Ion	Chromatography								
EPA 300.0	Sulfate as SO4	mg/L	1280 1260	10.0	R > 4S	90 - 110	W207151	15-Feb-12	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	10.3 < 0.30	10.0	103	90 - 110	W207151	16-Feb-12	
Dissolved Ania	ons by Ion Chromatogr	aphy							
EPA 300.0	Sulfate as SO4	mg/L	58.7 49.0	10.0	96.6	90 - 110	W207094	14-Feb-12	D2,M3
EPA 300.0	Sulfate as SO4	mg/L	124 114	10.0	98.3	90 - 110	W207094	14-Feb-12	D2,M3



Freeport McMoRan - Bisbee

36 West Hwy 92

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: W2B0147

Bisbee, AZ 85603 Reported: 20-Feb-12 14:50

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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
COOPER C	W2B0150-01	Ground Water	01-Feb-12 17:13	ML	08-Feb-2012
COOPER	W2B0150-02	Ground Water	01-Feb-12 15:15	ML	08-Feb-2012
ECHAVE	W2B0150-03	Ground Water	01-Feb-12 17:08	BD	08-Feb-2012
AWC-02	W2B0150-04	Ground Water	02-Feb-12 09:38	ML	08-Feb-2012
AWC-03	W2B0150-05	Ground Water	02-Feb-12 09:22	ML	08-Feb-2012
AWC-04	W2B0150-06	Ground Water	02-Feb-12 09:55	ML	08-Feb-2012
AWC-05	W2B0150-07	Ground Water	02-Feb-12 09:08	ML	08-Feb-2012
BMO-2010-3B	W2B0150-08	Ground Water	02-Feb-12 12:05	ML	08-Feb-2012
BMO-2010-3M	W2B0150-09	Ground Water	02-Feb-12 14:39	ML	08-Feb-2012
GARNER 635	W2B0150-10	Ground Water	02-Feb-12 16:57	ML	08-Feb-2012
DUP20120202	W2B0150-11	Ground Water	02-Feb-12 18:00	ML	08-Feb-2012
EQB20120202	W2B0150-12	Ground Water	02-Feb-12 13:05	ML	08-Feb-2012
FB20120202	W2B0150-13	Ground Water	02-Feb-12 13:00	ML	08-Feb-2012
BIMA	W2B0150-14	Ground Water	03-Feb-12 09:02	BD	08-Feb-2012
NOTEMAN	W2B0150-15	Ground Water	03-Feb-12 09:53	BD	08-Feb-2012
NOTEMAN HOUSE	W2B0150-16	Ground Water	03-Feb-12 09:15	BD	08-Feb-2012
OSBORN	W2B0150-17	Ground Water	03-Feb-12 11:35	BD	08-Feb-2012
PALMER	W2B0150-18	Ground Water	03-Feb-12 13:43	ML	08-Feb-2012
SWAN	W2B0150-19	Ground Water	03-Feb-12 11:19	ML	08-Feb-2012
TVI-875	W2B0150-20	Ground Water	03-Feb-12 11:02	BD	08-Feb-2012
DUP20120203	W2B0150-21	Ground Water	03-Feb-12 18:00	ML	08-Feb-2012

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

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

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

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

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: COOPER C

SVI. Sample ID: W2B0150-01 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sample ID. 112B0100-01 (Oloulla 11atel)					1 age 1 01 1	Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	s by Ion Chromatogra	phy								
EPA 300.0	Sulfate as SO4	867	mg/L	15.0	1.95	50	W207102	AEW	02/14/12 16:22	D2

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

John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: COOPER

SVL Sample ID: W2B0150-02 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

		S VE Sumple 13: VIZE	0100 02 (Ground 1	·utor,	5	ampic report	1 age 1 of 1		Sample	1 By: ML	
	Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
į	D:II A:	b I Ch	k								

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 34.1 mg/L 0.30 0.04 W207102 AEW 02/14/12 16:33

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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: ECHAVE

SVI. Sample ID: W2B0150-03 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

3 VL Sample ID. WZBO 150-03 (Ground Water)					ampie Keport	rage 1 of 1		Sampled By: BD			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	ns by Ion Chromatograp	phy									
EPA 300.0	Sulfate as SO4	26.7	mg/L	1.50	0.20	5	W207102	AEW	02/14/12 17:06	D1	

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

John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0150

Reported: 20-Feb-12 14:52

Client Sample ID: AWC-02
SVL Sample ID: W2B0150-04 (Ground Water)
Sample Report Page 1 of 1
Sample Report Page 1 of 1
Sample By: ML

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 19.4 mg/L 0.30 0.04 W207102 AEW 02/14/12 17:17

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

John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0150 Bisbee, AZ 85603 Reported: 20-Feb-12 14:52

Sampled: 02-Feb-12 09:22 Client Sample ID: AWC-03 Received: 08-Feb-12 SVI. Sample ID: W2B0150-05 (Ground Water) Sample Report Page 1 of 1

	5 v L Sample 1D. W2D0 130-03 (Ground Water)					Sampled By: ML					
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anio	ns by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	47.7	mg/L	1.50	0.20	5	W207102	AEW	02/14/12 17:28	D1	

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

John Ken John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: AWC-04

SVL Sample ID: W2B0150-06 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

			,	-	ampie rieport	1 mgc 1 01 1		Sample	u by. ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved An	ions by Ion Chromatogra	phy								

Dissolved Amons by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 27.2 mg/L 0.30 0.04 W207102 AEW 02/14/12 17:39

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

John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0150 Bisbee, AZ 85603 Reported: 20-Feb-12 14:52

Sampled: 02-Feb-12 09:08 Client Sample ID: AWC-05 Received: 08-Feb-12 SVL Sample ID: W2B0150-07 (Ground Water) Sample Report Page 1 of 1

		D	ampie report	ruge r or r	Sampled By: ML					
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved An	ions by Ion Chromatogra	phy								

John Ken

EPA 300.0 Sulfate as SO4 19.5 mg/L 0.30 0.04 W207102 AEW 02/14/12 18:12

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

John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

 Client Sample ID:
 BMO-2010-3B
 Sample Report Page 1 of 1
 Sampled:
 02-Feb-12 12:05

 SVL Sample ID:
 W2B0150-08 (Ground Water)
 Sample Report Page 1 of 1
 Sampled By:
 ML

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 16.9 mg/L 0.30 0.04 W207102 AEW 02/14/12 18:23

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

John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

 Client Sample ID:
 BMO-2010-3M
 Sample Report Page 1 of 1
 Sampled Received:
 02-Feb-12 14:39

 SVL Sample ID:
 W2B0150-09 (Ground Water)
 Sample Report Page 1 of 1
 Sampled By: ML

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 10.6 mg/L 0.30 0.04 W207102 AEW 02/14/12 18:34

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

John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: GARNER 635

SVL Sample ID: W2B0150-10 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

AEW

02/14/12 18:45

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

 Dissolved Anions by Ion Chromatography

 EPA 300.0
 Sulfate as SO4
 39.2
 mg/L
 0.30
 0.04
 W207102

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

John Kern Laboratory Director

John Ken



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

 Client Sample ID:
 DUP20120202
 Sample Report Page 1 of 1
 Sampled:
 02-Feb-12 18:00

 SVL Sample ID:
 W2B0150-11 (Ground Water)
 Sample Report Page 1 of 1
 Sampled By:
 ML

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 17.1 mg/L 0.30 0.04 W207102 AEW 02/14/12 18:56

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

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EPA 300.0

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0150 Bisbee, AZ 85603 Reported: 20-Feb-12 14:52

Sampled: 02-Feb-12 13:05 Client Sample ID: EQB20120202 Received: 08-Feb-12 SVL Sample ID: W2B0150-12 (Ground Water)

Sample Report Page 1 of 1 Sampled By: ML Method Result RLDilution Batch Analyst Analyzed Notes Anions by Ion Chromatography

0.30

0.04

W207151

AEW

02/16/12 12:14

mg/L

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

< 0.30

Laboratory Director

John Ken John Kern

Sulfate as SO4

 $SVL\ holds$ the following certifications:



EPA 300.0

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: FB20120202 Sample ID: W2B0150-13 (Ground Water) Sample Report Page 1 of 1

	SVE Sumple 1B. WZB	3	ampie Keport	1 age 1 01 1	Sampled By: ML					
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Anions by Ion (Chromatography									

0.30

0.04

W207151

AEW

02/16/12 12:47

mg/L

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

< 0.30

John Kern

Sulfate as SO4



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: BIMA

SVI. Sample ID: W2B0150-14 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 V L Sample 1D. W2D0130-14 (Ground Water)					ragerori	Sampled By: BD			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anior	ıs by Ion Chromatograj	phy								
EPA 300.0	Sulfate as SO4	312	mg/L	3.00	0.39	10	W207102	AEW	02/14/12 19:18	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: NOTEMAN

SVL Sample ID: W2B0150-15 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	S + E Sumpre 1B : 112B	···uio.,	5	ampie report	Tage Toll	Sampled By: BD				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Ani	ons by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	301	mg/L	3.00	0.39	10	W207102	AEW	02/14/12 19:29	D2

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

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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0150

Reported: 20-Feb-12 14:52

Client Sample ID: NOTEMAN HOUSE

SVL Sample ID: W2B0150-16 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	STE Sample ID: WEBS100 10 (Ground Water)				Sample Report 1 age 1 of 1			Sampled By: BD			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anio	ons by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	324	mg/L	3.00	0.39	10	W207102	AEW	02/15/12 10:00	D2	

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

John Kern



Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0150 Bisbee, AZ 85603 Reported: 20-Feb-12 14:52

Sampled: 03-Feb-12 11:35 Client Sample ID: OSBORN Received: 08-Feb-12 SVL Sample ID: W2B0150-17 (Ground Water)

Sample Report Page 1 of 1 Sampled By: BD Method Units RLDilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

EPA 300.0 Sulfate as SO4 19.2 mg/L 0.30 0.04 W207102 AEW 02/14/12 19:51

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John Ken John Kern



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: PALMER

SVI_Sample ID: W2B0150-18 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	5 v E sample 1D. vv 2 Do 130-10 (Ground vvater)				Sample Report 1 age 1 of 1			Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	ns by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	17.1	mg/L	0.30	0.04		W207102	AEW	02/14/12 20:24		

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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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0150

Reported: 20-Feb-12 14:52

Client Sample ID: SWAN

SVL Sample ID: W2B0150-19 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sampled By: ML

	S + 2 Sumpre 13: 11220 100 10 (Ground trator)			Sample Report 1 age 1 of 1			Sampled By: ML			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	20.1	mg/L	0.30	0.04		W207102	AEW	02/14/12 20:35	

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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: TVI-875

SVI_Sample ID: W2B0150-20 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sample 1D. WZB	0130-20 (Ground	valer j	3	ашріе Керогі	1 age 1 01 1		Sample	ed By: BD	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	ns by Ion Chromatograp	phy								
EPA 300.0	Sulfate as SO4	299	mg/L	3.00	0.39	10	W207102	AEW	02/14/12 20:46	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0150**Reported: 20-Feb-12 14:52

Client Sample ID: DUP20120203 Sample Report Page 1 of 1 Sampled: 03-Feb-12 18:00

Received: 08-Feb-12

Sample Report Page 1 of 1 Sampled By: MI

	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	(5.544	1141017	Б	ampie recport	1 mgc 1 01 1		Sample	a By: ML	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	19.5	mg/L	3.00	0.39	10	W207102	AEW	02/14/12 20:57	D1

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

John Kern



Bisbee, AZ 85603

Kellogg ID 83837-0929

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Freeport McMoRan - Bisbee

36 West Hwy 92

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: W2B0150

Reported: 20-Feb-12 14:52

Quality Cont	trol - BLANK Data											
Method	Analyte	Units	Result	MDL	N	ИRL	Batch ID	Analyzed	Notes			
<u> </u>								-				
	Chromatography											
EPA 300.0	Sulfate as SO4	mg/L	< 0.30	0.04	0	0.30	W207151	15-Feb-12				
	ons by Ion Chromatogr	aphy										
EPA 300.0	Sulfate as SO4	mg/L	< 0.30	0.04	0	0.30	W207102	14-Feb-12				
Quality Control - LABORATORY CONTROL SAMPLE Data												
Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes			
Ivienou	7 mary to	- Cints	Result	Truc	RCC.	Lillits	Butch 1B	7 mary zea	110103			
	Chromatography											
EPA 300.0	Sulfate as SO4	mg/L	10.3	10.0	103	90 - 110	W207151	15-Feb-12				
Dissolved Anio	ons by Ion Chromatogr	aphy										
EPA 300.0	Sulfate as SO4	mg/L	10.7	10.0	107	90 - 110	W207102	14-Feb-12				
Quality Cont	trol - DUPLICATE Date	9										
Quanty Cont	iror Dereichte Dat		Duplicate	Sample		RPD						
Method	Analyte	Units	Result	Result	RPD	Limit	Batch ID	Analyzed	Notes			
Anions by Ion	Chromatography											
EPA 300.0	Sulfate as SO4	mg/L	< 0.30	< 0.30	UDL	20	W207151	16-Feb-12				
Dissolved Anio	ons by Ion Chromatogr	anhv										
EPA 300.0	Sulfate as SO4	mg/L	34.0	34.1	0.2	20	W207102	14-Feb-12				
-												
Quality Cont	trol - MATRIX SPIKE	Data										
Method	Analyte	Units	Spike Sample Result Result		% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes			
Anione by Ion	Chromatography											
EPA 300.0	Sulfate as SO4	mg/L	1280 1260	10.0	R > 4S	90 - 110	W207151	15-Feb-12	D2,M3			
EPA 300.0	Sulfate as SO4	mg/L	10.3 <0.30	10.0	103	90 - 110	W207151	16-Feb-12	, -			
Dissolved Anio	ons by Ion Chromatogr	aphy										
EPA 300.0	Sulfate as SO4	mg/L	45.5 34.1	10.0	114	90 - 110	W207102	14-Feb-12	M1			
EPA 300.0	Sulfate as SO4	mg/L	28.0 17.1	10.0	109	90 - 110	W207102	14-Feb-12				



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

Project Name: Copper Queen Branch Sulfate Mitigation Order
W2B0150
W2B0150
Reported: 20-Feb-12 14:52

Notes and Definitions

D1	Sample rea	mired dilution	due to matrix.
111	Samble red	unrea anunor	i due lo mailix.

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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92
Bisbee, AZ 85603
Work Order: **W2B0258**Reported: 22-Feb-12 14:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
BMD-2008-13M	W2B0258-01	Ground Water	06-Feb-12 15:50	CLS	15-Feb-2012
BMD-2008-1M	W2B0258-02	Ground Water	08-Feb-12 10:45	BD	15-Feb-2012
BMD-2008-1G	W2B0258-03	Ground Water	08-Feb-12 12:45	BD	15-Feb-2012
TM-42	W2B0258-04	Ground Water	09-Feb-12 07:00	CLS	15-Feb-2012
BMD-2008-13B	W2B0258-05	Ground Water	09-Feb-12 08:55	CLS	15-Feb-2012
TM-7	W2B0258-06	Ground Water	09-Feb-12 11:30	CLS	15-Feb-2012

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL. Sample preparation is defined by the client as per their Data Quality Objectives.

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

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



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0258

Reported: 22-Feb-12 14:17

Client Sample ID: BMD-2008-13M

SVL Sample ID: W2B0258-01 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

Sampled Bv: CLS

	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -				Sumple Report Luge 1 of 1			Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anio	ons by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	166	mg/L	3.00	0.39	10	W207258	AEW	02/17/12 14:04	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0258 Bisbee, AZ 85603 Reported: 22-Feb-12 14:17

Sampled: 08-Feb-12 10:45 Client Sample ID: BMD-2008-1M Received: 15-Feb-12 SVI. Sample ID: W2R0258-02 (Ground Water)

	SVL Sample ID: WZB	1258-02 (Ground	water)	Sa	ample Report	Page I of I		Sampl	ed By: BD	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ns by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	158	mg/L	1.50	0.20	5	W207258	AEW	02/17/12 14:16	D2

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

Laboratory Director

John Ken John Kern



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0258**Bisbee, AZ 85603 Reported: 22-Feb-12 14:17

Client Sample ID: BMD-2008-1G

SVI_Sample ID: W2R0258-03 (Ground Water)

Sample Report Page 1 of 1

Sample ID: W2R0258-03 (Ground Water)

	SVL Sample ID: W2B	0258-03 (Ground V	vater)	S	ample Report	Page I of I		Sampl	ed By: BD	
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	0.20	5	W207258	AEW	02/17/12 14:27	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0258

Reported: 22-Feb-12 14:17

Client Sample ID: TM-42

SVI_Sample ID: W2B0258-04 (Ground Water)

Sumple Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sample 1B. WZB	0230-04 (Ground	water,	٥	ampie Keport	Sampled By: CLS				
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ohy									
EPA 300.0	Sulfate as SO4	444	mg/L	7.50	0.98	25	W207258	AEW	02/17/12 14:38	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0258

Reported: 22-Feb-12 14:17

Client Sample ID: BMD-2008-13B

SVI_Sample ID: W2B0258-05 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVE Sumple 1B. 112B	0200-00 (Ground I	rater,	34	ampie Keport	1 age 1 01 1	Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	s by Ion Chromatogra	phy								
EPA 300.0	Sulfate as SO4	1060	mg/L	15.0	1.95	50	W207258	AEW	02/17/12 14:50	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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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0258

Reported: 22-Feb-12 14:17

Client Sample ID: TM-7

SVI_Sample ID: W2B0258-06 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	3 VL Sample ID. WZB	0256-06 (Ground	vvalei)	Sample Report Page 1 01 1 Sampled By: CLS					ed By: CLS	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	ns by Ion Chromatograj	phy								
EPA 300.0	Sulfate as SO4	171	mg/L	1.50	0.20	5	W207258	AEW	02/17/12 15:01	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Bisbee, AZ 85603 Work Order: **W2B0258**Reported: 22-Feb-12 14:17

Quality Cont	rol - BLANK Data							
Method	rol - BLANK Data Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Dissolved Anio EPA 300.0	ons by Ion Chromatogr Sulfate as SO4	raphy mg/L	<0.30	0.04	0.30	W207258	17-Feb-12	

Quality Contr	ol - LABORATORY	CONTROL SA	MPLE Data						
Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anio EPA 300.0	ns by Ion Chromatog Sulfate as SO4	raphy mg/L	10.3	10.0	103	90 - 110	W207258	17-Feb-12	

Quality Contro	ol - DUPLICATE Da	ta							
Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anior	ns by Ion Chromatog	raphy							
EPA 300.0	Sulfate as SO4	mg/L	47.4	47.4	0.0	20	W207258	17-Feb-12	

Quality Cont	rol - MATRIX SPIKE	Data								
Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anic	ons by Ion Chromatog	raphy								
EPA 300.0	Sulfate as SO4	mg/L	10.9	< 0.30	10.0	107	90 - 110	W207258	17-Feb-12	
					10.0		90 - 110	W207258	20-Feb-12	

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
D2	Sample required unution due to mgn 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 - Copper Queen Branch Sulfate Mitigation Order

Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Highway 92
Bisbee, AZ 85603
Work Order: **W2B0439**Reported: 08-Mar-12 14:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
NWC-04	W2B0439-01	Ground Water	17-Feb-12 12:30	BD	24-Feb-2012
BMD-2008-4B	W2B0439-02	Ground Water	23-Feb-12 09:50	CLS	24-Feb-2012
BMD-2008-3B	W2B0439-03	Ground Water	23-Feb-12 10:50	CLS	24-Feb-2012

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

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

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

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



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

John Ken

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0439

Reported: 08-Mar-12 14:43

Client Sample ID: NWC-04

SVL Sample ID: W2B0439-01 (Ground Water)

Sample Report Page 1 of 1

Sampled: 17-Feb-12 12:30 Received: 24-Feb-12

		_		_	_
Sampled 1	Rv	R	Г)	

		•			. rr .			Sampi	са Бу. ББ	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	s by Ion Chromatograp	hy								
EPA 300.0	Sulfate as SO4	203	mg/L	3.00	0.39	10	W209223	AEW	03/01/12 15:20	D2

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

John Kern



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0439

Reported: 08-Mar-12 14:43

Client Sample ID: BMD-2008-4B

SVL Sample ID: W2B0439-02 (Ground Water)

Sample Report Page 1 of 1

Sampled: 23-Feb-12 09:50 Received: 24-Feb-12

Sampled By: CLS

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed No

Dissolved Anions by Ion Chromatography

John Ken

EPA 300.0 **Sulfate as SO4** 10.5 mg/L 0.30 0.04 W209223 AEW 03/01/12 15:31

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

John Kern



John Ken

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2B0439

Reported: 08-Mar-12 14:43

Client Sample ID: BMD-2008-3B

SVI. Sample ID: W2B0439-03 (Ground Water)

Sample Report Page 1 of 1

Sampled: 23-Feb-12 10:50 Received: 24-Feb-12

	SVE Sumple 1D. WZBO403-00 (Clound Water)				Sample Report 1 age 1 of 1				Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes		
Dissolved Anio	ons by Ion Chromatograp	ohy										
EPA 300.0	Sulfate as SO4	173	mg/L	3.00	0.39	10	W209223	AEW	03/02/12 11:02	D2		

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

John Kern



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Freeport McMoRan - Copper Queen Branch Project Name: Copper Queen Branch Sulfate Mitigation Order 36 West Highway 92 Work Order: W2B0439 Bisbee, AZ 85603

Reported: 08-Mar-12 14:43

Quality C	Control - BLANK Data									
Method	Analyte	Units	Result		MDL	l	MRL	Batch ID	Analyzed	Notes
Dissolved A EPA 300.0	Anions by Ion Chromatogra Sulfate as SO4	aphy mg/L	<0.30		0.04	(0.30	W209223	01-Mar-12	
Quality C	Control - LABORATORY (CONTROL SA	MPLE Data							
Method	Analyte	Units	LCS Result		LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved A EPA 300.0	Anions by Ion Chromatogra Sulfate as SO4	aphy mg/L	10.7		10.0	107	90 - 110	W209223	01-Mar-12	
Quality C	Control - DUPLICATE Data	a								
Method	Analyte	Units	Duplicate Result		Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved A EPA 300.0	Anions by Ion Chromatogra Sulfate as SO4	aphy mg/L	11.7		11.6	1.1	20	W209223	01-Mar-12	
Quality C	Control - MATRIX SPIKE	Data								
Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved A EPA 300.0	Anions by Ion Chromatogra Sulfate as SO4	aphy mg/L	22.9	11.6	10.0	114	90 - 110	W209223	01-Mar-12	M1
			Notes	and Defi	nitions					
D2	Sample required dilution due	to high concent	ration of target an	alyte.						
M1	Matrix spike recovery was hi	gh, but the LCS	recovery was acc	eptable.						
LCS	Laboratory Control Sample (Blank Spike)								
RPD	Relative Percent Difference									
UDL	A result is less than the detec	tion limit								
R > 4S	% recovery not applicable, sa	ample concentrat	tion more than fou	ır times gre	eater than spike lev	/el				
<rl< td=""><td>A result is less than the repor</td><td>ting limit</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></rl<>	A result is less than the repor	ting limit								
MRL	Method Reporting Limit									
MDL	Method Detection Limit									
N/A	Not Applicable									



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Freeport McMoRan - Copper Queen Branch Sulfate Mitigation Order

Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Highway 92

Bisbee, AZ 85603

Work Order: W2C0029

Reported: 12-Mar-12 13:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID		Date Sampled	Sampled By	Date Received
PANAGAKOS	W2C0029-01	Water	01-Mar-12 14:35	BD	02-Mar-2012

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL. Sample preparation is defined by the client as per their Data Quality Objectives.

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

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



Birby Gray

Kellogg ID 83837-0929

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 **Project Name: Copper Queen Branch Sulfate Mitigation Order**

Work Order: W2C0029

Reported: 12-Mar-12 13:15

Client Sample ID: PANAGAKOS

SVL Sample ID: W2C0029-01 (Water)

Sample Report Page 1 of 1

Sampled: 01-Mar-12 14:35 Received: 02-Mar-12

Sampled By: BD

		70_0 01 (114101)		5.	impie recport	ruge r or r		Sample	ed By: BD	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	s by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	362	mg/L	3.00	0.39	10	W210125	AEW	03/06/12 17:44	D2

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

Kirby Gray



Freeport McMoRan - Copper Queen Branch

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Highway 92 Work Order: W2C0029 Bisbee, AZ 85603 Reported: 12-Mar-12 13:15 Quality Control - BLANK Data Units MDL MRL Method Analyte Result Batch ID Analyzed Notes Dissolved Anions by Ion Chromatography EPA 300.0 Sulfate as SO4 mg/L< 0.30 0.04 0.30 W210125 06-Mar-12 Quality Control - LABORATORY CONTROL SAMPLE Data LCS LCS % Acceptance Limits Method Analyte Units True Rec. Batch ID Analyzed Notes Dissolved Anions by Ion Chromatography EPA 300.0 Sulfate as SO4 10.4 10.0 104 90 - 110 W210125 06-Mar-12 Quality Control - DUPLICATE Data Duplicate Sample RPD RPD Method Analyte Units Batch ID Analyzed Notes Result Result Limit Dissolved Anions by Ion Chromatography EPA 300.0 Sulfate as SO4 59.9 60.2 0.5 20 07-Mar-12 D2 W210125 Quality Control - MATRIX SPIKE Data Spike Sample Spike Acceptance Method Analyte Units Batch ID Analyzed Result (R) Notes Result Level (S) Rec. Limits

Notes and Definitions

10.0

10.0

R > 4S

101

90 - 110

90 - 110

W210125

W210125

06-Mar-12

07-Mar-12

D2,M3

D2,M3

362

60.2

D	2	Sample required dilution due to high concentration of target analyte.
M	13	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
L	CS	Laboratory Control Sample (Blank Spike)
R	PD	Relative Percent Difference
U	DL	A result is less than the detection limit
R	> 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<j< td=""><td>RL</td><td>A result is less than the reporting limit</td></j<>	RL	A result is less than the reporting limit
M	RL	Method Reporting Limit
M	DL	Method Detection Limit

Not Applicable

Dissolved Anions by Ion Chromatography

Sulfate as SO4

Sulfate as SO4

mg/L

mg/L

368

70.3

EPA 300.0

EPA 300.0

N/A



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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603 Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W2C0029**Reported: 13-Mar-12 12:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID		Date Sampled	Sampled By	Date Received
PANAGAKOS	W2C0029-01	Water	29-Feb-12 14:35	BD	02-Mar-2012

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL. Sample preparation is defined by the client as per their Data Quality Objectives.

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

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

Case Narrative

03/13/12mab:Report reissued. Per client request; sample date changed to 2/29/12.



Kellogg ID 83837-0929

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

EPA 300.0

Project Name: Copper Queen Branch Sulfate Mitigation Order

AEW

W210125

Work Order: W2C0029

Reported: 13-Mar-12 12:34

Client Sample ID: PANAGAKOS

Sulfate as SO4

SVL Sample ID: W2C0029-01 (Water)

Sample Report Page 1 of 1

0.39

Sampled: 29-Feb-12 14:35 Received: 02-Mar-12

03/06/12 17:44

SVL Sample ID: W2C0029-01 (Water)					ample Report	Page 1 of 1		Sampled By: BD			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	is by Ion Chromatogra	phy									

3.00

mg/L

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

362

Birly Gray

Kirby Gray Technical Director



Kellogg ID 83837-0929

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

Project Name: Copper Queen Branch Sulfate Mitigation Order
Work Order: W2C0029
Reported: 13-Mar-12 12:34

0 14 6 4	I DI ANIZD 4								
-	trol - BLANK Data	Units	D l4	MDL	,	ſRL	Batch ID	A	N-4
Method	Analyte	Units	Result	MDL	IV	IRL	Baten ID	Analyzed	Notes
Dissolved Ania	ons by Ion Chromatog	ranhy							
EPA 300.0	Sulfate as SO4	mg/L	< 0.30	0.04	0	.30	W210125	06-Mar-12	
		S							
Quality Cont	trol - LABORATORY	CONTROL SA	AMPLE Data						
Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatog	raphy							
70.4.00.0			10.4	10.0	104	90 - 110	W210125	06-Mar-12	
EPA 300.0	Sulfate as SO4	mg/L	10.4	10.0	104	<i>7</i> 0 - 110	***210123	00-14141-12	
			10.4	10.0	104	70 - 110	W210123	00-14141-12	
	Sulfate as SO4 trol - DUPLICATE Date		10.4	10.0	104	70 - 110		00-1411-12	
			Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Quality Cont	trol - DUPLICATE Da	ta Units	Duplicate	Sample		RPD			Notes
Quality Cont Method Dissolved Anio	trol - DUPLICATE Dat Analyte	ta Units	Duplicate	Sample		RPD			Notes D2
Method	Analyte ons by Ion Chromatogi	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	
Quality Cont Method Dissolved Anice EPA 300.0	Analyte ons by Ion Chromatogi	Units raphy mg/L	Duplicate Result	Sample Result	RPD 0.5	RPD Limit	Batch ID	Analyzed	
Quality Cont Method Dissolved Anice EPA 300.0	Analyte ons by Ion Chromatogical Sulfate as SO4	Units raphy mg/L	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	
Quality Cont Method Dissolved Anio EPA 300.0 Quality Cont Method	Analyte ons by Ion Chromatogram Sulfate as SO4 trol - MATRIX SPIKE	Units raphy mg/L Data Units	Duplicate Result 59.9 Spike Sample	Sample Result 60.2 Spike	RPD 0.5	RPD Limit 20 Acceptance	Batch ID W210125	Analyzed 07-Mar-12	D2

Notes and Definitions

10.0

101

90 - 110

W210125

07-Mar-12

D2,M3

60.2

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< td=""><td>A result is less than the reporting limit</td></rl<>	A result is less than the reporting limit
MRL	Method Reporting Limit

Method Detection Limit

Not Applicable

EPA 300.0

 MDL

N/A

Sulfate as SO4

mg/L

70.3



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0258**Bisbee, AZ 85603 Reported: 16-Mar-12 16:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
BMD-2008-13M	W2B0258-01	Ground Water	06-Feb-12 15:50	CLS	15-Feb-2012
BMD-2008-1M	W2B0258-02	Ground Water	08-Feb-12 10:45	BD	15-Feb-2012
BMD-2008-1G	W2B0258-03	Ground Water	08-Feb-12 12:45	BD	15-Feb-2012
TM-42	W2B0258-04	Ground Water	09-Feb-12 07:00	CLS	15-Feb-2012
BMD-2008-13B	W2B0258-05	Ground Water	09-Feb-12 08:55	CLS	15-Feb-2012
TM-7	W2B0258-06	Ground Water	09-Feb-12 11:30	CLS	15-Feb-2012

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested. Non-Detects are reported at the MDL. Sample preparation is defined by the client as per their Data Quality Objectives.

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

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

Case Narrative

03/16/12 (jk) - Report reissued. Client requested reanalysis for SO4 for sample 1. Reanalysis did not confirm original. Reanalysis results reported.



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

Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0258

Reported: 16-Mar-12 16:29

Client Sample ID: BMD-2008-13M Sample Report Page 1 of 1 Sampled: 06-Feb-12 15:50 Received: 15-Feb-12 Sampled By: CLS

	*	•	<u> </u>			-		Sampi	ca by. CLS	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	s by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	244	mg/L	3.00	0.39	10	W207258	AEW	03/15/12 10:52	D2,H6,N5
EPA 300.0	Sulfate as SO4	238	mg/L	3.00	0.39	10	W207258	AEW	03/15/12 11:03	D2,H6,N5

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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0258

Reported: 16-Mar-12 16:29

Client Sample ID: BMD-2008-1M

SVI, Sample ID: W2B0258-02 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

	SVL Sample ID. WZBUZ56-UZ (Ground Water)				ampie Kepori	Page I of I		Sampled By: BD			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	ns by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	158	mg/L	1.50	0.20	5	W207258	AEW	02/17/12 14:16	D2	

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

John Kern



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Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0258**Bisbee, AZ 85603 Reported: 16-Mar-12 16:29

Client Sample ID: BMD-2008-1G

SVI. Sample ID: W2B0258-03 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

SVL Sample ID: W2B0258-03 (Ground water)				S	ample Report	Page I of I		Sampl	ed By: BD	
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anior	ns by Ion Chromatogra	phy								
EPA 300.0	Sulfate as SO4	116	mg/L	1.50	0.20	5	W207258	AEW	02/17/12 14:27	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92

Bisbee, AZ 85603

Work Order: W2B0258

Reported: 16-Mar-12 16:29

Client Sample ID: TM-42

SVI_Sample ID: W2B0258-04 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

5 VL Sample ID. WZD0230-04 (Ground Water)				3	ашріе Керогі	ragerori		Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	ns by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	444	mg/L	7.50	0.98	25	W207258	AEW	02/17/12 14:38	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: W2B0258 Bisbee, AZ 85603 Reported: 16-Mar-12 16:29

Sampled: 09-Feb-12 08:55 Client Sample ID: BMD-2008-13B Received: 15-Feb-12 SVI. Sample ID: W2B0258-05 (Ground Water) Sample Report Page 1 of 1

5 VE Sample 15. WZB0230-03 (Ground Water)					ашріе Керогі	1 age 1 of 1	Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anio	ons by Ion Chromatogra	phy								
EPA 300.0	Sulfate as SO4	1060	mg/L	15.0	1.95	50	W207258	AEW	02/17/12 14:50	D2

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

John Ken John Kern



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

Freeport McMoRan - Bisbee Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Work Order: **W2B0258**Bisbee, AZ 85603 Reported: 16-Mar-12 16:29

Client Sample ID: TM-7

SVI_Sample ID: W2B0258-06 (Ground Water)

Sample Report Page 1 of 1

Sample Report Page 1 of 1

SVL Sample ID: W2B0258-06 (Ground water)					ample Report	Page I of I	Sampled By: CLS			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Dissolved Anion	s by Ion Chromatograp	ohy								
EPA 300.0	Sulfate as SO4	171	mg/L	1.50	0.20	5	W207258	AEW	02/17/12 15:01	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 Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Hwy 92 Bisbee, AZ 85603 Work Order: **W2B0258**Reported: 16-Mar-12 16:29

Quality Control - BLANK Data											
Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes			
Dissolved Anio EPA 300.0	ons by Ion Chromatog Sulfate as SO4	raphy mg/L	<0.30	0.04	0.30	W207258	17-Feb-12				

Quality Control - LABORATORY CONTROL SAMPLE Data									
Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Anio EPA 300.0	ons by Ion Chromatog Sulfate as SO4	raphy mg/L	10.3	10.0	103	90 - 110	W207258	17-Feb-12	

Quality Control - DUPLICATE Data									
Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
Dissolved Anior	ns by Ion Chromatog	raphy							
EPA 300.0	Sulfate as SO4	mg/L	47.4	47.4	0.0	20	W207258	17-Feb-12	

Quality Control - MATRIX SPIKE Data										
Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Dissolved Ani	ons by Ion Chromatog	raphy								
	0.104 004	- · /r	10.0	<0.20	10.0	107	90 - 110	W207258	17-Feb-12	
EPA 300.0	Sulfate as SO4	mg/L	10.9	< 0.30	10.0	107	90 - 110	W 207238	17-160-12	

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
174	Sample required ununon due to mgn concentration of target analyte.

H6 Initial analysis was within holding time. Reanalysis was run past holding time.

M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was

acceptable.

N5 After re-analysis original results are not confirmed.

LCS Laboratory Control Sample (Blank Spike)

RPD Relative Percent Difference

UDL A result is less than the detection limit

R > 4S % recovery not applicable, sample concentration more than four times greater than spike level

<RL A result is less than the reporting limit

MRL Method Reporting Limit

MDL Method Detection Limit

N/A Not Applicable



Bisbee, AZ 85603

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

Freeport McMoRan - Copper Queen Branch

Project Name: Copper Queen Branch Sulfate Mitigation Order 36 West Highway 92 Work Order: W2C0330

Reported: 19-Mar-12 15:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
TM-10 USBP	W2C0330-01	Ground Water	15-Mar-12 10:16	BD	16-Mar-2012
NMC-04	W2C0330-02	Ground Water	15-Mar-12 11:10	BD	16-Mar-2012
PANAGAKOS	W2C0330-03	Ground Water	15-Mar-12 12:20	BD	16-Mar-2012

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

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

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

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



36 West Highway 92

Bisbee, AZ 85603

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

784-1258 Fax (208) 783-0891

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: **W2C0330**Reported: 19-Mar-12 15:04

Client Sample ID: TM-10 USBP

SVL Sample ID: W2C0330-01 (Ground Water)

Sample Report Page 1 of 1

Sampled: 15-Mar-12 10:16 Received: 16-Mar-12

Received: 16-Mar-Sampled By: BD

Method Analyte Result Units RL MDL Dilution Batch Analyst Analyzed Notes

Dissolved Anions by Ion Chromatography

Birly Gray

Freeport McMoRan - Copper Queen Branch

EPA 300.0 **Sulfate as SO4** 15.1 mg/L 0.30 0.04 W211348 AEW 03/16/12 15:59

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

Kirby Gray



One Government Gulch - PO Box 929 Kelle

Kellogg ID 83837-0929

(208) 784-1258

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Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

Birby Gray

Project Name: Copper Queen Branch Sulfate Mitigation Order

Work Order: W2C0330

Reported: 19-Mar-12 15:04

Client Sample ID: NMC-04

SVL Sample ID: W2C0330-02 (Ground Water)

Sample Report Page 1 of 1

Sampled: 15-Mar-12 11:10 Received: 16-Mar-12

			٠.							
Sami	n	le	м	F	₹,	17	P	ŀГ	١	

5 v E sample 15. W20030-02 (Ground Water)				Sample Report 1 age 1 of 1				Sampled By: BD			
Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes	
Dissolved Anion	ns by Ion Chromatograp	ohy									
EPA 300.0	Sulfate as SO4	207	mg/L	3.00	0.39	10	W211348	AEW	03/16/12 16:33	D2	

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

Kirby Gray



Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

Freeport McMoRan - Copper Queen Branch

36 West Highway 92 Bisbee, AZ 85603

EPA 300.0

Project Name: Copper Queen Branch Sulfate Mitigation Order

AEW

W211348

Work Order: W2C0330

Reported: 19-Mar-12 15:04

Client Sample ID: PANAGAKOS

SVL Sample ID: W2C0330-03 (Ground Water)

282

Sample Report Page 1 of 1

0.98

Sampled: 15-Mar-12 12:20 Received: 16-Mar-12

03/16/12 16:45

Sampled By: BD

Method Result RLDilution Batch Analyst Analyzed Notes

7.50

mg/L

Dissolved Anions by Ion Chromatography

Birly Gray

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

Sulfate as SO4

Kirby Gray



Freeport McMoRan - Copper Queen Branch

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

Project Name: Copper Queen Branch Sulfate Mitigation Order

36 West Highway 92 Work Order: W2C0330 Reported: 19-Mar-12 15:04 Bisbee, AZ 85603 Quality Control - BLANK Data MDL MRL Method Analyte Units Result Batch ID Analyzed Notes Dissolved Anions by Ion Chromatography EPA 300.0 Sulfate as SO4 mg/L< 0.30 0.04 0.30 W211348 16-Mar-12 Quality Control - LABORATORY CONTROL SAMPLE Data LCS LCS % Acceptance Limits Method Analyte Units Batch ID Analyzed Notes True Rec. Dissolved Anions by Ion Chromatography EPA 300.0 Sulfate as SO4 10.8 10.0 108 90 - 110 W211348 16-Mar-12 Quality Control - DUPLICATE Data Duplicate Sample RPD RPD Method Analyte Units Batch ID Analyzed Notes Result Result Limit Dissolved Anions by Ion Chromatography EPA 300.0 15.1 15.1 20 Sulfate as SO4 0.3 W211348 16-Mar-12 Quality Control - MATRIX SPIKE Data Spike Sample Spike Acceptance Method Analyte Units Batch ID Analyzed Notes Result Result (R) Level (S) Rec. Limits Dissolved Anions by Ion Chromatography EPA 300.0 Sulfate as SO4 26.1 15.1 10.0 110 90 - 110 W211348 16-Mar-12

Notes and Definitions

D2	Sample required dilution due to high concentration	n of target analyte.

LCS Laboratory Control Sample (Blank Spike)

RPD Relative Percent Difference

UDL A result is less than the detection limit

 $R > 4S \hspace{1cm} \% \ recovery \ not \ applicable, \ sample \ concentration \ more \ than \ four \ times \ greater \ than \ spike \ level$

<RL A result is less than the reporting limit

MRL Method Reporting Limit
MDL Method Detection Limit

N/A Not Applicable

APPENDIX C GROUNDWATER SAMPLING FORMS

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	h
Task No:					Date:	2/1/12		
Well ID:	ANDERS	ioN			Weather:	Sunny		***************************************
ADWR No:					Sampler:	MML		
				WELL DA	A			
Well De	epth (ft bls):	23	350		Nominal	Size (inches)	Capacity Gallons per L	
	liameter (in):	(~)			2 0.16 4 0.65		
	•	16	6.19			5 6	1.02 1.47	<u>.</u>
Static Water	r Level (ft bmp):	1 9				8	2.6	ı
Casing V	/olume (gal):		x3 =			10	4.08	
Total Volum	e Purged (gal):				<u> </u>	g Volume = gallons	s/toot * water colun	nn (reet)
				D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
	Pump On							
					11.8 M	4		
1208				7.28	10.9	1360		
			***************************************			,		
							Pump Off	
	FIELD DARAMET	ER STARILIZA	TION: Three co	nnsecutive rea	adinas within (l 0.2 su pH, 2 degree	<u> </u>	m)
			at a spirit linear trapping the large line	IPLE INFOR	sanstannyosia lahitanan casandhis			
			Container		No. of			Filtered
Sa	mple ID	Time	Туре	Volume	Containers	Analysis Method	Preservative	(y/n)
ANDER	2501	1212	Plastic	250	1	300.0	N	У
		v v	ATER LEVEL	MEASURE	MENT COLL	ECTION		
□ Water is	evel measuremen	collected.						
	r level measurem		No access to we	ellhead/No po	rt in wellhead			
	er level measurem							
☐ No wate	er level measurem	ent collected. \	Well is pumping) .				
			well well	PURGING IN	FORMATION			
☐ Purged	3 well volumes ar	id field parame			ergsierus erus Estatistici (Salt	uges este personal del cast vicilizada		
1	3 well volumes ba			nd field parem	neters stabiliz	ed.		
	well until field par		zed.					
	Sample fro	m Ian	/\$					
Additional	Comments:	······································						

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	<u>:h</u>
Task No:	1				Date:	2/2/12		***************************************
Well ID:	AWC-	-02			Weather:	sunny	£0\$	
ADWR No:				•	Sampler:	mmL.		
				WELLDA	TA III			
Well D	epth (ft bls):				Nomina	Casing Size (inches)	Capacity Gallons per L	inear Foot
				•		2	0.16	5
Casing [Diameter (in):					4 5	0.65 1.02	1
Static Wate	er Level (ft bmp):	NA				6	1.47	1
Casing \	Volume (gal):		x3 =			8 10	2.61 4.08	1
					Casin	ng Volume = gallons	s/foot * water colun	nn (feet)
rotal volum	ne Purged (gal):		HI FIE	D SAMPLIN	IG DATA			
		Discharge	Total			Specific		331
Time	Elapsed Time (min)	Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (°C)	Conductance (µS/cm)	Commi	ents
	Pump On							
0935				7.20	20.8	479.5		
							Pump Off	
	FIELD PARAMET	L ER STABILIZA	ATION: Three c	onsecutive rea	adings within (I 0.2 su pH, 2 degree	s C, and 200 μS/c	m)
			SAN	IPLE INFOR	MATION			
			Container		No. of			Filtered
Sa	mple ID	Time	Туре	Volume	Containers	Analysis Method	Preservative	(y/n)
ANC	-02	0938	Plastic	250		300.0	\sim	Y
		1 2 1 2 1 2						
			 ATTER LIEVEL	MEAGUE	VENTERABLE			
				#MI=VO(6IVI=	MEDIE			
	evel measuremen		Na	althood/blo no	t in wallband			
1	er level measurem er level measurem				it iii weiiileau			
Α	er level measurem							
Other:								
			WELL	PURGING IN	FORMATION			
☐ Purged	3 well volumes ar	nd field parame	ters stabilized.					
☐ Purged	3 well volumes ba	ased on previo	us water level a	nd field parem	eters stabilize	ed.		
I	well until field par	ameters stabili	zed.					
Other:	_							
Additional	Comments:							
					, , , , , , , , , , , , , , , , , , , 			

Project No:	055038				Client: Freeport Copper Queen Branch			
Task No:	1.0				Date:	2212	2	
Well ID:	AWC-C)3			Weather:	SUMMY	40's	
ADWR No:					Sampler:	MML		
				WELL DA	TA			
Well De	epth (ft bls):				Nominal	Size (inches)	Capacity Gallons per l	
Cacina D	liameter (in):					2 4	0.1 0.6	
			٨			5	1.0	2
Static Water	r Level (ft bmp):	N	1			6 8	1.4 2.6	
Casing V	olume (gal):		x3 =			10	4.0	
Total Volum	e Purged (gal):				<u> </u>	g Volume = gallon:	s/foot * water colu	nn (feet)
				D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
	Pump On							
0919				7.39	2017	504.8		
							Pump Off	
	EIEI D DARAMET	ED STARII 174	TION: Three o	onsecutive rea	adings within (D.2 su pH, 2 degree		cm)
			dana language ay latan irin tagbapasi	IPLE INFOR	goggafetti estkortigi eta kurekta (itt. k.		eren estadores da decem Antanistra de decembros	
			Container		No. of			Filtered
Sar	mple ID	Time	Туре	Volume	Containers	Analysis Method	Preservative	(y/n)
AWC	-03	0922	Plastic	250	/	300.0	\sim	Y
			I /ATER LEVEL	MEASURE	MENT COLL	ECTION		
□ Water le	vel measurement							
	r level measurem		No access to we	ellhead/No po	rt in wellhead			
☐ No wate	r level measurem	ent collected.	Obstruction in w	æll.				
1	r level measurem	ent collected. \	Well is pumping	i.				
☐ Other:			weil.	PURGING IN	FORMATION			
□ Purged	3 well volumes ar	id field narams						
_	3 well volumes ba			nd field parem	neters stabilize	ed.		
1	well until field par							
□ Other:								
Additional	Comments:							
		·						

Project No:	055038				Client: Freeport Copper Queen Branch				
Task No:	1				Date:	2212			
Well ID:	AWC	-04			Weather:	Sunne 3	30's win	dy	
ADWR No:	***************************************				Sampler:	NWE -		0	
				WELL DA					
WellD	epth (ft bls):				Nomina	Casing Size (inches)	Capacity Galions per L	inear Foot	
						2	0.16	6	
Casing I	Diameter (in):	. [;				4 5	0.69 1.00		
Static Wate	er Level (ft bmp):	NA				6 8	1.4 ² 2.6		
Casing \	Volume (gal):		x3 =			10	4.0		
Total Volum	ne Purged (gal):				Casin	ng Volume = gallons	s/foot * water colur	nn (feet)	
25 CH CHILLIAN TO CAN			FIE	D SAMPLIN	IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
	Pump On								
0948				6.97	26,1	637.6			

							wiji in the state of the state		
							Pump Off		
	FIELD PARAMET	ER STABILIZA	tom dendramentario de montos.	espirajo de animalisti de si	gagadarjaphtadaceda	0.2 su pH, 2 degree	es C, and 200 μS/c	m)	
			II III III III SAN	IPLE INFOR	MATION				
Sa	imple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
AWI	C-04	0955	Plastic	250	<u> </u>	300-0	Ν	<u> </u>	
			ATER LEVEL	MEAQUIDE	MENTICOLL	Serion			
1	evel measurement er level measurem		No access to w	ellhead/No por	f in wellhead				
1	er level measurem								
i .	er level measurem	ent collected. \	Well is pumping	I.					
☐ Other:	Barbioshraidheacha					HEOSERUGSER HEORESEERUG	nienenės dė agėnikijos		
			olekin iliko ospratu mins	PURGING INI	-OKMATION				
1	3 well volumes ar 3 well volumes ba			nd field narem	eters stabiliza	ed.		•	
1	well until field par			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
☐ Other:									
Additional	Comments:								

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	<u>sh</u>
Task No:	CAWC-	05			Date:	2/2/12		
Well ID:	A				Weather:	SUNNY	503	***************************************
ADWR No:					Sampler:	MM		
				WELL DA	A			
Well D	epth (ft bis):				Nomina	Casing I Size (inches)	Capacity Gallons per L	inear Foot
	•					2 4	0.16 0.66	
	Diameter (in):					5	1.02	2
Static Wate	r Level (ft bmp):					6 8	1.4° 2.6°	
Casing \	Volume (gal):		x3 =			10	4.08	
Total Volun	ne Purged (gal):				Casin	ng Volume = gallons	s/foot * water colun	nn (feet)
			FIEL	D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
	Pump On							
0904				7,35	51.4	427.9		
							Pump Off	
	FIELD PARAMET	ER STABILIZA	ATION: Three co	onsecutive rea	ndings within (0.2 su pH, 2 degree	es C, and 200 μS/c	m)
			SAN	IPLE INFOR	MATION			
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
AWC	-05	69 08	Plastic	250		300.0	N	Y
		W.	IATER LEVEL	MEASURE	MENT COLL	ECTION		
□ Water i	evel measurement	collected.						
1	er level measurem				t in wellhead			
1 2	er level measurem er level measurem							
Other:	er level measulem	eni collected.	wen is bambing) .				
			WELL	PURGING IN	FORMATION			
☐ Purged	3 well volumes ar	nd field parame	eters stabilized.		A TO SERVICE A CONTRACTOR OF THE	The second of th		
1	3 well volumes ba			nd field parem	eters stabilizo	ed.		
I	well until field par	ameters stabili	zed.					
Additional	Comments:				<u></u>			
/ WAIEIOHA!	JOHNSON.							

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	ch
Task No:	3				Date:	1/31/12		
Well ID:	BANKS	986			Weather:	sunny	undy	
ADWR No:					Sampler:	MML)	
				WELL DA	IA .			
Well Da	epth (ft bls):		435		Nominal	Casing Size (inches)	Capacity Gallons per L	inear Foot
			6"			2	0.16	3
Casing D	Diameter (in):	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u> </u>			4 5	0.68 1.02	
Static Wate	r Level (ft bmp):	See No	ites.			_6	1.47 2.6	
Casing \	/olume (gal):	3a3	x3 = 9	707		10	4.08	
Total Volun	ne Purged (gal):				Casin	g Volume = gallon:	s/foot * water colun	nn (feet)
			FIEL	D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
1522	Pump On							
1532	10	10	100	7,94	22.1	1042		
1542	20		200	7.88	21.6	1018.		
1557	30		30 <i>0</i>	7.80	20.9	1022		
1602	40		400	7.76	20.8	1027		
1612	50		500	7.74	20.8	1032		
1627	65		650	7.73	ZQ,2_	1020		
1642	80		800	7.70	21.6	1018		
1052	90		900	7.69	20.2	1017		
							Pump Off	
HEADERNE WSSAMBOSS	FIELD PARAMET	ER STABILIZ	paraskata antaran angunatak negara	arietospaniajaska cojemu:		0.2 su pH, 2 degree	es C, and 200 μS/c	m) Patronomica supangangan
			Haraman SAN	IPLE INFOR	MATION			
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
BANK	s 980	1657	Plastic	250	l	300.0	N	У
MARZO	0120131	labeled 1800	Plastic	250	1	300.0	N	У
			VATER LEVEL	MEASURE	MENT COLL	ECTION		
□ Water k	evel measuremen	t collected.						s Aprijas provinski i mensi o isoloviči se iz
	er level measurem		No access to we	elihead/No po	rt in wellhead			
☐ No wate	er level measurem	ent collected.	Obstruction in w	rell.				
	er level measurem USE Bar			 .				
S Other:	use our		Malacian (Idela-Pol-Heise Milit	PURGING IN	FORMATION			
- Burned	3 well volumes a	nd field naram						
1 -	3 well volumes ba			nd field parem	eters stabilize	ed.		
☐ Purged	well until field par	ameters stabil	ized.					
☐ Other:			· · · · · · · · · · · · · · · · · · ·					
Additional	Comments:	228.93	5 at	Banks 9	187			

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	<u> </u>
Task No:					Date:	1/3//12		
Well ID:	BANK	LS 98 ⁻	7		Weather:	sunny	windy	
ADWR No:					Sampler:	MML	,	
				WELL DAT	A			
Well De	epth (ft bls):				Nomina	Casing Size (inches)	Capacity Gallons per L	inear Foot
						2	0.16 0.68	1
Casing L	Diameter (in):		00000	•		4 5	1.02	
Static Wate	r Level (ft bmp):		28.95	>		6 8	1.47 2.6	
Casing \	/olume (gal):		x3 =			10	4.08	
Total Volun	ne Purged (gal):				Casin	ng Volume = gallons	s/foot * water colun	nn (feet)
			FIE	D SAMPLIN	G DATA			na a Sadirica
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
15-221	Pump On							
1000								NA
								·
				<u> </u>			Pump Off	>
	FIELD PARAMET	ER STABILIZA	managrapismi sa		one recipional desentations	0.2 su pH, 2 degree	es C, and 200 μS/C	in) Historicani (1507)
				IPLE INFOR	MATION			
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
-								
			ATER LEVEL	MEASUREI	MENT COLL	ECTION		
□ Wateri	evel measuremen							
1	ever measuremen er level measurem		No access to we	ellhead/No por	t in wellhead			
2	er level measurem							
☐ No wate	er level measurem	nent collected. \	Well is pumping	1.				
☐ Other.				and winds an annual of the seal				DO NESISELAS ORGANISES
	denila septimbal del della della Ny fivonta della del		WELL	Purging ini	ORMATION			
1	3 well volumes a							
1	3 well volumes b	*		nd field parem	eters stabilize	ed.		
	well until field par	rameters stabili	zed.					
Other:		3 A A B A						
Additional	Comments:	MFO						
<u></u>								

Project No:	055038				Client: Freeport Copper Queen Branch							
Task No:	1.0				Date:	: <u>2-3-/2</u>						
Well ID:	BIMI	9			Weather:	SWUNY 5	<u>) ś</u>					
ADWR No:					Sampler:							
				WELL DAT								
Well De	epth (ft bls):	46	5		Nominal	Casing Size (inches)	Capacity Gallons per L	inear Foot				
			ili			2 0.16						
Casing D	liameter (in):					5	0.65 1.02	1				
Static Water	r Level (ft bmp):	<u>~ ~ A</u>				6	1.47 2.6	ŀ				
Casing V	∕olume (gal):	rom pr	e ^{v¹6∪5} x3= /	Sogal		10	4.08	1				
					Casin	g Volume = gallons	/foot * water colun	nn (feet)				
Total Volum	ne Purged (gal):		FE	D SAMPLIN	G DATA							
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents				
8:35	Pump On											
8:4645	region and administration of the control of the con-	4	40	6,33	16.0	1610						
0:45		4	60	6.36	18.1	1560						
9:55	20	4	80	6.41	20.1	(600						
9.00	7.5	4	100	6.48	18.5	1540						
		,	·									

***************************************							Pump Off					
	FIELD PARAMET	ER STABILIZ	ATION: Three co	onsecutive rea	dings within (0.2 su pH, 2 degree	s C, and 200 μS/c	m)				
			SAN	IPLE INFOR	MATION							
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)				
В	IMA	9.02	Poly	USG)	300.0	Ø	V				
		WW.	1	1				/				
alogopanike dibia			L VATER LEVEL	MEASURE	MENT COLL	ECTION						
	evel measuremen		No access to us	allheed/No no	t in wellhead							
☐ No water level measurement collected. No access to wellhead/No port in wellhead ☐ No water level measurement collected. Obstruction in well.												
□ No water level measurement collected. Well is pumping.												
☐ Other:												
	WELL PURGING INFORMATION											
1	3 well volumes a											
1	3 well volumes be			nd field parem	eters stabilize	ed.						
P ~ -	well until field par	rameters stabi	lized.									
Other:	^	î ;	t {		- [4 15	(.1				
···	Comments:	الع ادء	ust at	all hat	545 FC	in Whi	e pumpin	tanks				
10 m		IMA TE	us out	0 1	~ (D) \^	150 Jeller	7	was vill				
120	Fre UNFI	1 puras	-tc/5 0	<u>, re, St</u>	<u> ال</u>	Wated in	likely From	4 unks				
	Could Not get sounds past 320'											

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	<u>:h</u>			
Task No:					Date:	2/2/12					
Well ID:	BM0-20	5-01C	,B		Weather:	Sing	Junde	4			
ADWR No: 9	5-2199	70			Sampler:	MML -)	J			
				WELL DA	A	Casino	Capacity				
Well De	epth (ft bls):	33	O		Nominal	Size (inches)	Gallons per L				
Casing D	iameter (in):	5				2 4	0.16 0.65				
_	r Level (ft bmp):	117	18			5 6	1.02 1.47	1			
	/olume (gal):	213	x3 = \(,29		8 10	2.61 4.08	3			
			<u> </u>		Casin	g Volume = gallons					
lotal Volum	Total Volume Purged (gal): FIELD SAMPLING DATA										
		Discharge	Total			Specific					
Time	Time Elapsed Time (min) Rate Discharge (SU)			pH (SU)	Temp (°C)	Conductance (µS/cm)	Comme	ents			
1052	Pump On	e de carlos co Las carres es es es		rogi di silatiki. Pristin kilaliki.				aprej svenimes Se Sendukrah Le			
1102	10	9	90	7.58	21.1	393.4	slightlycloudy	tinard brown			
1112	20		180	7.52	21.7	399.5	Clearing a				
1122	30 270 7.5				21.0	398.5	Cleaned	un			
1132	40		360	7,53	20,8	400.4		V .			
1142	50		450	7.5	21.0	401.6					
1152	60		540	7.49	zc,8	400.3					
1202	70		630	7.52	70.4	400.2					
							Pump Off				
	FIELD PARAMET	ER STABILIZ	aga samu-mada baga basa sa aktai		cinaldessinia (44,650)).2 su pH, 2 degree	es C, and 200 μ5/c				
			riinis aranı (SAN I	IPLE INFOR							
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)			
BMO-	2010-313	12:05	Plastic	250	1	300.0	7	У			
D1110-2	0120207	1800	Plastic	250		300.0	$ \mathcal{N} $	Y			
		- in the state of	ATER LEVEL	MEASURE	VENT COLL	ECTION		escon (ne more escen Historia de la Televia			
12 Water le	evel measurement	collected.	[05]M14491M4401H4551M44915551H	- 1994 - 1994 - 1995 -	1.000.000000000000000000000000000000000		KI WEST DE STEELSTEELS STEELS				
☐ No wate	r level measurem	ent collected.	No access to we	ellhead/No por	t in wellhead						
□ No water level measurement collected. Obstruction in well.											
□ No water level measurement collected. Well is pumping.											
U Other: WELL-PURGING INFORMATION											
Purged 3 well volumes and field parameters stabilized.											
Purged 3 well volumes based on previous water level and field paremeters stabilized.											
1	well until field par		and the second s								
☐ Other:											
Additional	Comments:										

Project No:	055038				Client:	Freeport Copp	er Queen Brand	ch			
Task No:					Date:	2/2/12					
Well ID:	B1W0-2	L010-31	Μ		Weather:	Sunny	windy				
ADWR No:	55 -				Sampler: MML						
				WELL DAT	A						
Well De	pth (ft bls):	53	,]		Nomina	Casing Capacity Nominal Size (inches) Gallons per Linear Foo					
		5				2	0.16 0.6				
Casing D	iameter (in):		†			4 5	1.02	1			
Static Water	Level (ft bmp):	2.911	<u>{ </u>			6 8	1,4 2.6	,			
Casing V	olume (gal):	411	x3 = 17	233		10	4.0				
Total Volum	e Purged (gal):			·	Casin	ng Volume = gallon:	s/foot * water colun	nn (feet)			
			FIEL	D SAMPLIN	G DATA						
Time Elapsed Time Discharge Rate Discharge (SU) (min) (gpm) (gallons)					Temp (ºC)	Specific Conductance (µS/cm)	Comm	ents			
1215	Pump On										
1235	20	9	180	7.91	21.1	329.8	mostlyclear;	tinted boows			
1255	40	,	360	7.72	21.2	366.8	ĸ				
1315	60		540	7.68	21.7	365,5	clear				
1335	80		720	7.67	22.0	346.9					
.1355	100		900	7.69	22.(367.4					
1415	120		1080	770	21.6	366.2					
1435	140		1260	7-68	27.0	367.					
							Pump Off				
F	TELD PARAMET	ER STABILIZA	page terterrenasta lenguara sagaren	seronemosano no creativo	iglanimomitectussenicsia	0.2 su pH, 2 degree	es C, and 200 μS/c	m) Ottobiologica			
			SAN	IPLE INFOR	MATION						
Sar	nple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)			
BMO-	2016-3M	1439	Plastic	250	1	300,0	N	<i>y</i>			
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
		i Harifa (Special City) Harifa (Special City)	/ATER LEVEL	MEASUREN	MENT COLL	ECTION					
Water le	vel measurement	collected.									
	r level measurem		No access to we	ellhead/No por	t in wellhead						
□ No water level measurement collected. Obstruction in well.											
No water level measurement collected. Well is pumping.											
Other: WELL PURGING INFORMATION											
₩ Purged 3 well volumes and field parameters stabilized.											
□ Purged 3 well volumes based on previous water level and field paremeters stabilized.											
	well until field par			•							
☐ Other:											
<u>Additional</u>	Comments:										

Total Volume Purped (gal): Total Volume Purped (gal): Time Elapsed Time (min) Gallons (gallons) (SU) (CO) (CO) (Gallons) (Ga	roject No:	055038				Client:	Freeport Coppe	er Queen Brand	sh		
DWR No: Well Depth (fl bis): Well Depth (fl bis): Casing Capacity	ask No:				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Date:	2012				
Sampler WALL Sampler WALL	ell ID:	Chamb	ners			Weather:	sunny 5	<u>0's</u>			
Well Depth (ft bis): Casing Capacity Well Depth (ft bis): Casing Diameter (in): Casing Diameter (in): Casing Diameter (in): Static Water Level (ft bmp): Casing Volume (gal): X3 =							impler: MVV				
Nominal Size (Inches) Calions per Linear Foot											
Casing Diameter (in): Casing Volume (gal): Casing Volume Purged (gal): Total Volume Purged (gal): Time Elapsed Time (min): Rate (min): Rate (gam): Casing Volume gallons/foot* water column (feet) FIELD SAMPLING DATA: FOOT Conductance (us/s/m) Comments (us/s/m) Comments (us/s/m) Comments (us/s/m) Comments (us/s/m) FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION: Sample ID Time Container Type Volume Type Volume Type Volume Type CHAMBERS C954 MATER LEVEL MEASUREMENT COLLECTION: No water level measurement collected. No accass to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: Well Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field peremeters stabilized. Purged 3 well volumes based on previous water level and field peremeters stabilized. Purged 3 well volumes based on previous water level and field peremeters stabilized.			1990 1990 1990 1990 1990			Nominal			inear Foot		
Static Water Level (ft bmp): Casing Volume (gal): X3 =	Well De	epth (ft bis):	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Nomina		0.16	3		
Static Water Level (ft bmp): Casing Volume (gal): X3 = Casing Volume = gallons/foot * water column (feet) Total Volume Purged (gal): FIELD SAMPLING DATA Time Elapsed Time (min) Discharge Rate (min) Discharge (gallons) (SU) Total (SU) Temp Conductance (JuS/cm) Comments O94/2 Pump On O94/4 Z ZO 4/0 7.49 21.1 435.1 O950 B IS 7.43 Z1.0 433.4 O950 B IS 7.43 Z1.0 434.10 FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) CHAMBERS O954 PIBS 250 I 300.0 NJ Y WATER LEVEL MEASUREMENT COLLECTION WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Other:	Casing E	Diameter (in):					4 =		1		
Casing Volume (gal): Total Volume Purged (gal): Time Elapsed Time (min) Part (gal) Time Elapsed Time (min) Part (gal) Time Elapsed Time (min) Discharge (gal) Pump On O? 42 Pump On O? 43 Discharge (gal) Discharge (gal) Pump Off Discharge (gal) Discharge (gal) Pump Off Discharge (gal) Discharge (gal) Pump Off Discharge (gal) Discharge (gal) Discharge (gal) Pump Off Pump Off FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative (yin) WATER LEVEL MEASUREMENT COLLECTION Discharge (gal) Discharge (gal) WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Discharge (gal) Discharge (gal) Discharge (gal) Discharge (gal) Purged 3 well volumes and field parameters stabilized. Discharge (gal) Discharge (Static Wate	r Level (ft bmp):	NIA				6	1.47	7		
Total Volume Purged (gal): FIELD SAMPLING DATA		•		v2 -			1				
Total Volume Purged (gal): FIELD SAMPLING DATA	Casing \	/olume (gai):		X3 =		Cacin					
Time Elapsed Time (min) Discharge Rate (gpm) Total Discharge (gpm) (SU) Temp (CC) Conductance (µS/cm) Comments O94/2 Pump On O94/4 Z Z D 4/0 7.49 21.1 /35 O950 B IS 7.43 Z1.6 433 O950 B IS 7.44 Z1.6 2 Z1.1 435 O950 B IS 7.44 Z1.6 2 Z1.1 2 Z1.6 2 Z1.1 O950 B IS 7.44 Z	Total Volun	ne Purged (gal):		nusia presentario de la 1727 i	O CALUDIAN						
Time Elapsed Time (min) Rate (gmm) Discharge (gallons) PH (SU) Conductance (LS/cm) Conductance (LS/cm) O9/4/2 Pump On Time Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) SAMPLE INFORMATION Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Other:					SAWELIN	O PAIA	Specific				
O947 S	Time		Rate	Discharge (SU)			Conductance	Comm	ents		
O947 5 7.49 21.1 435.7 O950 8 IS 7.43 21.6 433.4 O950 8 IS 7.43 Z1.6 434.6 Pump Off FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Volume No. of Type Containers Analysis Method Preservative (y/n) CHAMBELS C954 Plastic 257 I 300.0 N Y Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Prized 3 well volumes based on previous water level and field paremeters stabilized. Prized 3 well volumes based on previous water level and field paremeters stabilized. Other:	0942	Pump On									
O 947 5			Zo	do	7.49	21.1	435.1				
OPSO 8 IS 7.43 ZI.S C1341.6 Pump Off FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) CHAMBERS C954 PISSIC 250 I 300 0 N Y WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized. Other:	/					21.8					
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) CHAMBERS C954 PISTIC 250 I 300-0 N Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized. Other:			ıs			Z1.8					
Sample ID Time Container Type Volume No. of Container Type Volume Container Type Volume Container Type Volume Container Type Volume Container Sample ID Time Container Type Volume Container Sample ID Time Container Type Volume Containers Analysis Method Preservative Filtered (y/n) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes based on previous water level and field paremeters stabilized. Pürged well until field parameters stabilized. Other:	<u>Orac</u>										
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) CHAMBERS 0954 Plastic 2570 I 3000-0 M WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes based on previous water level and field paremeters stabilized. Pürged well until field parameters stabilized. Other:											
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) CHAMBERS 0954 Plastic 250 I 300 0 V WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged well until field parameters stabilized. Other:											
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) CHAMBERS 0954 Plastic 2570 3000.00											
Sample ID Time Container Type Volume No. of Container Type Volume Container Type Volume Container Type Volume Container Type Volume Container Sample ID Time Container Type Volume Container Type I Soc Container Sample ID Time Container Type Volume Container Sample ID Time Container Type Volume Container Sample ID Time Container Type Volume Containers Analysis Method Preservative Filtered (y/n) CHAMBERS 0954 PLOSTIC 2570 I 3000 O V V V V V V V V V V V V V V V V V											
Sample ID Time Container Type Volume No. of Container Type Volume Container Type Volume Container Type Volume Container Type Volume Container Sample ID Time Container Type Volume Container Sample ID Time Container Type Volume Containers Analysis Method Preservative Filtered (y/n) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes based on previous water level and field paremeters stabilized. Pürged well until field parameters stabilized. Other:								Pump Off			
Sample ID Time Container Type Volume No. of Containers No. of Containers Analysis Method Preservative Filtered (y/n) CHAMBERS O954 PASTC 257 I 300.0 Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged well until field parameters stabilized. Other:		EIEI D DARAMET	ER STABILIZA	ATION: Three co	onsecutive rea	dinas within (l 0.2 su pH, 2 degree	<u> </u>	:m)		
Sample ID Time Container Volume No. of Containers Analysis Method Preservative Filtered (y/n) CHAMBERS 0954 Plostic 250 I 300-0 N WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Priged well until field parameters stabilized. Other:					nakansa manasaransa	genegandearlizarion, bibliobi					
Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged well until field parameters stabilized. Other:	Sa	mple ID	Time	Container		No. of	Analysis Method	Preservative	i		
WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Pürged well until field parameters stabilized. Other:	^ \ \	10.00		<u> </u>	7	i	300 0	\ \ (7		
□ Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead □ No water level measurement collected. Obstruction in well. □ No water level measurement collected. Well is pumping. □ Other: □ WELL PURGING INFORMATION □ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field parameters stabilized. □ Pürged well until field parameters stabilized. □ Other:	CHA	MBEKS_	10927	PIWIC	1400-	{	5000		 		
□ Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead □ No water level measurement collected. Obstruction in well. □ No water level measurement collected. Well is pumping. □ Other: □ WELL PURGING INFORMATION □ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field parameters stabilized. □ Purged well until field parameters stabilized. □ Other:								an in mean posterior i store è giro involucione d			
No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged well until field parameters stabilized. Other:			N .	VATER LEVEL	MEASURE	MENT COLI	ECTION 🕖 🤄				
□ No water level measurement collected. Obstruction in well. □ No water level measurement collected. Well is pumping. □ Other: WELL PURGING INFORMATION □ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field parameters stabilized. □ Purged well until field parameters stabilized. □ Other:	□ Water I	evel measuremen	t collected.	NETS I PERSONNEL CARA INCIDENTIALI	***************************************	30- 3					
□ No water level measurement collected. Well is pumping. □ Other: WELL PURGING INFORMATION □ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field paremeters stabilized. □ Purged well until field parameters stabilized. □ Other:	No wat	er level measurem	nent collected.	No access to w	ellhead/No po	rt in wellhead					
United States of the Control of the											
WELL PURGING INFORMATION ☐ Purged 3 well volumes and field parameters stabilized. ☐ Purged 3 well volumes based on previous water level and field paremeters stabilized. ☐ Purged well until field parameters stabilized. ☐ Other:		er level measurem	nent collected.	Well is pumping] .						
□ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field paremeters stabilized. □ Purged well until field parameters stabilized. □ Other:	U Other:			an anei	PURGING IN	FORMATION					
Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized. Other:											
Pürged well until field parameters stabilized. Other:					nd field paren	neters stabiliz	ed.				
Other:					ina nata paran						
Additional Comments: minimum blue readings is 3min to prevent flooding:	-										
		Comments:	minima	with m	veadin	95 ĽS	3min to	prevent	flooding:		
			<u> </u>								

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	<u>h</u>	
Task No:					Date:	1/31/12			
Well ID:	COB	<u> </u>			Weather:	strong	50's		
ADWR No:					Sampler:	MML	}		
Andrewski				WELL DA	ΓA		Capacity		
Well D	epth (ft bls):	16	2		Nomina	Size (inches)	Gallons per L		
Casing I	Diameter (in):	<u> </u>				2	0.16 0.68		
	er Level (ft bmp):	128	- OLI			5 6	1.02 1.47	1	
		<u> </u>				8	2.61		
Casing	Volume (gal):		x3 =)	02	Cosin	10 ng Volume = gallons	4.08		
Total Volur	ne Purged (gal):			D. OWNDUR		ig volume – gallons	s/100k Water Colum	iii (ieet)	
		Discharge	Total	LD SAMPLIN	IGIDATA :	Specific			
Time	Elapsed Time (min)	Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (°C)	Conductance (µS/cm)	Comm	ents	
1038	Pump On								
1036	6	8	48	7.56	20.3	463.7			
1040	10		80	7.51	26.3	464.7			
1044	14		104	7.53	20.3	466.6			
10:46	10		120	-			Sample		
							Pump Off		
Janosem santa de Valenci	FIELD PARAMET	ER STABILIZ	conservation are a depotential state of a	ALIERANA EL PRIMIDO PROPERCIO	www.wateriagovelegistics	0.2 su pH, 2 degree	es C, and 200 μS/c	m) Historia narantusia sina	
			SAN	IPLE INFOR	MATION				
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
COB	MW-2	10:46	Plastic	250	l	300.0	N	У	
		i a in a it v	VATER LEVEL	MEASURE	MENT COLL	ECTION			
Water I	evel measuremen	t collected							
4	er level measurem		No access to we	ellhead/No po	rt in wellhead				
☐ No wat	er level measurem	ent collected.	Obstruction in w	vell.					
l	er level measurem	ent collected.	Well is pumping] .					
☐ Other:				PURGING IN	EODMATION				
-	i 3 well volumes ar i 3 well volumes ba			nd field parerr	neters stabiliza	ed.			
1	well until field par								
☐ Other:									
Additional	Comments:	***************************************							



Project No:	055038				Client:	Freeport Copper Queen Branch			
Task No:	1				Date:	2/1/12		**************************************	
Well ID:	Cooper				Weather:	Sunay 6	<u>Z'D</u>		
ADWR No:	7				Sampler:	MML			
		ing Argueng		WELL DA	TA				
Well D	epth (ft bls):	329	5		Nomina	I Size (inches)	Capacity Gallons per L		
	Diameter (in):	9				2 4	0.16 0.65		
	er Level (ft bmp):	1 1	IA			5 6	1.02 1.47	1	
			x3 =			8	2.61 4.08	E .	
	Volume (gal):	<u></u>	<u> </u>		Casir	ng Volume = gallons			
Total Volur	ne Purged (gal):			D SAMPLIN	I IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
	Pump On								
1454		()					Pumpor	۷	
1459	5	BUS	55	7.96	21.6	428.4	1		
1504	10		110	7.89	21.7	429.7			
1509	15		165	7.97	21.8	429.2			
						·	<u> </u>		
							Pump Off		
	FIELD PARAMET	I ER STABILIZ	L ATION: Three o	onsecutive rea	adings within	0.2 su pH, 2 degree	s C, and 200 μS/c	m)	
			SAN	IPLE INFOR	MATION				
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
COOPE	ER.	1515	Plastic	250	l	300.0	2	Y	
		y	VATER LEVEL	MEASURE	MENT COL	LECTION			
	level measuremer		New York and the second						
7	er level measuren				rt in wellhead	İ			
i	er level measuren er level measuren								
☐ Other:	Cr (CVC) mododion	ioni donodioa.							
			WELL	Purging in	FORMATION				
	3 well volumes a				ts _tabili				
_	i 3 well volumes b I well until field pa			nd tield paren	neters stadiliz	eu.			
☐ Other:	wen dran now po	dinotoro otabi							
Additiona	l Comments:	Spigot	on sid	e of b	rouse (southern h	ousė)		
			acr			dmill.			
1									

COOPE Coopeth (ft bls): Diameter (in): ter Level (ft bmp): Volume (gal): tme Purged (gal):	32 (c	92 20 , 59.80 x3=	WELL DAT		Casing Casing Size (inches)	Capacity Gallons per Li 0.16 0.65 1.02	
Depth (ft bls): Diameter (in): ser Level (ft bmp): Volume (gal):	32 6 15		WELL DAT	Sampler:	Casing (Size (inches)	Capacity Gallons per Li 0.16 0.65 1.02	
Depth (ft bls): Diameter (in): ser Level (ft bmp): Volume (gal):	32 6 15		WELL DA	A Lineal	Casing Size (inches) 2 4 5	Gallons per Li 0.16 0.65 1.02	
Diameter (in): er Level (ft bmp): Volume (gal):			20		Size (inches) 2 4 5	Gallons per Li 0.16 0.65 1.02	
Diameter (in): er Level (ft bmp): Volume (gal):			20	Nominal	Size (inches) 2 4 5	Gallons per Li 0.16 0.65 1.02	
Diameter (in): er Level (ft bmp): Volume (gal):					4 5	0.65 1.02	
ver Level (ft bmp): Volume (gal):					5	1.02	
Volume (gal):					6 i		
	89	v3 =		l .	8	1.47 2.61	
me Purged (gal):			2600		10	4.08	
				Casin	g Volume = gallons	/foot * water colum	n (feet)
		FIEL	D SAMPLIN	G DATA			
Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents
Rump On 💷							
5	10	50	7.08	20.8	2048		
10		100	7.13	2016	2053		
15		150	7.15	20.le	2031		
		200	7.11	20.4			
		250		70.4			
28		280	7.13	20.5	2024		
						5 . 6	
				atia an antébria (m)
FIELD PARAME I	ER STABILIZA	terral transfer superference and transfer superference		i i apertate promini della 250	n.z su pri, z degree	s C, and 200 µC/C	
							Filtered
Sample ID	Time	Type	Volume	Containers	Analysis Method	Preservative	(y/n)
TER C	1713	Plastic	250	į	300.0	2	
						Meneral de management de la Metal Metal	
	yγ	VATER LEVEL	MEASURE	MENT COLL	ECTION		
	(min) Pump On 5 10 15 20 3 25 28 FIELD PARAMET Sample ID r level measurementater le	Pump On Solution (min) Rate (gpm) Pump On Solution (gpm) 5 10 10 15 10	Elapsed Time (min) Rate (gpm) (gallons) Pump On	Pump On Solor Solo	Pump On Solution (SU) (CC) Solution (SU)	Pump On Pump On S	Pump On Pump On S



Project No:	055038				Client:	Freeport Copper Queen Branch			
Task No:	1				Date:	1/31/12			
Well ID:	20050	<i>N</i>			Weather:	sunny '	loneery		
ADWR No:					Sampler:	MML			
a granda da		usia dani d		WELL DA	IA .				
WellD	epth (ft bis):	9	200	200	Nominal	Casing Size (inches)	Capacity Gallons per L	inear Foot	
			, (1			2	0.16	3	
Casing I	Diameter (in):		<u> </u>			4 5	0.65 1.02		
Static Water	er Level (ft bmp):		93.68			6 8	1.47 2.61	i i	
Casing '	Volume (gal):	156	x3 = L	t69		10	4.08	1	
Total Volur	ne Purged (gal):				Casin	g Volume = gallons	s/foot * water colun	nn (feet)	
				D SAMPLIN	IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
1324	Pump On								
1334		13	130	6.88	20.7	1517			
1344			1260	7.09	20.6	1 4 98	-		
1354			390	7.08	20,5	1465			
1404			420	7,17	20,3	.1454			
						Autoria de la constanta de la			
				<u>.</u>		0	Pump Off	1	
	FIELD PARAMET	ER STABILIZA	ers, trui Constituto (project francisco (a).	IPLE INFOR		0.2 su pH, 2 degree	es C, and 200 μS/C		
				(FEEINFOR					
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
DOD	50N	1407	Plastic	250	Ì	300.0	72	7	
	io de la composición	In the w	ATER LEVEL	MEASURE	MENT COLL	ECTION			
⊸Ø-Water I	level measuremen	t collected.	Standagai dajay perusebulendi						
1	er level measurem				rt in wellhead				
i	er level measurem								
□ No wat	er level measurem	ent collected. \	Weli is pumping	J.					
			WELL	PURGING IN	FORMATION				
Purged	l 3 well volumes ar	nd field parame	ters stabilized.		, transe (1931) (1931) (1931) (1931)	engalister i manuaren an almesta de Erije	and the second s		
☐ Purged	l 3 well volumes ba	ased on previou	us water level a	nd field paren	neters stabilize	ed.			
	l well until field par	ameters stabili	zed.						
Other:	I Canananta.								
Auditiona	l Comments:			÷					
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						

Project No:	055038				Client:	Freeport Copper Queen Branch			
Task No:	}				Date:	1/30/12			
Weil ID:	DOUGLA	ss 791			Weather:	sunny	605		
ADWR No:					Sampler:	BIT			
			ting panglanga.	WELL DAT					
Mall	anth (ft bla):				Nomina	Casing Size (inches)	Capacity Gallons per L	inear Foot	
vveiru	epth (ft bls):				10	2	0.16	3	
Casing I	Diameter (in):					4 5	0.65 1.02	1	
Static Water	er Level (ft bmp):	27.	72			6	1.47		
Casing '	Volume (gal):		x3 =			8 10	2.6° 4.08		
					Casin	ig Volume = gallons	s/foot * water colun	nn (feet)	
Total Volul	ne Purged (gal):			D SAMPLIN	G DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
	Pump On								
								······································	

							Pump Off		
	FIELD PARAMET	ER STABILIZA	TION: Three co	onsecutive rea	dings within	0.2 su pH, 2 degree	es C, and 200 μS/c	m)	
			SAN	IPLE INFOR	MATION				
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
		N THE W	ATER LEVEL	MEASURE	MENT COL	ECTION:			
□ Water	level measuremen	t collected.				neren intellerini eta			
ł	er level measurem		No access to we	ellhead/No por	t in wellhead				
i	er level measurem								
i	er level measurem	ent collected. \	Nell is pumping	ļ.					
□ Other:			WEB	PURGING IN	ORMATION				
☐ Purgeo	i 3 well volumes a	nd field parame		Giodophexepoussidat					
	i 3 well volumes b			nd field parem	eters stabiliz	ed.			
1	l well until field par								
☐ Other:									
Additiona	l Comments:	V	110						



Project No:	roject No: 055038					Client: Freeport Copper Queen Branch				
Task No:	1				Date:	1/30/12				
Well ID:	Dougla	LSS 797			Weather:	Sunne	607			
ADWR No:		<u> </u>			Sampler:	BID O				
denir daugrafic				WELL DAT						
11/-11/5	_ II				Naminal	Casing Size (inches)	Capacity Gallons per L	inear Foot		
Well D	epth (ft bls):				Nomina	2	0.16	3		
Casing I	Diameter (in):					4 5	0.65 1.02			
Static Wate	er Level (ft bmp):	88.9	12			6	1.47	,		
Casina	Volume (gal):		x3 =			8 10	2.61 4.08			
					Casin	g Volume = gallons	<u> </u>			
Total Volur	ne Purged (gal):		iliga en en en en en	D SAMPLIN						
		Discharge	Total			Specific				
Time	Elapsed Time (min)	Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (ºC)	Conductance (µS/cm)	Comm	ents		
_	Pump On				ran nastej (1) ser Haraji nastej (1)					
							Pump Off			
	FIELD PARAMET	ER STABILIZA	ATION: Three co) onsecutive rea	dinas within (1 0.2 su pH, 2 degree	<u> </u>	m)		
			tan dana tanan sa masa padapat ana dasi da baba	IPLE INFOR	edestroughtungstrachtung (1960)					
			Container		No. of			Filtered		
Sa	imple ID	Time	Туре	Volume	Containers	Analysis Method	Preservative	(y/n)		
		Strict description in the second	um keena 25 gerin dij wegin	galendelki Sekontellik Hallanda				Valipääkissä ripenäärideli		
		W	ATER LEVEL	MEASURE	MENT COLL	ECTION				
1	evel measuremen									
	er level measurem				t in wellhead					
	er level measurem									
□ No wat □ Other:	er level measuren	ient conected.	vveiris puriping	l .						
			well	PURGING INF	ORMATION					
	i 3 well volumes a	nd field parame	ters stabilized.				ten (1990) erat (2000) gestatut (2000) gestatut			
	3 well volumes b			nd field parem	eters stabilize	ed.				
1	well until field par									
☐ Other:										
Additiona	Comments:	NLC	<u> </u>							

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	<u> </u>
Task No:	1				Date:	2/7/12	·	******************************
Well ID:	DURA	20			Weather:	Sunny '	500	
ADWR No:					Sampler:	MMC		
				WELL DA	A		Capacity	
Well D	epth (ft bls):	2	A		Nominal	Size (inches)	Gallons per L	
						2 4	0.16 0.65	
_	Diameter (in):	K 1	lД			5	1.02	2
Static Wate	er Level (ft bmp):		41			6 8	1.47 2.6	
Casing \	Volume (gal):		x3 =			10	4.00	
Total Volur	ne Purged (gal):				Casin	g Volume = gallons	s/foot * water colun	nn (feet)
				D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
0856	Pump On							
0904	8	4	32	7.24	26.6	1139		
0910	14		56	7.29	26.2	1147		
0916	20		80	7.26	25.3	1152		
				<u> </u>		<u> </u>	Pump Off	
	FIELD PARAMET	ER STABILIZA	erential continue coloit terministici	pertentang ang talah di kacamatan	rifeelageacceaeticalacea	0.2 su pH, 2 degree	es C, and 200 μS/C	an) Taring taling the state of
			es le decimiliSAN	APLE INFOR				
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Dur	ZAZO	09ZZ	Plastic	250	Î	300.0	N	У
							The state of the s	
		N	I IATER LEVEL	MEASURE	MENT COLL	ECTION		
□ Water	evel measuremen							
	er level measurem		No access to w	ellhead/No po	rt in wellhead			
☐ No wat	er level measurem	ent collected.	Obstruction in v	vell.				
1	er level measurem	ent collected.	Well is pumping	J.				
☐ Other:			e e e e e e e e e e e e e e e e e e e	PURGING IN	FORMATION			
	3 well volumes ar	il End parame						
1	3 well volumes at			nd field parem	eters stabilize	ed.		
	Purged well until field parameters stabilized.							
☐ Other:				<u></u>				
Additiona	Comments:							
				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				

Project No:	055038				Client: <u>I</u>	Freeport Coppe	r Queen Brancl	1
rask No:	1.0				Date:	1-31-12		
Well ID:	Eas	, L			Weather:	50NN	70's	
		<u> </u>			- Sampler:	BOD'		
ADWR No:				WELL DAT				
		125'			Naminal	Casing Size (inches)	Capacity Gallons per Li	near Foot
Well De	epth (ft bis):	143			Nominai	2	0.16	
Casing [Diameter (in):	<u> 63</u>	.82 6"			4 5	0.65 1.02	
Static Mate	r Level (ft bmp):	63	.82'_			6	1.47	
	•	90	x3 = 2	70		8 10	2.61 4.08	
Casing \	Volume (gal):	10	<u> </u>	10	Casin		s/foot * water colum	n (feet)
Total Volun	ne Purged (gal):	- Indiana indiana-inte	ana arawan kana arawa araw					
				D SAMPLIN	GIVAYA	Specific		
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Conductance (µS/cm)	Comme	ents
13:35	Pump On							
13:45	10	9.4	94	6.69	19.5	610		
13:55	20	9.4	(88)	7.17	19.8	610		
	30	9.9	Z83C	1.29	19.8	(15		
1415	40	9.4	376	7.24	20.0	600		
1413								
								·
							Pump Off	
	FIELD PARAME	TER STABILIZA	TION: Three c	ı onsecutive re	adings within	0.2 su pH, 2 degre	es C, and 200 μS/c	m)
				IPLE INFO	na sa sa daga da			
s	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
CAS		14:20	Poly	Zsonl		300.0	%	Y
E113		1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7-7				1	7
		<u> </u> 	 /ATER LEVEI	MEASURE	MENT COL	LECTION		
25 Water	level measureme	nt collected.						
□ No wa	ter level measurer	ment collected.	No access to w	elihead/No po	ort in wellhead	•		
	ter level measurer							
☐ No wa	ter level measurer	nem conected.	AACH IS hmithin	∌ ∙				
			WELL	PURGING IN	IFORMATION			
Durce	d 3 well volumes a	and field param	eters stabilized.	augusto interes protestaras (1955)		The state of the s		
□ Purge	d 3 well volumes t	pased on previo	us water level a	and field parer	neters stabiliz	red.		
☐ Purge	d well until field pa	arameters stabi	ized.					
☐ Other								
Addition	al Comments:							
							:	
					N.			

Project No:	055038				Client:	Freeport Copper Queen Branch			
Task No:	1.0				Date:	2-1-12			
Well ID:	ECAN	AVE			Weather:	SUNNY 61	2.5		
ADWR No:					Sampler:	B30			
		rer is a 14 m Hiji de G. Hi âk		WELL DA	IA .				
Well De	epth (ft bis):	349	5		Nomina	Casing Size (inches)	Capacity Gallons per L	inear Foot	
	•	64				2 4	0.16 0.6	·	
_	Diameter (in):					5	1.0	2	
Static Wate	r Level (ft bmp):	216				6 8	1.4° 2.6		
Casing \	/olume (gal):	19	0 x3 = 5	<i>/</i> 0		10	4.0		
Total Volum	ne Purged (gal):				<u> </u>	ng Volume = gallons	s/foot * water colur	nn (feet)	
			Alexandramatical designation of the second	D SAMPLIN	IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
15:50	Pump On								
16:20	30	10 7.5	300 225	6.75	20-8	041410	***************************************		
16:30	40	K	100 3,00	7.16	21.6	390			
16:40	50	16	508 375	7.36	20.8	390			
16:50	60	7.8	450	7,40	20.9	390			
17:00	70	7.5	525	7.39	20.7	390			
							D Off		
	CICL D DADAMET	ED STADILIZA	TION: Throng		dinge within	 0.2 su pH, 2 degree	Pump Off	·w)	
	PIECU PARAMET	ER STABILIZA	patronia del constanta tripoparate del principal	MPLE INFOR	stanananai Jamas serengan darib				
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
EC	HAVE	17:08	Po(>	250mL	(300.0	Ø	V	
			°					7	
		l I	I /ATER LEVEL	I MEASURE	MENT COL	LECTION			
1	evel measuremen								
1	er level measurem er level measurem				rt in wellhead			;	
	er level measurem								
☐ Other:									
			WELL	PURGING IN	FORMATION				
1 /	3 well volumes ar					_			
1	3 well volumes ba			nd field parem	eters stabiliz	ed.			
☐ Purgea	well until field par	ameters stabili	zea.	W.7					
	Comments:								
/									
			·····						

Project No:	055038				Client: Freeport Copper Queen Branch				
Task No:					Date:	1/31/12			
Well ID:	EPPELE	641			Weather:	Sunny 50	2' <u>S</u>		
ADWR No:					Sampler:	MML'			
				WELL DA	ALMI				
Well De	epth (ft bls):	26	5		Nominal	Size (inches)	Capacity Gallons per L		
	Diameter (in):	8"				2 4	0.16 0.65		
			.80			5	1.02 1.47	2	
Static Wate	r Level (ft bmp):					6 8	2.61	1	
Casing \	/olume (gal):	<u>570</u>	x3 = /	109		10	4.08		
Total Volum	ne Purged (gal):	~ 7 <i>8</i> 0				g Volume = gallons	s/foot * water colun	ın (feet)	
				D SAMPLIN	G DATA				
Time	Elapsed Time Rate Discha		Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	e Comments		
9:01	Pump On								
9:11	10	13	130	7.73	20.6	562.4			
9:21	20		260	7.65	20.2	562.8			
9:31	30		390	7.72	19.8	564.7			
9.41	40		520	7.68	19.9	568.8			
9:51	50		650	7.67	19.8	568,5			
10:01	60		780	7.68	19.9	560,8			
10:02							DRY		
							Pump Off		
	FIELD PARAMET	ER STABILIZ	the reserve make two it success man if the	sanara paren helebet alakira	egistansakkia Kamanamek	0.2 su pH, 2 degree	es C, and 200 μS/c	m) 1920-1931 (1931-1931-1931)	
			SAN	IPLE INFOR	(MAIION				
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
EPPEL	E 641	11:22	Plastic	250	1	300.0	2	7	
		ing and the Av	/ATER LEVEL	MEASURE	MENT COLI	ECTION			
1	evel measuremen								
1	er level measuren				rt in wellhead				
1	er level measuren er level measuren								
Other:	er level measuren	ieni conecteu.	AACII is bombing	3 .					
			WELL	PURGING IN	FORMATION				
☐ Purged	3 well volumes a	nd field parame	eters stabilized.						
1	3 well volumes b			nd field parem	neters stabiliz	ed.			
1	well until field par	rameters stabil	ized.						
Other:	O	1.1011 1	. / ^ /	A · 60		1 00			
Additional	Comments:	- M \	ried (0) 1	0:02 . 11:19	Turne	d ott			
		Ji ag	(44.6) (4.4)						

Project No:	ject No: 055038					Client: Freeport Copper Queen Branch				
Task No:	1.0				Date:	2-3-12				
Well ID:	FLEN	ning			Weather:	SUNN SC	<u>s</u>			
ADWR No:					Sampler:	RSS				
				WELLDAT	A					
Well D	epth (ft bls):				Nominal	Casing Size (inches)	Capacity Gallons per Li	near Foot		
						2	0.16 0.65			
Casing I	Diameter (in):		~ ^ I			4 5	1.02			
Static Water	er Level (ft bmp):	37	0.84			6 8	1.47 2.61			
Casing '	Volume (gal):		x3 =			10	4.08			
	ne Purged (gal):				Casin	g Volume = gallons	s/foot * water colum	ın (feet)		
, otal voidi	digeo (gai).		FIEL	D SAMPLIN	G DATA					
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents		
, i	Pump On									
			$\overline{}$					·····		
			$\overline{}$							
	,									
							Pump Off			
	FIELD PARAMET	I L L TER STABILIZA	TION: Three c	onsecutive rea	idings within (0.2 su pH, 2 degree	es C, and 200 μS/ci	m)		
			atomini na 7 sa a kana kanang katang in	IPLE INFOR	naguraka misidomerikisin					
Si	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)		
			ATER LEVEL	MEASI IREI	L MENTEGOLI	L EGT(ON				
J	level measuremen er level measuren		No access to w	ellhead/No po	rt in wellhead					
1	er level measuren									
1	ter level measuren									
☐ Other:				Daninga Shirisata (siraran birt						
	er Canagrajo valos lasta Colabras de Caragrafica		aurikaisajsusajussi	PURGING IN	ORMATION					
	3 well volumes a			a.mc>						
-	d 3 well volumes b			nd field parerr	ieters stabiliz	ea.				
☐ Purged☐ ☐ Other:	d well until field pa	ameters stabili	zdu.							
L	I Comments:	/-1/	() N1	5 ~ 47 ·	n 0					
Auditiona	i Commenta.		0. N	- 100	-14			4		
						-				

Project No:	055038				Client: Freeport Copper Queen Branch				
Task No:	1				Date:	1/31/12			
Well ID:	FULTZ				Weather:	Sunay			
ADWR No:					Sampler:	mmc o			
				WELL DAT					
11-1-1-11-11-11-11-11-11-11-11-11-11-11					Momina	Casing Size (inches)	Capacity Gallons per Li	near Foot	
Well D	epth (ft bls):				Nomina	2	0.16		
Casing I	Diameter (in):					4	0.65 1.02		
Static Wate	er Level (ft bmp):		NA			5 6	1.47	E .	
			x3 =			8 10	2.61 4.08	1	
Casing	Volume (gal):		<u> </u>		Cacin		s/foot * water colum		
Total Volur	ne Purged (gal):					y volume – ganom	shoot water colum		
			na krija svojena Svit Fridanska i razvar	D SAMPLIN	G DATA	Specific			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Conductance (µS/cm)	Comments		
	Pump On								
· · · · · · · · · · · · · · · · · · ·									
							Pump Off		
	THE DOADANT	ED CTADILIZA	TION: Throng		odinae within l	0.2 cu nH 2 degree	es C, and 200 μS/cr	m)	
	FIELD PARAMET	ER STABILIZA	remoden rozzonyczne, rozposta	IPLE INFOR	oraz eta balak da eta balaren.				
Si	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
			, , , , , , , , , , , , , , , , , , , ,						
		ensilsana an W	ATER LEVEL	MEASURE	MENT COLL	ECTION			
☐ Water	level measuremen	t collected.							
☐ No wat	er level measurem	ent collected.	No access to w	ellhead/No po	rt in wellhead				
1	er level measurem								
1	er level measurem	ent collected.	Well is pumping	ļ.					
☐ Other:			La distribution de la receptación de la constanta de la consta	PURGING IN	CODMATION				
				BUNGING III					
	i 3 well volumes at i 3 well volumes b			nd field neren	natare etahiliz	ed			
	i 3 well volumes bi i well until field par			nu neiu paien	ictera atdoniz	ou.			
☐ Other:	wen and now per	amotore stabil							
	l Comments:	11/110	Stu	ck a	+ 44.5	5A. cou	ild lower	to	
/ Wallotta	r Comments.	off and		CISION.	Took	7 // /	to removi	e tape	
		X Ti	•					y	

Project No:	055038				Client:	Freeport Copp	er Queen Brand	ch
Task No:					Date:	2/2/12		
Well ID:	Garne	s 557			Weather:	sunnu	60s w	indes_
ADWR No:					Sampler:	MML		
				WELL DA	Α			
Well D	epth (ft bis):				Nomina	Casing I Size (inches)	Capacity Gallons per L	inear Foot
	,					2 4	0.16 0.65	1
Casing i	Diameter (in):		76			5	1.02	i i
Static Wate	er Level (ft bmp):	","	96.00	1		6 8	1.47 2.6	1
Casing \	Volume (gal):		x3 =			10	4.08	1
Total Volur	ne Purged (gal):				Casir	ng Volume = gallon:	s/foot * water colum	nn (feet)
			FIEI	D SAMPLIN	G DATA		BANGUNGULATUR BELIAR BANGUE	150 (150 150 150 150 150 150 150 150 150 150
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
	Pump On			2021-13-21-22-22 2012-23-23-23-23				
	de Corena Septembras anos as							
	1							
						-		
							Pump Off	
	FIELD PARAMET	ER STABILIZA	ATION: Three co	onsecutive rea	dings within (0.2 su pH, 2 degree	es C, and 200 μS/c	m)
			SAN	IPLE INFOR	MATION			
Sa	imple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
			/ATER LEVEL	MEASURE	MENT COLL	ECTION		
□ Water i	evel measurement							
	er level measurem		No access to we	ellhead/No por	t in wellhead			
	er level measurem							
1	er level measurem	ent collected.	Well is pumping	l.				
☐ Other:				PURGING INF	ORMATION			
☐ Purged	3 well volumes an	d field parame						
1	3 well volumes ba			nd field parem	eters stabilize	ed.		
1	well until field para			•				
☐ Other:								
Additional	Comments:	VV	<u> </u>					
					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			***************************************
····								

Project No:	055038				Client:	Freeport Coppe	er Queen Bran	ch
Task No:					Date:	22/12		
Well ID:	Caro	ier los	35		Weather:	sunny	60's, WI	ndy
ADWR No:		_			Sampler:	MML	7	a
				WELL DA	T A iliani.			
Well De	pth (ft bls):	ic	85		Nomina	Size (inches)	Capacity Gallons per Linear Foot	
Casing D	iameter (in):	ļ	5			2 4	0.16 0.65	
	Level (ft bmp):	19	9.50			5 1.02 6 1.47		
)		8	2.6	1
Casing V	olume (gal):	<u>486</u>	x3 = \1	457	Cacin	10 ig Volume = gallons	4.0	
Total Volum	e Purged (gal):	andredukteren er		D SAMPLIN		ig volume – ganoris	STOOL WALE COLU	mi (ieel) misgemingssiksse
		Discharge	Total	D SAWITLIN	אואש טו	Specific		
Time	Elapsed Time (min)	Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (°C)	Conductance (µS/cm)	Comm	ents
1509	Pump On	ndrahad ayusa	STOCKER REPERMENSE					
1524	15	13	195	7.60	21.4	465.0		
1539	30	16	\$ 35	7.63	21,6	469.2		
1554	45	16	675	7.65	20.9	467.2		e ji elihete e
11069	60	15	900	7:54	20.8	467.6		
1024	75	14	1110	7.44	21.8	459.5		5. 3 _{1.}
1639	90	14	1320	7.41	22.0	440.5		
1654	105	14	<u>1530</u>	7.38	22.7	469.5		
							Pump Off	
	IELD PARAMET	ER STABILIZA	ataa ciigaa qaa aa	and the property of the second	anata papa papi asia sagas).2 su pH, 2 degree	s C, and 200 μS/c	:m)
				IPLE INFOR	MATION			
	nple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
GARN	ER 635	1657	Plastic	250	(300.0	N	Y
		,	_					
		a a a a w	ATER LEVEL	MEASUREN	MENT COLL	ECTION		
Water le	vel measurement	collected.						
☐ No water	level measureme	ent collected. I	No access to we	ellhead/No por	t in wellhead			
	level measurem							
□ No water □ Other:	level measureme	ent collected. \	Well is pumping			. •		
			WELL I	PURGING INF	ORMATION			
☐ Purged 3	well volumes an	d field parame	idio (40) dala pine sola pepera	erasa Nabasa Gerera	oz Politikas lendikadilek	1880 (P. 1991) (P. 1994) (<ur>consuser la asserta de la /li></ur>	un etriminen landet i Sistemusi ist
· -	well volumes ba	· ·		nd field paremo	eters stabilize	ed.		
T	vell until field para	ameters stabili	zed.				•	
Other:		,	·			,		
Additional (Comments:	***************************************						
						· · · · · · · · · · · · · · · · · · ·		

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	<u> </u>
Task No:	1				Date:	2/6/12		
Well ID:	Gras	Ranc	h	,	Weather:	sunny		
ADWR No:					Sampler:	mmi		
				WELL DAT	ГА			
Well D	epth (ft bls):				Nomina	Casing I Size (inches)	Capacity Gallons per L	inear Foot
						2	0.16	3
Casing I	Diameter (in):	· · ·	~~~			4 5	0.65 1.02	
Static Wate	er Level (ft bmp):		<u> </u>			6 8	1,47 2.61	
Casing \	Volume (gal):		x3 =			10	4.08	
					Casir	ng Volume = gallons	foot * water colun	nn (feet)
lotal Volur	ne Purged (gal):			D SAMPLIN	G DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Commi	ents
	Pump On							
			idegi a şahadiri karaşka 1951-ci ildi.					
					ļ			
				<u> </u>			Pump Off	-
	FIELD PARAMET	TER STABILIZA	opani vigis arcan papapapana ragas;	och chicaratet i i i i i i i i i i i i i i i i i i		0.2 su pH, 2 degree	s C, and 200 μS/c	m).
			SAN	IPLE INFOR	MATION			
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
			ATER LEVEL	MEASURE	MENT COL	LECTION		
	level measuremen							
	er level measuremen		No access to w	ellhead/No poi	rt in wellhead			
1	er level measuren							
☐ No wat	er level measuren	nent collected.	Well is pumping] .				
☐ Other:		NEI VIENNONEE NASIOSEKO DOOS		Appliates lateres apriletaris en el e				
		***************************************		Purging ini	FORMATION			
1	3 well volumes a							
1 -	3 well volumes b			nd field parem	eters stabiliz	ea.		
☐ Purged ☐ Other:	l well until field par	ameters stabili	ietu.					
I	Comments:	11/1	\bigcirc	***************************************				
Auditional	i Comments.	000						

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	ah
Task No:					Date:	2/1/12		
Well ID:	HOWAR	ΔD			Weather:	Sunny		
ADWR No:					Sampler:	<u>mml</u>		
				WELL DAT	TA ELLE	Coning	Capacity	
Well D	epth (ft bis):	220	3		Nominal	Size (inches)	Gallons per L	
Caeina	Diameter (in):	10 ^U			2 0.16 4 0.65			3
			5.08			5	1.02 1.47	
Static Wate	er Level (ft bmp):					6 8	2.61	
Casing '	Volume (gal):	95	x3 = _2	<u> </u>		10	4.08	
Total Volur	ne Purged (gal):					ng Volume = gallons	s/foot * water colun	nn (feet)
				D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
1306	Pump On							
1316	16	11	110	7.39	20.7	1222		
1321	15		105	7.41	20.7	1286		
1326	20		220	7.35	2017	1794		
1331	25		275	7.36	20.6	1358		
1336	30		330	7,29	20.16	1367		
				<u> </u>		<u> </u>	Pump Off	
	FIELD PARAMET	ER STABILIZ	one construction and the contract to the contract of the contr	inianarum Minamalaisi Pacc	arear paysinasing regulator has	0.2 su pH, 2 degree	es C, and 200 µS/o	m) HREEDER (1885)
			SAN SAN	APLE INFOR	KMAHON			
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
HOW	ARD	1>	Plastic	250	(300.0	N	Y
		respectations at the second	VATER LEVEL	MEASURE	MENT COL	LECTION		
Z Water	level measuremen	t collected.						
	er level measurem		No access to we	ellhead/No po	rt in wellhead			
1	er level measurem							
i	er level measurerr	ent collected.	Well is pumping].				
☐ Other:			weil	PURGING IN	FORMATION			
D Durger	i 3 well volumes a	nd field param						
	i 3 well volumes al I 3 well volumes b			nd field parerr	neters stabiliz	ed.		
_	i well until field par							
☐ Other:								
Additiona	l Comments:							
<u> </u>								
)								

oject No: 0550	KEEFE				Client: <u>F</u>	reeport Coppe		
ell ID:	KEEFE				Date:	2/6/12		
		72			Weather:	sunny	<u>~50</u>	
					Sampler:	MML		
				WELL DAT	A	Casing (Panacity	
Well Depth (ft	hie):	7	245		Nominal	Size (inches)	Gallons per Lin	ear Foot
• •						2	0.16 0.65	
Casing Diamete	er (in):		<u> </u>			5	1.02	
Static Water Level	(ft bmp):	<u> </u>	1.27			6	1.47 2.61	
Casing Volume	gal):	155	x3 = (166		10	4.08	
Total Volume Pur	-			!	Casing	g Volume = gallons	/foot * water column	ı (feet)
Total Volume Fun	ged (ger). Time and and		FIE	D SAMPLIN	G DATA			
Time Ela	osed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	nts
1018 Pur	np On							
1028	to I	12_	120	7.31	15.5	444.7		
1038	20		240.	7.36	20.2	461.7		
1048	30		360	7.36	૧૪,9	4553		
1053	35		420	7.35	19.1	462.1		
1058	40	****	480	7.36	20.3	482.0		
							D O#	
				<u> </u>	*********	O O ave mile 2 degrees	Pump Off	n)
FIELD	PARAMET	ER STABILIZ		onsecutive re APLE INFOI			es C, and 200 μS/cn	
	Ministration de la	1994	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered
Sample	ID	Time			Containers	·		(y/n)
Sample KEEFE		1100	"358 ste	250	į	300.0	2	(y/n)
		11.00			į			
Water level n No water level No water level	neasuremen el measurem	t collected.	MATER LEVEL No access to w. Obstruction in v.	MEASURE	EMENT COL	ECTION		
Water level n No water level No water level No water level	neasuremen el measurem	t collected.	WATER LEVEL No access to w	MEASURE	EMENT COL	ECTION		
Water level n □ No water level □ No water level	neasuremen el measurem	t collected.	No access to w. Obstruction in v. Well is pumpin	MEASURE relihead/No powell.	EMENT COL	LECTION		
Water level n No water level No water level No water level Other:	neasuremen el measurem el measurem el measurem	t collected. ent collected. ent collected. ent collected.	No access to w. Obstruction in v. Well is pumpin	MEASURE relihead/No poweil. g. PURGING IN	EMENT COL	LECTION	N	
Water level n No water level No water level No water level Other: Purged 3 we Purged 3 we	neasuremen el measurem el measurem el measurem	t collected. nent collected. nent collected. nent collected. nent collected. nent collected.	No access to w. Obstruction in v. Well is pumpin WELL neters stabilized ous water level a	MEASURE relihead/No poweil. g. PURGING IN	EMENT COL	LECTION	N	
Water level n No water level No water level No water level Other: Purged 3 we Purged 3 we	neasuremen el measurem el measurem el measurem	t collected. ent collected. ent collected. ent collected.	No access to w. Obstruction in v. Well is pumpin WELL neters stabilized ous water level a	MEASURE relihead/No poweil. g. PURGING IN	EMENT COL	LECTION	N	
Water level n No water level No water level No water level Other: Purged 3 we Purged 3 we Purged well Other:	neasuremen el measurem el measurem el measurem el measurem el volumes al il volumes bi	t collected. nent collected. nent collected. nent collected. nent collected. nent collected.	No access to w. Obstruction in v. Well is pumpin WELL neters stabilized ous water level a	MEASURE relihead/No poweil. g. PURGING IN	EMENT COL	LECTION	N	
Water level n No water level No water level No water level Other: Purged 3 we Purged 3 we Purged well Other:	neasuremen el measurem el measurem el measurem el measurem el volumes al il volumes bi	t collected. nent collected. nent collected. nent collected. nent collected. nent collected.	No access to w. Obstruction in v. Well is pumpin WELL neters stabilized ous water level a	MEASURE relihead/No poweil. g. PURGING IN	EMENT COL	LECTION	N	
Water level in No water level No water level No water level Other: Purged 3 we Purged 3 we Purged well	neasuremen el measurem el measurem el measurem el measurem el volumes al il volumes bi	t collected. nent collected. nent collected. nent collected. nent collected. nent collected.	No access to w. Obstruction in v. Well is pumpin WELL neters stabilized ous water level a	MEASURE relihead/No poweil. g. PURGING IN	EMENT COL	LECTION	N	

Project No:	055038				Client: _f	reeport Coppe	r Queen Branch	<u> </u>
ask No:					Date:	2712		
Vell ID:	McConn	=,; Z(65		Weather:	sunny		
ADWR No:	VOLCEBIOION				Sampler:	MML'		
ADVVK NO.				WELL DA	IA .			
1W-11 D	- 45 (P blo):	216			Nominal	Size (inches)	Capacity Gallons per Lin	ear Foot
	epth (ft bls):					2 4	0.16 0.65	
Casing I	Diameter (in):	<u> </u>			1	5	1.02	
Static Water	er Level (ft bmp):	101	.31			6 8	1.47 2.61	
Casing '	Volume (gal):	80	x3 = 24	-1)		10	4.08	
Total Volum	me Purged (gal):				Casin	g Volume = gallons	/foot * water colum	n (teet)
				D SAMPLII	NG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	nts
1339	Pump On							
1344	5	l . (55	7.11	70.9	1818		
1349	10		110	7.12	21.	1809		
1354	15		165	7.10	21.1	1816		
1359	20		220	7.13	20.8	1801		
1402	_ 23_		253	7.14	70-6	1842_		
							Pump Off	
	TICLD DARAMET	ED STABILIZ	ATION: Three co	nsecutive re	adings within	I 0.2 su pH, 2 degre	es C, and 200 μS/ci	m)
	FICLD FAIVAINE			MPLE INFO				ricinalista (h. 1861). Barriar da
sa s	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
110	NNEU265	1405	Plastic	250	i	300.0	7	γ.
McCo	NNELLZOS	1100			-			
Vosassa pääpisäku			L VATER LEVEL	MEACUD	EMENT COL	I FOIION		
		ndesii saniikkis		S MILL AGOIN				
Water	level measuremer	nt collected.	No	allboad/No r	ort in wellhear	ł		
	ater level measuren ater level measurer				,			
	ater level measurer							
☐ Other								
					NFORMATION			
Purge	ed 3 well volumes a	ind field param	eters stabilized.	and field ner	emeters stahili:	zed.		
☐ Purge	ed 3 well volumes b ed well until field pa	rameters stab	ous water level a ilized.	nia nela hait	Jinotoid Stabiii	·		
☐ Othe								
	al Comments:		•	Ų,				
							<u></u>	

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	<u>:h</u>	
Task No:	Ì				Date:	2/1/12			
Well ID:	Marce	.((Weather:	Sunne	λ		
ADWR No:					Sampler:	MM			
				WELL DA	IA a a a a				
Well D	epth (ft bls):	2:	20		Nominal	Size (inches)	Capacity Gallons per L	inear Foot	
	Diameter (in):	(,	2		2 4		0.16 0.65		
	, ,	180	per pre	uženi š		5	1.02 1.47		
Static vvate	er Level (ft bmp):		m-ea:	surement	- 6 8		2.61	Í	
Casing '	Volume (gal):	59	x3 = \	76	10 4.08 Casing Volume = gallons/foot * water column (feet)				
Total Volur	ne Purged (gal):				<u> </u>	g Volume = gallons	/foot " water colun	in (teet)	
			(152) (150) and the contract of the contract o	D SAMPLIN	IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Commo	ents	
1222	Pump On								
1227	5	//	55	7.48	20-6	1609			
1232	16		110	7.41	21.0	1007			
1237	15		165	7.46	70.B	1577			
1241	19		209	7.42	20.8	1557			
					- 11 14 - 1 1	0 II 0	Pump Off	\	
	FIELD PARAME	ER STABILIZ			gnalik dirambi dibahat	0.2 su pH, 2 degree	s C, and 200 μο/C	ni) Hararanas enas	
				IPLE INFOR					
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
MARC	ELL	12:43	Plastic	250	l	300,0	2	7	
		mana ana v	VATER LEVEL	MEASURE	MENT COLL	ECTION			
□ Water	level measuremen	it collected.	NESSICCE II STOPPE PORTER RELEGIS	at control of all production of the ca		peliju Sia u Mala isalasi bada su recorr			
No wat	er level measuren	nent collected.	No access to we	ellhead/No po	rt in wellhead				
1	er level measuren								
☐ No wat ☐ Other:	er level measuren	nent collected.	Well is pumping	ļ.					
			WELL	PURGING IN	FORMATION				
☐ Purged	3 well volumes a	nd field parame	eters stabilized.	PSE 195 lage food meetings to constitute a modern pro-	41/4				
_	3 well volumes b			nd field parem	eters stabilize	ed.			
1 "	l well until field par	rameters stabil	ized.						
Other:	. Commonto:								
Auditional	Comments:	w							
		·							



Project No:	055038				Client:	Freeport Coppe	er Queen Branc	<u>h</u>
Task No:					Date:	2/7/12		
Well ID:	METZ	LER			Weather:	sunny	60	
ADWR No:					Sampler:	MWL		
		tili is is is is		WELL DA	ΓΑ			
Well De	epth (ft bls):	35	5		Nominal	Casing Size (inches)	Capacity Gallons per Li	
	,	/ ^			2 0.16 4 0.65			
Casing L	Diameter (in):	$\frac{0}{2}$	<u>an a2</u>			5	1.02	!
Static Wate	r Level (ft bmp):		10.92			6 8	1.47 2.61	1
Casing \	/olume (gal):	<u>88</u>	x3 = ∠	265		10	4.08	
Total Volun	ne Purged (gal):				Casin	g Volume = gallons	s/foot * water colum	nn (feet)
				D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (galions)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents
1149	Pump On							
1159	10	6	60	7.42	214	1010		
1209	20		120	7.38	21.8	1021		
1219	30		180	7.36	214	1015		
1229	40		240	7,35	21.3	1018		
1239	50		300	7-36	21.5	1019		
				,				
							Pump Off	
	FIELD PARAMET	TER STABILIZ	ATION: Three co	onsecutive re	adings within (0.2 su pH, 2 degree	s C, and 200 μS/c	m) esserescencia viscosia
			SAN	IPLE INFOF	RMATION			
Sa	ımple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
MET	ZLER	1242	Plaste	250	Ì	300.0	7	<u> </u>
		i i produktiv	VATER LEVEL	MEASURE	MENT COLI	ECTION		en lain den die der dat die de de laiden de lait
□ Water I	evel measuremen	nt collected.						
1 //	er level measuren		No access to we	ellhead/No po	rt in wellhead			
i .	er level measuren							
ł	er level measuren	nent collected.	Well is pumping	J .				
Other:			WEIL	PURGING IN	FORMATION			
☐ Purged	3 well volumes a	nd field narem						
	3 well volumes a			nd field paren	neters stabiliz	ed.		
ł	well until field pa							
□ Other:								
Additiona	Comments:							

Project No:	055038				Client: Freeport Copper Queen Branch					
Task No:	1.0	כ			Date:	1-31-12				
Well ID:	Mo	ORE			Weather:	Sunny C	sind, 70s			
ADWR No:					Sampler:	1350				
		ando Carabiada		WELL DAT	Ampulation					
Well De	epth (ft bis):				Nominal	Casing Size (inches)	Capacity Gallons per Li	near Foot		
	•					2	0.16 0.65	i i		
Casing [Diameter (in):	· •	7			4 5	1.02			
Static Wate	er Level (ft bmp):		VA			6 8	1.47 2.61			
Casing \	Volume (gai):		x3 =			10	4.08			
Total Volun	ne Purged (gal):				Casin	ig Volume = gallon	s/foot * water colum	nn (feet)		
			FIEL	D SAMPLIN	G DATA					
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents		
14:50	Pump On									
15:00	10	10	100	7.35	21.8	420				
15-10	20	10	८००	7.34	20.9	420				
15:20	30	10	300	7.35	21.7	430				
							Pump Off			
	FIELD PARAMET	ER STABILIZA	ATION: Three co	onsecutive rea	idings within	0.2 su pH, 2 degre	es C, and 200 μS/c	m) m:::::::::::::::::::::::::::::::::::		
giroti (de cinado). Sedio de como de			SAN	IPLE INFOR	MATION					
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)		
Mo	ORE	15:25	Poly	250ml	1	300-0	\$	V		
			, , ,					7		
			L /ATER LEVEL	I MEASURE	MENT COL	LECTION				
□ Water	level measuremen	t collected.						100000000000000000000000000000000000000		
! _	ter level measuren		No access to w	ellhead/No po	rt in wellhead					
1	ter level measuren									
1	ter level measuren	nent collected.	Well is pumping	} .			•			
☐ Other:			. Weia	PURGING IN	FORMATION					
	d 3 well volumes a	nd field parame								
☐ Purged	d 3 well volumes a d 3 well volumes b	ased on previo	us water level a	nd field paren	neters stabiliz	ed.				
	d well until field pa									
☐ Other:										
Additiona	I Comments:	well	head	is 60	orred					
,										

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	:h
Task No:					Date:	23/12		
Well ID:	NESS				Weather:	sunn		
ADWR No:					Sampler:	MMC O		
			godu scap ic 45 i	WELL DA	IA III III	Amenes en en la lace exam		
Well Da	epth (ft bls):	8	12		Nominal	Size (inches)	Capacity Gallons per Li	near Foot
						2	0.16 0.65	
Casing L	Diameter (in):		71 7/1			5	1.02	2
Static Wate	r Level (ft bmp):		71.24			6 8	1.47 2.61	
Casing \	/olume (gal):	221	x3 = (063		10	4.08	j
Total Volum	ne Purged (gal):				Casin	g Volume = gallons	/foot * water colum	ın (feet)
			FIE	D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents
1214	Pump On							
1224	10	12	120	7.59	20.7	533.4		
1234	20		240	7.58	20.7	536.4		
1247	33		3916	7.57	26.5	535.9	<u> </u>	
1258	44		57S	7.57	20.0	536.8		
1304	50		600	7.55	20.3	532.3		
1312	58		696	7.58	Zil	538.2		
							Pump Off	
	FIELD PARAMET	ER STABILIZA	recovered and the contract of	insecutive rea IPLE INFOR	nice and progression associations.	0.2 su pH, 2 degree	is C, and 200 µs/ci	
				IPESINEUR I				
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
NE	<u> </u>	1315	Plastic	250	l	300.0	N	<u> </u>
		n i i i i i i	ATER LEVEL	MEASURE	MENT COLL	ECTION		
Ø Water le	evel measuremen	t cóllected.	<u> Field Door Here Style of State of the Style</u>		SU, (See State Sta	aramineralessamisterieleien dezidet	onissa productioni de de la come	
1 "	er level measurem		No access to we	ellhead/No po	rt in wellhead			
i .	er level measurem							
☐ No wate	er level measurem	ent collected.	Well is pumping					
			WELL	PURGING IN	FORMATION			
□ Puroed	3 well volumes a	nd field parame	ters stabilized.			ikus ilisaka, kindomintemáe petaliti		eliterii ileimelein medinali olisati.
	3 well volumes ba			nd field parem	eters stabilize	∋d.		
I	well until field par	ameters stabili	ized.					
Other:								
Additional	Comments:							<u> </u>

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	ch
Task No:	1.0				Date:	7-3-12		
Well ID:	NOTE	MAN		1	Weather:	Survy	50\$	
ADWR No:					Sampler:	1350		
				WELL DAT	A			
Well D	epth (ft bis):				Nominal	Size (inches)	Capacity Gallons per L	inear Foot
Casing	Diameter (in):					2 4	0.16 0.65	
		Nf	1			5	1.02 1.47	
Static Wate	er Level (ft bmp):	-191				8	2.61	
Casing '	Volume (gai):	<u> </u>	x3 =			10	4.08	
Total Volur	ne Purged (gal):					g Volume = gallons	s/foot * water colun	nn (feet)
			dela't manifergramman manana ann	D SAMPLIN	G DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
9:35	Pump On							
9:40	105	910	50	6.68	20.1	1370		
9:45	10 10	110	100	6.66	21.5	1360		
9.50	15	10	150	6-68	21.3	1370		
								-
							Pump Off	
	FIELD PARAMET	FR STABILIZA	ATION: Three c	onsecutive rea	dinas within ().2 su pH, 2 degree	<u>'</u>	m)
			nchelekisis (jojejskapapapanion	IPLE INFOR	antourus urus seesis kärkeisis kil		gradije karo etologi gajuda Nagradije advisa sejeda	
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
	EMAN	9:53	Day	250ml	Ø	3000	d	¥
1 No	GNAN		107				7	/
			L /ATER LEVEL	 	AENTEGOU	 -carlon		
				INIEWORVEN				
	level measuremen er level measurerr		No access to w	eilhead/No por	in wellhead			
1 .	er level measuren							
□ No wat	er level measurem	ent collected.	Well is pumping	3.				
☐ Other:				Elinania in				
				PURGING INF				
ı	l 3 well volumes ar l 3 well volumes ba			nd field parem	eters stabilize	∍d.		
1 . "	well until field par			, , , , , , , , , , , , , , , , , , ,				
Other:				······································				
Additiona	Comments:							

_	Queen Branch	
Task No: 1.0 Date: 2-3-12		
Well ID: NOTEMAN HOUSE Weather: SUN, SO	ک	
ADWR No: Sampler: BJ 0		
WELL DATA		
Well Depth (ft bis): Casing Ca Nominal Size (inches)	apacity Gallons per Line	ar Foot
2	0.16 0.65	
Casing Diameter (in):	1.02	
Static Water Level (ft bmp): 6	1.47 2.61	
. Casing Volume (gal): x3 = 10	4.08	
Total Volume Purged (gal): Casing Volume = gallons/fo	oot * water column	(feet)
FIELD SAMPLING DATA		
Time Elapsed Time Rate Discharge (gpm) Discharge (SU) Temp (°C) Specific Conductance (µS/cm)	Comment	is
Pump On		
7.06 13.5 1520		
P	ump Off	
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees 0	C, and 200 μS/cm)	
SAMPLE INFORMATION		
Sample ID Time Container Type Volume No. of Containers Analysis Method	Preservative	Filtered (y/n)
NOTEMANHOUSE OF IS POLY 250M 1 300.0	Ø	Y
		7
WATER LEVEL MEASUREMENT COLLECTION.		
☐ Water level measurement collected.		
□ No water level measurement collected. No access to wellhead/No port in wellhead		
 □ No water level measurement collected. Obstruction in well. □ No water level measurement collected. Well is pumping. 		
□ No water level measurement collected. Well is pumping. □ Other:		
WELL PURGING INFORMATION		
☐ Purged 3 well volumes and field parameters stabilized.		
☐ Purged 3 well volumes based on previous water level and field paremeters stabilized.		
Purged well until field parameters stabilized.		
Other:	1 ,/	
Additional Comments: Sampled from Spigot on east	r side o	f house
document of the		

Project No:	055038				Client: Freeport Copper Queen Branch					
Task No:	1				Date:	1/30/12				
Well ID:	NWC-	5 7			Weather:	sunny 1	Windy			
ADWR No:					Sampler:	MMC	J			
				WELL DA	A			les étás accident iglioles Apolasia año delogo est		
Wall	epth (ft bls):				Nomina	Casing Size (inches)	Capacity Gallons per Li	near Foot		
vveii D	eptii (it bis).				2		0.16			
Casing I	Diameter (in):					4 5	0.65 1.02			
Static Wate	er Level (ft bmp):					6	1.47			
Casing '	Volume (gal):		x3 =			8 10	2.61 4.08			
					Casir	ig Volume = gallons	/foot * water colum	ın (feet)		
Total Volur	me Purged (gal):			D SAMPLIN	G DATA					
		Discharge	Total			Specific				
Time	Elapsed Time (min)	Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (°C)	Conductance (μS/cm)	Comme	ents		
	Pump On									
1340				7,3)	22,4	427.8				
1346				7.40	21.4	427.3				
1356				7.39	21.2	431.3				
							Pump Off			
	FIELD PARAMET	L TER STABILIZ	ATION: Three c	onsecutive rea	dings within	0.2 su pH, 2 degree	es C, and 200 μS/c	m)		
			SAI	IPLE INFOR	MATION					
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)		
NIIA	JC-02	1352	Plastic	250	}	300.0	N	À		
1000	3002		1105110	1				/		
								na noor ay langukon ngar		
			ATER LEVEL	MEASURE	MENIEUL	EE HON				
ł	level measuremer									
i .	ter level measuren				rt in wellhead					
i	ter level measuren ter level measuren									
☐ Other:	o, ny oi modouidh	Jonewick.	· · · · · · · · · · · · · · · ·	-						
			WELL	PURGING IN	FORMATION					
☐ Purger	d 3 well volumes a	nd field parame	eters stabilized.	on stage attended to prompt to been	30 (1997) 10 (1997) 10 (1997) 10 (1997) 10 (1997) 10 (1997) 10 (1997) 10 (1997) 10 (1997) 10 (1997) 10 (1997)					
	d 3 well volumes b			ind field parem	neters stabiliz	ed.				
1	d well until field pa	rameters stabil	ized.							
☐ Other:										
Additiona	I Comments:									

Project No:	055038				Client: Freeport Copper Queen Branch				
Task No:					Date:	1/30/12	,		
Well ID:	NWC-C	3			Weather:	sunny	(co's		
ADWR No:					Sampler:	MWL			
				WELL DAT	A				
Well D	epth (ft bls):				Casing Capacity Nominal Size (inches) Gallons per Linear Fo				
	•					2 4	0.16 0.65		
	Diameter (in):	11/	1		5 1.02			2	
Static Wate	er Level (ft bmp):	1/1/	1		8 2.61				
Casing	Volume (gal):		x3 =		10 4.08				
Total Volu	me Purged (gal):				Casin	g Volume = gallons	/foot * water colun	nn (feet)	
			#FIE	D SAMPLIN	G DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments		
	Pump On								
1234				7.08	22.	1095			
1239				7.17	21:6	1086			
1245		7.15				1061			
1.									
							Pump Off		
	FIELD PARAMET	ER STABILIZ	ATION: Three o	onsecutive rea	adings within (0.2 su pH, 2 degree	es C, and 200 μS/c	m) managanan	
inderii Eust Iourisii Eust			SAI	MPLE INFOR	MATION				
Si	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
NV	UC-03	1248	Plastic	250	l	300.0	2	Y	
		V	VATER LEVEI	MEASURE	MENT COLI	ECTION			
1	level measuremen								
,	ter level measurem				rt in wellhead				
i .	ter level measurem ter level measurem								
☐ Other:	ter level incasulen	ent concacu.	wen is pumping	.					
			WELL	PURGING IN	FORMATION				
☐ Purge	d 3 well volumes ar	nd field parame	eters stabilized.	191(191771-1911) 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1					
1	d 3 well volumes ba			ind field parem	neters stabiliz	ed.			
T	d well until field par	ameters stabil	ized.						
Other:		111011	011.0000	<u> </u>		A			
Additiona	l Comments:	well	curren	44 0	peraul	<u>rvg</u>			

Project No:	055038				Client: Freeport Copper Queen Branch				
Task No:	1				Date:	1/31/12			
Well ID:	NWC-	-03 CA	40		Weather:	Sunr	ry 50's		
ADWR No:					Sampler:	JAMA			
				WELL DA	JA .				
Well Do	epth (ft bis):				Nominal	Casing	Capacity Gallons per L	inear Foot	
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				2 4	0.16 0.65	0.16	
Casing L	Diameter (in):	10/1	60			5	1.02	2	
Static Wate	er Level (ft bmp):	134.	, 0 0		6 1.47 8 2.61				
Casing \	Volume (gal):		x3 =		10 4.08				
Total Volun	ne Purged (gal):				Casin	ig Volume = gallons	s/foot * water colun	nn (feet)	
			# PE	D SAMPLIN	IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
	Pump On								
WLO									
							Pump Off		
	FIELD PARAMET	ER STABILIZA	ATION: Three c	onsecutive rea	dings within (0.2 su pH, 2 degree	es C, and 200 μS/c	m) ministras sugritoris tipo tipo tipo	
			SAN	IPLE INFOR	MATION				
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
13	A					and a second desired and a			
ikalis kojoski			/ATER LEVEL	MEASURE	MENT COLI	ECITION			
□ Water I	evel measuremen	de adorda da de la com							
ž .	er level measuremen		No access to w	elihead/No po	rt in wellhead				
1	er level measuren								
☐ No wate	er level measuren	nent collected.	Well is pumping	3.					
□ Other:	1284.6881.1940.45511.80611.80611.8061	esalzdojšáj caklaskodá							
			arsigistillitation pictor	PURGING IN	TURMATION				
	3 well volumes at 3 well volumes b			nd field narem	natare etahiliz	ed			
1 "	well until field par			na nela paren	icicio otdonici				
☐ Other:									
Additional	Comments:	W	LO						

		Well	CLL-OCOIO-	Hu -		· ` · ^ ^			
		WELL	auren.	Try of	perat	ry			

Well ID: NWC-04 Weather: Sunny	Project No:	055038				Client:	Freeport Coppe	er Queen Brand	:h
Net Depth (it bis): Well Depth (it bis): Casing Capacity Well Depth (it bis): Casing Dismeter (in): Casing Dismeter (in): Casing Volume (gal): Casing Volume (gal): Total Volume Purged (gal): Time Elapsed Time Elapsed Time Elapsed Time Elapsed Time (min) Discharge (gallons) FIELD SAMPLING DATA: Pump On: T-37, 23.3 9/9-0 T-28 2-3.3 9/9-0 T-28 2-3.3 9/9-0 T-28 2-3.3 9/9-0 T-29 12-18 9/65 2-2 T-384 23.4 9/144 Water level measurement collected. Sample ID Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. Well Depth (it bis): Casing Capacity Nominal Size (inches): Gallons per Linear Foot 1.02 2.61 4.0.85 5.1.02 8.0.2.61 1.02 8.0.2.61 1.02 8.0.2.61 1.02 Casing Volume = gallons/foot * water column (feet) Temp Conductance (µ5/cm) Comments Comments (µ5/cm) Pump Off FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pht. 2 degrees C, and 200 µ5/cm) SAMPLE INFORMATION SAMPLE INFORMATION Well Elapsed Time Containers No. of Containers Analysis Method Preservative Filtered (yn) Water level measurement collected. Obstruction in well. No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: Well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged 4 well until field parameters stabilized.	Task No:	1				Date:	1/30/12		
Well Depth (it bis): Well Depth (it bis): Casing Gapacity	Well ID:	NWC-0	4			Weather:	aunny		
Well Depth (it bis): Casing Diameter (in): Casing Diameter (in): Casing Diameter (in): Casing Volume (gal): Total Volume Purged (gal): Time Elapsed Time (gin): Pump On: Pump On: FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 pS/cm) Sample ID Time Containers Sample ID Time Containers Containers Sample ID Time Containers Containers Containers Sample ID Time Containers Containers Sample ID Time Containers Sample ID Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. No access to wellhead/No port in wellhead Depart of well volumes and field parameters stabilized. Purged 3 well volumes and on previous water level and field parameters stabilized. Purged 3 well volumes and on previous water level and field parameters stabilized. Purged 3 well volumes and on previous water level and field parameters stabilized.	ADWR No:					Sampler: N	. 1		
Nominal Size (Inches) Gallons per Linear Foot 2 0.16 0.	ag (500)93005543				WELL DA	***************************************			
Casing Diameter (in): 2	Well D	enth (ft bls):				Nomina			inear Foot
Static Water Level (ft bmp): Casing Volume (gal): X3 = 1.02 1.47 8 2.61 4.08 Casing Volume = gallons/foct * water column (feet) Total Volume Purged (gal): FIELD SAMPLING DATA Time Elapsed Time (min) Discharge Rate (ppm) Discharge (gallons) (gm) Discharge Rate (ppm) (su) FIELD SAMPLING DATA Pump On! 12.05 7.37 23.3 9 19.0 7.28 23.3 9 19.0 7.28 23.3 9 19.0 12.16 Pump Off FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume Type Volume Containers Analysis Method Preservative Filtered (yln) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes and field parameters stabilized.		•				2		0.16	3
Casing Volume (gal): Total Volume Purged (gal): FIELD SAMPLING DATA: FIELD SAMPLING D	Casing D	Diameter (in):					1		1
Casing Volume (gal): Total Volume Purged (gal): FIELD SAMPLING DATA Pumpi On: 12.65 Pumpi On: 12.65 7.737 23.3 9.19.0 7.728 23.3 9.19.0 7.734 23.4 9.14.4 Pump Off FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pt., 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION SAMPLE INFORMATION Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Well is pumping. Other: Well: Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes and field parameters stabilized.	Static Wate	r Level (ft bmp):				6			
Time Elapsed Time Container Comments Pump On	Casing \	/olume (gal):		x3 =			l l		l l
Time Elapsed Time (min) Discharge Rate (gam) PH Temp Specific Conductance (gam) PH Temp (Conductance (gam) PH Temp (Gallons) PURS PUMPION PUMP	Total Volun	ne Purged (gal):				Casin	ig Volume = galions	s/foot * water colum	nn (feet)
Time Elapsed Time (min) (gallons) (SU) (em) (em) (conductance (us/sm) (vs/sm)			FIEL	D SAMPLIN	IG DATA				
12.05 7.37 25.3 9/9.0	Time		Rate	Discharge			Conductance	Comme	ents
7.28 23.3 905.1		Pump On							
7.7.8 23.3 905.1 7.84 23.4 914.4 7.84 23.4 914.4 Pump Off FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative (y/n) NNC - 04 12.18 Plast 2.50 1 300.0 N y WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized.	1205				7.37	23.3	919.0		
7.34 23.4 9144 FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative (y/n) NNC - 04 12:18 Plast 2 2.50 1 300.0 N y WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized.					7,28	23.3	905.1		
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative (y/n) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged well until field parameters stabilized.					7.34	23.4	914.4		
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized.									
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized.									
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized.									
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized.									
FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 µS/cm) SAMPLE INFORMATION Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized.									
Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) NUC-04 12:18 Page 250 1 300.0 N y WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 4 well until field parameters stabilized. Purged well until field parameters stabilized.								,	
Sample ID Time Container Type Volume No. of Containers Analysis Method Preservative Filtered (y/n) NNC - OH 12:18 Post C 250 I 300.0 N Y WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged well until field parameters stabilized.		FIELD PARAMET	ER STABILIZA	ATION: Three co	onsecutive rea	dings within (0.2 su pH, 2 degree	s C, and 200 μS/c	m) augungsagas salahan salahan
Sample ID Time Type Volume Containers Analysis Method Preservative (y/n) NUC-OU 12:18 PlagC 2:50 1 300.0 WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 4 well until field parameters stabilized. Purged well until field parameters stabilized.				SAN	APLE INFOR	MATION			
WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged well until field parameters stabilized.	Sa	mple ID	Time		Volume		Analysis Method	Preservative	
WATER LEVEL MEASUREMENT COLLECTION Water level measurement collected. No water level measurement collected. No access to wellhead/No port in wellhead No water level measurement collected. Obstruction in well. No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged well until field parameters stabilized.	NWC	-04	12:18	Plastic	250	1	300.0	<i>₽</i>	Y
□ Water level measurement collected. □ No water level measurement collected. No access to wellhead/No port in wellhead □ No water level measurement collected. Obstruction in well. □ No water level measurement collected. Well is pumping. □ Other: WELL PURGING INFORMATION □ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field parameters stabilized. □ Purged well until field parameters stabilized.									
□ No water level measurement collected. No access to wellhead/No port in wellhead □ No water level measurement collected. Obstruction in well. □ No water level measurement collected. Well is pumping. □ Other: □ WELL PURGING INFORMATION □ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field parameters stabilized. □ Purged well until field parameters stabilized.			hill ranina hyv	ATER LEVEL	I MEASURE	MENT COLL	ECTION		
□ No water level measurement collected. Obstruction in well. □ No water level measurement collected. Well is pumping. □ Other: WELL PURGING INFORMATION □ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field paremeters stabilized. □ Purged well until field parameters stabilized.	□ Water I	evel measurement	collected.						
No water level measurement collected. Well is pumping. Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field parameters stabilized. Purged well until field parameters stabilized.	l					rt in wellhead			
Other: WELL PURGING INFORMATION Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. Purged well until field parameters stabilized.	4								
WELL PURGING INFORMATION □ Purged 3 well volumes and field parameters stabilized. □ Purged 3 well volumes based on previous water level and field parameters stabilized. □ Purged well until field parameters stabilized.		er ievei measurem	en conecieu.	vven is bumbing	i.				
□ Purged 3 well volumes based on previous water level and field paremeters stabilized. □ Purged well until field parameters stabilized.				WELL	PURGING IN	ORMATION			
□ Purged 3 well volumes based on previous water level and field paremeters stabilized. □ Purged well until field parameters stabilized.		3 well volumes ar	d field parame	ters stabilized.	- Postavene (Sugural Second History Mar				
					nd field parem	eters stabilize	ed.		
Li Other:	1	well until field par	ameters stabili	zed.					
A 1 100 A 100 A		-							
Additional Comments:	Additional	Comments:				,			

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	<u>:h</u>
Task No:	1				Date:	1/30/12		
Well ID:	NWC	- 06			Weather:	Sunny	windu	
ADWR No:					Sampler:	MMC	, 8	
				WELL DA				dina godeja S
W6 D	onth (ft bis):				Nomina	Casing Size (inches)	Capacity Gallons per L	inear Foot
Avei D	epth (ft bis):				1000000	2	0.16	3
Casing I	Diameter (in):					4 5	0.65 1.02	
Static Water	er Level (ft bmp):	NA				6	1,47	
Casing \	Volume (gal):		x3 =			8 10	2.61 4.08	
					Casir	ng Volume = gallons	s/foot * water colun	nn (feet)
Total Volur	ne Purged (gal):		FIE	D SAMPLIN	I IG DATA			
		Discharge	Total		Temp	Specific		
Time	Elapsed Time (min)	Rate (gpm)	Discharge (gallons)	pH (SU)	(°C)	Conductance (µS/cm)	Comm	ents
	Pump On							1840 as 1940 de 1950 (9 10ja (90-es 1966 as 1966)
1309				7,59	72.4	399.6		
1314				7.45	21.7	399.2		
1319				7.39	22.1	405.60		
13.23				7.47	27.1	402.7		<u>, , , , , , , , , , , , , , , , , , , </u>
10120								
					1			
							Pump Off	
	I FIELD PARAMET	I ER STABILIZ	ATION: Three o	onsecutive rea	dings within	0.2 su pH, 2 degree	s C, and 200 μS/c	m)
			radidorenada adra forensi di Por	VPLE INFOR	iologo eramiento del 1860			
Se	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
811810	-610	1326	Pastic	250		300.0	N	У
NWC	-00		1,100,7110					
					VIDATION			
			VATER LEVE	HIVIEASURE	MENII COB	III-GIDON		
	level measuremen		No consec to u	ollhood/No no	rt in wallhaad			
B .	er level measuren er level measuren				it in weinlead			
1 4	er level measurem							
☐ Other:						<u> </u>		
			WELL	PURGING IN	FORMATION			
	i 3 well volumes a							
1	f 3 well volumes ba			ind field paren	neters stabiliz	ed.		,
· ·	l well until field par	ameters stabi	lized.					
Other:	I O = == == = - t = -	11/-1/		`~ ~	7710-1	Alu		
Additiona	l Comments:	vv.ell	pump	ry ini	um son			

Project No:	055038				Client:	Freeport Copp	er Queen Brand	ch	
Task No:					Date:	2/3/12			
Well ID:	05601				Weather:	sunny	48°		
ADWR No:					Sampler:	MMLO			
is sa domina				WELL DA	IA a le a le				
Well D	epth (ft bls):	2	58		Nominal Size (inches)		Capacity Gallons per L	inear Foot	
			3			2	0.16	3	
Casing	Diameter (in):		20			4 5	0.68		
Static Water	er Level (ft bmp):	74	.67			6 8	1.47		
Casing	Volume (gal):	479	x3 = \L	+360	10 4.08				
Total Volum	ne Purged (gal):			C	Casir	ig Volume = gallor	s/foot * water colun	nn (feet)	
				D SAMPLIN	IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
1024	Pump On								
1024					INSTRUMENTAL STATES			HERATA MENDERS REPRESE	
								· · · · · · · · · · · · · · · · · · ·	
							Pump Off		
	FIELD PARAMET	ER STABILIZA	ATION: Three co	onsecutive rea	dings within (0.2 su pH, 2 degre	es C, and 200 μS/c	m)	
			SAN	IPLE INFOR	MATION				
Sa	ımple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
		W	ATER LEVEL	MEASURE	MENT COLL	ECHON			
									
	evel measuremen								
□ No wate	er level measurem	ent collected. I			t in wellhead				
□ No wate	er level measurem er level measurem	ent collected. I ent collected. (Obstruction in w	ell.	t in wellhead				
☐ No wate	er level measurem	ent collected. I ent collected. (Obstruction in w	ell.	t in wellhead				
□ No wate	er level measurem er level measurem	ent collected. I ent collected. (Obstruction in w Well is pumping	ell.					
□ No wate □ No wate □ No wate □ Other:	er level measurem er level measurem er level measurem	ent collected. I ent collected. (ent collected.)	Obstruction in w Well is pumping WELL	reli. I.					
□ No wate □ No wate □ No wate □ Other: □ Purged	er level measurem er level measurem er level measurem 	ent collected. I lent collected. I lent collected. I	Obstruction in w Well is pumping WELL sters stabilized.	vell. I. PURGING INI	ORMATION	di d			
□ No wate □ No wate □ No wate □ Other: □ Purged □ Purged	er level measurem er level measurem er level measurem	nent collected. It nent collected. It nent collected. It nent collected. It nent field parame ased on previou	Obstruction in w Well is pumping WELL ters stabilized. us water level as	vell. I. PURGING INI	ORMATION	ed.			
□ No wate □ No wate □ No wate □ Other: □ Purged □ Purged	er level measurem er level measurem er level measurem 3 well volumes ar 3 well volumes ba	nent collected. It nent collected. It nent collected. It nent collected. It nent field parame ased on previou	Obstruction in w Well is pumping WELL ters stabilized. us water level as	vell. I. PURGING INI	ORMATION	ed.			
□ No wate □ No wate □ No wate □ Other: □ Purged □ Purged □ Purged □ Purged □ Other:	er level measurem er level measurem er level measurem 3 well volumes ar 3 well volumes ba	nent collected. It nent collected. It nent collected. It nent collected. It nent field parame ased on previous ameters stabilis	Obstruction in w Well is pumping WELL sters stabilized. us water level as zed.	rell. PURGING INI nd field parem	ORMATION eters stabilize		v samole	iater	
□ No wate □ No wate □ No wate □ Other: □ Purged □ Purged □ Purged □ Purged □ Other:	er level measurem er level measurem er level measurem 3 well volumes ar 3 well volumes ba well until field par	nent collected. It nent collected. It nent collected. It nent collected. It nent field parame ased on previous ameters stabilis	Obstruction in w Well is pumping WELL ters stabilized. us water level as	rell. PURGING INI nd field parem	ORMATION eters stabilize		v sample	jaler	
□ No wate □ No wate □ No wate □ Other: □ Purged □ Purged □ Purged □ Purged □ Other:	er level measurem er level measurem er level measurem 3 well volumes ar 3 well volumes ba well until field par	nent collected. It nent collected. It nent collected. It nent collected. It nent field parame ased on previous ameters stabilis	Obstruction in w Well is pumping WELL sters stabilized. us water level as zed.	rell. PURGING INI nd field parem	ORMATION eters stabilize		U Sample	jaler	

Project No:	055038				Client: Freeport Copper Queen Branch				
Task No:	1.0				Date:	2-3-12			
Well ID:	0.580	RN			Weather:	Suny 50) <u>(</u>		
ADWR No:					Sampler:	BJO			
				WELL DAT	A			eta uzi vezanla (ett 5 Eliptini en	
Well D	epth (ft bis):				Nomina	Casing Size (inches)	Capacity Gallons per Li	near Foot	
						2	0.16 0.65		
Casing I	Diameter (in):	·				4 5	1.02	E .	
Static Water	er Level (ft bmp):					6 8	1.47 2.61		
Casing '	Volume (gal):		x3 =		10 4.08				
_	•				Casir	ng Volume = gallons	s/foot * water colum	ın (feet)	
i otal Volur	ne Purged (gal):	an remideral tames de ma		D SAMPLIN	G DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents	
	Pump On	(gpiii)							
				8.(5	15.3	390		Autrust (1999)	
				0.()	10.0				
							Dump Off		
						0.0	Pump Off	m)	
	FIELD PARAMET	ER STABILIZA	the global and are to see to see the great of the first table	Onsecutive rea VPLE INFOR		0.2 su pH, 2 degree			
Si	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
OSB	ORN	11:35	Poly	LSOML	13000	300.0 (1)	Ø	V	
		1, 03				 		7	
		marina y	ATIER LEVEL	 MEASURE	L MENTICOL	LECTION			
Water	level measuremen	t collected.		AND AND ASSESSMENT AND ADDRESS OF THE PARTY					
<i>V</i> \	er level measurem		No access to w	ellhead/No po	t in wellhead	ļ.			
☐ No wat	er level measurem	ent collected.	Obstruction in v	vell.					
1	er level measurem	ent collected. \	Well is pumping] .					
☐ Other:	en noetelelinen gjal en samme	Hallineringaradolek		PURGING IN	OPMATION				
				historia di dicen					
	i 3 well volumes a i 3 well volumes ba			nd field parem	eters stabiliz	red.			
1 -	d well until field par			ind note paron					
Other:	Sand	7 1 71	ion to	wk.					
Additiona	l Comments:	Calle	trel	1 reads	re a	nd sample	& from 12	os sella	
	ENK.	Have 7	o furn	, ,		mo on in	chetnical	50x1 n	
	de vext	to the	, uell		<u> </u>				
								<u></u>	

Project No:	055038				Client: Freeport Copper Queen Branch					
Task No:	1				Date: 23/12					
Well ID:	PALIN				Weather:	Sunn	y 50'	5		
ADWR No:					Sampler:	MML	<i>O</i>			
				WELL DAT	A					
Well D	epth (ft bis):				Nominal	Size (inches)	Capacity Gallons per Li			
	•				2 4		0.16 0.65			
Casing	Diameter (in):	\ \	١ ٨			5	1.02			
Static Wate	er Level (ft bmp):	N	14			6 8	1.47 2.61			
Casing '	Volume (gal):		x3 =			10	4.08			
Total Volur	ne Purged (gal):					g Volume = gallons	/foot * water colum	n (feet)		
			FIE	D SAMPLIN	IG DATA					
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (ºC)	Specific Conductance (µS/cm)	Comme	ents		
	Pump On		ā ā alakani.							
				7.94	10.0	521.4				
							Pump Off			
	FIELD PARAMET	ER STABILIZ	et englasjatavitana tarapaganjaran a san ta	gen raway (sztany) jedássantaj		0.2 su pH, 2 degree	s C, and 200 μS/ci	m) Mariana mariana ang kalang		
		Fight ad the challenger Specialists de la cal	SAN	IPLE INFOF	RMATION					
S	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)		
PALI	WER	13-13	Plastic	250	\ .	300.0	2	<u> </u>		
								'		
			VATER LEVEL	MEASURE	MENT COL	LECTION				
	level measuremer									
	ter level measuren		No access to w	ellhead/No po	rt in wellhead					
	ter level measuren									
1 .	ter level measuren	nent collected.	Well is pumping	g .						
Other:	Tank		3.4.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	PURGING IN	EODMATION					
	d 3 well volumes a d 3 well volumes b			ind field paren	neters stabiliz	ed.				
-	d well until field pa			F						
Other:										
Additiona	l Comments:	Sair	nple f	rom-	tank					
)							

Project No:	055038				Client:	Freeport Coppe	r Queen Branc	h
Task No:	[Date:	2/6/12		
Well ID:	PANA	GAKOS	<u> </u>		Weather:	sunny	, 60's	
ADWR No:	55-				Sampler:	MML	_	
				WELL DA	IA .			
Well De	epth (ft bls):	2	00		Nominal	Casing Capacity Nominal Size (inches) Gallons per Linear		
	•	8	<i>f</i> s			2 4	0.16 0.65	1
_	Diameter (in):					5	1.02 1.47	!
Static Wate	r Level (ft bmp):		.09			6 8	2.61	
Casing \	/olume (gal):	8	x3 = -2	242		10	4.08	
Total Volun	ne Purged (gal):					g Volume = gallons	/foot * water colum	in (teet)
				D SAMPLIN	IG DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents
1379	Pump On							
1349	10	9	90	6.95	20.9	1089		
1359	20		180	6.96	20.8	1007		
1409	30		270	698	20,8	1017		
							Pump Off	
	FIFT D DADAMET	ED CTABILIZ	ATION: Three or	prescutive re	adinas within	0.2 su pH, 2 degree		m)
	FIELU PARAIVIET	EN STABILIZ	.com.com.com.com.com.com.com.com.com.com	IPLE INFOR	aceatoreanyenacionari			
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
PANA	GAKOS	1414	Plastic.	250	}	300.0	N	Y
								
		y National survivos	VATER LEVEL	MEASURE	MENT COL	ECTION		
12 Water	evel measuremen	t collected.						
1 /	er level measurem		No access to w	ellhead/ N o po	rt in wellhead			
	er level measuren							
l .	er level measuren	nent collected.	Well is pumping).				
Other:			i e weu	PURGING IN	FORMATION			
☐ Purged	3 well volumes a	nd field param	eters stabilized.					
	3 well volumes b			nd field paren	neters stabiliz	ed.		
1	well until field par	rameters stabi	lized.					
Other:	-							
Additiona	Comments:		<u></u>					
<u></u>		<u>, , , , , , , , , , , , , , , , , , , </u>						

Project No:	055038				Client:	Freeport Copp	er Queen Bran	ch
Task No:	<u> </u>				Date:	2/7/12		
Well ID:	PARRA	_			Weather:	Sunny	50's	
ADWR No:					Sampler:	MM		
				WELL DA	IA			
Well De	epth (ft bls):	35	5		Nomina	ıl Size (inches)	Capacity Gallons per I	
Casing D	Diameter (in):					2 4	0.1 0.6	
Static Wate	r Level (ft bmp):	77	A			5 6	1.0 1.4	
Casing V	/olume (gal):	h	x3 =			8 10	2.6 4.0	
		Casing Volume = gallons/foot * water column (feet)						
Total Volum	ne Purged (gal):		FIEI	D SAMPLIN				
	Elapsed Time	Discharge	Total	pН	Temp	Specific		
Time	(min)	Rate (gpm)	Discharge (gallons)	(SU)	(°C)	Conductance (µS/cm)	Comm	ents
1038	Pump On							
1048	10	4	40	7.63	19.9	1216		
1058	20		80	7.68	2014	1213		
1108	30		120	7.64	21.4	1212		
		~~~~		***************************************				
	HEI D DADAMET	ED STADILIZA	TION: Throops	noogustisso sos	dings within	0.2 su pH, 2 degree	Pump Off	
	IELD FARAIVIET	EN STABILIZA	en e	IPLE INFOR	läitiksettiiste Laketrigtere tellä	u.z su pn, z degree	is C, and 200 μ5/ο	#N)
			Container		No. of			Filtered
San	nple ID	Time	Type	Volume	Containers	Analysis Method	Preservative	(y/n)
PARI	RA.	11:12	Plastic	250	)	300.0	N	
		W	ATER LEVEL	MEASURE	MENT COLL	ECTION		
□ Waterie	vel measurement	collected.		dialerinusihushinusih (di				
No water	level measureme	ent collected. I	No access to we	llhead/No por	t in wellhead			
_	level measureme							
☐ No water☐ Other:	· level measureme	ent collected. 1	vveii is pumping					-
			WELL!	PURGING INF	ORMATION			
☐ Purged 3	well volumes an	d field parame	ters stabilized.				etaganga karatura keraja k	
	well volumes ba			id field parem	eters stabilize	ed.		
Purged v	vell until field para	ımeters stabili	zed.					
Additional (	Comments:			***************************************				
- 14411411411								
	***************************************					····		

Project No:	055038				Client:	Freeport Copp	er Queen Brand	ch	
Task No:	l				Date:	2/1/17			
Well ID:	PIONK	E			Weather:	Sunny	40'5		
ADWR No:					Sampler:	MML'			
			Ziles Sistantes (2)	WELL DA	Allende				
Well De	pth (ft bis):	30			Nomina	Casing Capacity Nominal Size (inches) Gallons per Linear			
Casing D	iameter (in):	6	6		2 4		0.16 0.69		
Static Water	Level (ft bmp):	152	5.92			5 6	1.02 1.47		
		4215	x3 =	(445		8 2.61			
Casing V	olume (gal):	3-1-10	X3	$\varphi$ -1)	Caein	10 ig Volume = gallon	4.00		
Total Volum	e Purged (gal):	angan dayalan da daka	Propries de la Tari	D SAMPLIN	<u>                                      </u>	ig volume – galien. Deutsterkingssterin			
		Discharge	Total		U DAI'A	Specific			
Time	Elapsed Time (min)	Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (ºC)	Conductance (μS/cm)	Comm	ents	
0843	Pump On								
0858	15	5	75	7.08	12,7	1275			
0913	30	4	135	7.13	15:6	1265			
0928	45	닉	195	6.99	16.9	1249			
0948	65	4	275	7.01	17.7	1230			
1008	85	닉	355	6,96	18.5	1220	10140		
1033	110	4	455	6.87	26,5	1217	- recalibre	te Myron	
1053	130	4	535	7.28	18.0	1226			
1113	150	<u> </u>	1005	7,24	17.6	1232	D 0#		
1128	165	ED STADILIZA	065	7,25	17.5	1 7-3 () 0.2 su pH, 2 degree	Pump Off	m)	
	TELD PARAIVIET	ER STABILIZA	Gadio-Scotland-Bolisania (1876)	IPLE INFOR		7.2 su pri, 2 degree			
				//				Filtered	
San	nple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	(y/n)	
PION	KE	11:30	Plastic	250	1	300.0	Ν	У	
	0120201	Tabeled 1800	Plastic	250	١	300.0	2	У	
		i i i i i i	ATER LEVEL	MEASURE	MENT COLL	ECTION			
✓ Water le	vel measurement	collected.	naments in elektronista (esami itali					1   1   1   1   1   1   1   1   1   1	
☐ No water	r level measurem	ent collected.	No access to we	ellhead/No por	t in wellhead				
1	r level measurem								
□ No water □ Other:	r level measurem	ent collected.	Well is pumping	<b>J</b> .					
WELL PURGING INFORMATION									
□ Purged 3 well volumes and field parameters stabilized.									
☐ Purged 3 well volumes based on previous water level and field paremeters stabilized.									
T									
Other:									
Additional (	comments:								

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	ch
Task No:					Date:	1/30/12		
Well ID:	RAMIREZ	>			Weather:	Junny,	windy	
ADWR No:					Sampler:	MML MML	0	
				WELL DA	ra III.		Capacity	
Well D	epth (ft bls):	300			Nomina	Size (inches)	Gallons per L	
Casing I	Diameter (in):	6				2 4	0.16 0.6	
	r Level (ft bmp):	NA	· · · · · · · · · · · · · · · · · · ·			5 6	1.02 1.4	
	Volume (gal):		x3 =			8	2.6° 4.08	
					Casir	ng Volume = gallons		
I otal Volun	ne Purged (gal):			タン. _D SAMPLIN				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
1605	Pump On							
1615	10	12	120	7.54	22.1	399.7		
1625	20	,	240	7.47	22.3	405.7		
1635	30		360	7,41	22.4	407.8		
1045	40		480	7.42	22.3	407.3		
1055	50		600	7.38	22.3	412,2		
							Pump Off	
	<u> </u> FIELD PARAMET	<u> </u> ER STABILIZ	ATION: Three co	l onsecutive rea	l dings within (	] 0.2 su pH, 2 degree	•	m)
			elektronida jegi supragnationski tedpol	IPLE INFOR	nariologica de la latera i nacional del con			
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
RAMIE	?E7	1700	Plastic	250	)	300.0	N	Ý
10.000	16		1 1010710					
		Λ I	VATER LEVEL	MEASURE	MENT COLL	ECTION		
☐ Water k	evel measuremen	t collected.						
1 2	er level measurem			•				
4	er level measurem				-85f4.			
☐ Other:	er level measurem	ent collected.	vveii is pumping	l.				
			WELL	PURGING INF	ORMATION			
☐ Purged	3 well volumes ar	nd field parame	eters stabilized.		, Arcein Amelion teatro report (1866)	AC 444 MAG 95 ( ) 1 ( ) 9 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1 ( ) 1		manufactual confront feet of the
	3 well volumes ba			nd field parem	eters stabilize	ed.		
☐ Purged☐ Other:	well until field par	ameters stabil	ized.					
	Comments:					<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>		
The second secon								

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	<u>:h</u>
Task No:					Date:	1/31/12		
Well ID:	RAY				Weather:	Sunny	100's bree	7.11
ADWR No:					Sampler:	MML		
				WELL DA	TA			
Well De	epth (ft bis):	1(	00		Nomina	Casing   Casing	Capacity Gallons per L	inear Foot
	iameter (in):	(/	7		2 4		0.16 0.65	
-		-	3,21			5	1.02	2
Static Wate	r Level (ft bmp):					6 8	1.47 2.61	
Casing V	olume (gal):	69	x3 = 6	206		10	4.08	
Total Volum	ne Purged (gal):	~23				ng Volume = gallons	s/foot * water colun	nn (feet)
			ili antalistami menting bearing i daa ia	D SAMPLIN	G DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents
1135	Pump On							
1145	10	9	90	744	20,7_	1380		
1150	15		135	7.3	20.7	1375	***************************************	
1155	20		180	7.36	26.2	1372		
1200	25		225	7.28	20.5	1360		
			TION! There		-11:	211 2	Pump Off	
	TELU PARAMET	ER STABILIZA	o profesionare o di postare presentari dell'	IPLE INFOR	dijas jārjai taras ir jagaja	0.2 su pH, 2 degree	is C, and 200 µS/ci	II) Historia
Sar	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
RA	£	1204	Plastic	250	1	300.0	7	У
						·		
		M H	ATER LEVEL	MEASURE	VENT COLL	ECTION		
–Ef∸ Water le	vel measurement	collected.				11.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.500 10.		
☐ No wate	r level measurem	ent collected.	No access to we	ellhead/No por	t in wellhead			
1	r level measurem							
☐ No wate	r level measurem	ent collected.	vveii is pumping					
			WELL	PURGING INF	ORMATION			
☐ Purged	3 well volumes an	d field parame	eters stabilized.			a Signalah Melebahan Melebah dan Melebah Mel	enisiocistalse i productario distal	deperate in industria com interes indicas
i .	3 well volumes ba			nd field parem	eters stabilize	ed.		
1	well until field para	ameters stabil	zed.					
<u> </u>	<u> </u>		-					
Additional	Comments:				·····			

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	h
Task No:	1.0				Date:	1-30-12		
Well ID:	Roas	ers 59	6		Weather:	50NN 6	0's	
ADWR No:	J				Sampler:	BJ0		
				WELL DA	A			
Well D	epth (ft bls):				Nomina	Casing Size (inches)	Capacity Gallons per Li	near Foot
						2 4	0.16 0.65	
	Diameter (in):	1-7	7 91			5	1.02	
Static Wate	r Level (ft bmp):	1)	7.91			6 8	1.47 2.61	
Casing \	Volume (gal):		x3 =			10	4.08	
Total Volur	ne Purged (gal):				Casin	g Volume = gallons	/foot * water colum	n (feet)
			FE	D SAMPLIN	G DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents
	Pump On							er og er er er er er er. Er filmen kalleder
							***************************************	
							Pump Off	
	FIELD PARAMET	ER STABILIZA				0.2 su pH, 2 degree	es C, and 200 μS/cr	n)
			SAN	MPLE INFOR				
Sa	imple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
		THE REPORT	ATER LEVEL	MEASURE	MENT COLL	ECTION		
□ Water I	evel measuremen	t collected.			HARRIA VESA IN ELEMANDE MARCELO			(197) della estala in contralitativa (n. 1974)
1	er level measuren			_	rt in wellhead			
i .	er level measuren			_				
☐ No wat	er level measuren	nent collected.	vveii is pumping	j.				•
			WELL	PURGING INI	FORMATION			
☐ Purged	3 well volumes a	nd field parame	eters stabilized.		- innerensering (120 cm 111 cm 111 cm		The Section Control of the Control o	
☐ Purged	3 well volumes b	ased on previo	us water level a	nd field parem	eters stabilize	ed.		
	well until field par	rameters stabil	ized.				_	
Other:							<del>\</del>	
Additional	Comments:							
								<del></del>
								\

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	h
Task No:	(.0				Date:	1-30-12		
Well ID:	ROGER	's 80	3		Weather:	Sung	60's	
ADWR No:					Sampler:	B50'		
				WELL DAT	A			
Well De	epth (ft bls):				Nomina	Casing Size (inches)	Capacity Gallons per L	inear Foot
	•					2	0,16 0.65	
Casing L	Diameter (in):					5	1.02	2
Static Wate	r Level (ft bmp):					6 8	1,47 2.61	l l
Casing \	/olume (gal):		x3 =			10	4.08	
Total Volum	ne Purged (gal):				Casir	ng Volume = gallons	/foot * water colum	nn (feet)
	armudzen elektrostruma Erandan harmada			D SAMPLIN	G DATA			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Commo	ents
16:40	Pump On 🐇							
16:45	5	10	50	6.58	20.2	590		
16:50	16	100	(00	6.93	19.5	590		
10:35	15	10	150	717	19.7	580		
17:00	20	10	200	7.34	19.9	580		
(7.03	25	(0	<u>L</u> SO	7.40	20.0	580		
				<u> </u>	<u> </u>		Pump Off	
	FIELD PARAMET	ER STABILIZ		elektys poplacka procednik GAD	interalização de la circula de	0.2 su pH, 2 degree	es C, and 200 µS/c	m) (2.1919) (1.1919)
	e erike eriyek eribedê. Gerîne belê ji direk		SAN	MPLE INFOR				
Sa	imple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
120	GERS 803	12:06	Poly	ZSOML	1	300.0		<b>Y</b>
								/
		i National de la v	VATER LEVEL	MEASURE	MENT COL	LECTION		
□ Water I	evel measuremen							
;	er level measurem		No access to w	ellhead/No po	rt in wellhead			
	er level measurem							
l	er level measuren	ent collected.	Well is pumping	<b>g</b> .				
☐ Other:				PURGING IN	FORMATION			
☐ Purged	3 well volumes a	nd field naram						
	3 well volumes b			and field paren	neters stabiliz	ed.		
19	well until field par							
☐ Other.								
Additional	Comments:				7			
			V -					

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	h
Task No:	1				Date:	1/30/12		
Well ID:	ROGER	S E			Weather:	Sunny,	winder	
ADWR No:					Sampler:	MML	7	
				WELL DA	A		Capacity	
Well De	pth (ft bls):	290			Nominal Size (inches)		Gallons per Linear Foot	
Casing D	iameter (in):	60			2 4		0.16 0.65	E .
		153	5/_		5 1.02 6 1.47			i
Static water	Level (ft bmp):	153.		. A	8 2.61			
Casing V	olume (gal):	200.6	<u>x3 = 6</u>	0Î	0	10	4.08	
Total Volum	e Purged (gal):	s pa partomonostrono el sacio leisio		E-Way I WI - VIJI W		g Volume = gallons	s/toot " water colurr	in (leet)
		Discharge	Total	D SAMPLIN	G DATA	Specific		
Time	Elapsed Time (min)	Rate (gpm)	Discharge (galions)	pH (SU)	Temp (°C)	Conductance (µS/cm)	Comme	ents
	Pump On							
1425	#	010						
1435	10	1-1-00 mg	100	7,27	21.9	433.0		
1445	20	200	200	7.37	21.4	433.8		
1455	30	300	300	7.39	21.2	432.5		
1505	40	400	400	7.42	20.7	431./		
15/5	50		500	7.40	21.0	430.0		
1530		<u> </u>	600	7.38	20.8	427.2		
4							Pump Off	
F	IFI D PARAMET	ER STABILIZA	ATION: Three co	nsecutive rea	dinas within (	] 0.2 su pH, 2 degree	L	m)
				PLE INFOR	podardzegalania (SAPORE)			
Sar	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
ROCE	es E	1529	Plastic	250	1	300.0	Ν	$\checkmark$
7,000	KU L	1-2-						
		ı.	L /ATER LEVEL	L MEASUREI	MENT COLL	ECTION		
☑ Water le	vel measuremen							
1 '	r level measurem		No access to we	ellhead/No por	t in wellhead			
☐ No wate	r level measurem	ent collected.	Obstruction in w	rell.				
☐ No wate ☐ Other:	r level measurem	ent collected.	Well is pumping	l <u>-</u>				
			WELL	PURGING INI	ORMATION			
☐ Purged	3 well volumes ar	nd field parame		Quantic Length of Equipment		vanguden (455 dieder 250 die 416 sie die		
	3 well volumes ba			nd field parem	eters stabilize	ed.		
I	well until field par	ameters stabil	zed.					
Other:								
Additional	Comments:							

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	ch
Task No:	•				Date:	2/7/12		
Well ID:	Ruiz				Weather:	Sunnu	505	
ADWR No:					Sampler:	MMLU		
				WELL DA	ΓA			
Well D	epth (ft bis):				Nominal	Casing Capacity Nominal Size (inches) Gallons per Li		
						2	0.16	3
Casing	Diameter (in):		f .			4 0.65 5 1.02		
Static Wate	er Level (ft bmp):	<u>N</u>	A		ļ	6 1.47		
Casing	Volume (gal):		x3 =			8 10	4.08	i i
Total Volu	me Purged (gal):				Casin	ig Volume = gallons	s/foot * water colum	nn (feet)
Total Volu	ne ruigeo (gai):		TO THE	D SAMPLIN	IG DATA		HE FIGUETIA	
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents
0946	Pump On							
0953	7	7	49	7,34	20,4	915.7		
0958	12		84	7.39	20.60	9166		
1003	177		119	7.28	20.7	915,6		
					·			
							Pump Off	
	FIELD PARAMET	ER STABILIZA	ATION: Three c	onsecutive rea	adings within (	0.2 su pH, 2 degree	es C, and 200 μS/c	m)
			SAN	IPLE INFOF	RMATION			
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)
Ru	172	1009	Plastic	250	1	300.0	12	У
	0120207	labeled	Plastic	250	ì	300:0	U	$\forall$
		1 <i>900</i>   M	ATER LEVEL	I La Barokana kanakan	MENT COLL	refrie (déglégőrőlőszásátálagtar) legyetete		Antole Islanda (11 (14) Lukili Kilonda (15 (16)
□ Water	level measuremen							
	er level measurem		No access to we	ellhead/No po	rt in wellhead			
	er level measurem							
☐ No wat	er level measurem	ent collected.	Well is pumping	J.				
☐ Other:								
				PURGING IN	FORMATION			
1 1	3 well volumes at	•		nd field nerem	otore etabiliza	ad		
r -	l 3 well volumes ba I well until field par			no nelo paren	ieleis Slavilizo	sa.		
☐ Other:	The difference par							
Additiona	Comments:	Sound	er 105	t tens	1071 1	repeated ly	i at m	1814F
* 3	casing vol	= 80 f	rom Dre	Vious	water	revel		
							3	
DUP	Soumple	COLLEGI	ed mal	nt att	er ku	WZ Sampli	2	

Project No:	055038				Client:	Freeport Copp	er Queen Bran	ıch	
Task No:					Date:	2/0/12			
Well ID:	Schwe	artz		7	Weather:	Sunnu	60k		
ADWR No:				!	Sampler:	mmc			
				WELL DA	A a a a a				
Well De	epth (ft bis):	305	5		Nomina	Casing Il Size (inches)	Capacity Gallons per l	Linear Foot	
Casing D	iameter (in):	6	)			2 4	0.1 0.6		
			7.34		5 1.02			12	
	Level (ft bmp):			<b></b>		6 1.47 8 2.61			
Casing V	olume (gal):	26	x3 =	<u> 783                                    </u>	10 4.08				
Total Volum	e Purged (gal):				<u> </u>	ng Volume = gallon	s/foot * water colu	mn (feet)	
				_D SAMPLIN	IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ients	
1142	Pump On								
1152	10	13	130	7,41	21.5	624.6			
1202	70		260	7,38	21.3	630.5			
. 1212	30		390	7.35	21.3	632.7			
1222	40		52 <b>0</b>	7.36	21-3	634.6			
1232	50		<u>650</u>	7.38		631.6			
1242	100		780	7.32	21.3	629.7			
					,		D Off		
F	I IELD PARAMET	ER STABILIZA	TION: Three co	nsecutive rea	dinas within (	 ).2 su pH, 2 degree	Pump Off	·m)	
			dadiotei daipeda oda dada	IPLE INFOR	Kataningan manganyan				
6			Container		No. of			Filtered	
San	nple ID	Time	Туре	Volume	Containers	Analysis Method	Preservative	(y/n)	
SCHWA	ARTZ	1245	Plastic	250	1	300.0	N	У	
DUPZO	170206	(apel 18x)	Plastic	250	1	300 · O	$\sim$	У	
		e i me dominio e de la composició de la co	ATER LEVEL	MEASUREN	MENT COLL	and a product of the product of the second			
✓ Water lev	rei measurement								
	level measureme		No access to we	llhead/No port	in wellhead				
☐ No water	level measureme	ent collected. C	Obstruction in w	ell.		•			
	level measureme	ent collected. V	Vell is pumping.						
□ Other:				URGING INF	ODMATION		ASIN SSENIO ASIN NO EN EZENTAN NE		
☐ Purged 3	weli volumes an	d field paramet							
	well volumes bas			d field pareme	ters stabilize	ď.			
☐ Purged w	ell until field para			•					
☐ Other:	<u> </u>						######################################		
Additional C	Comments:								
	Dup ta	Ken na	st after	Schins	× +> ~	mou			
		Ĵ		· · · · · · · · · · · · · · · · · · ·		(44714			

**Groundwater Sampling Form** Freeport Copper Queen Branch 055038 Client: Project No: ~31~1Z Date: Task No: STEPHENS Weather: Well ID: Sampler: ADWR No: WELL DATA Casing Capacity Gallons per Linear Foot Nominal Size (inches) Well Depth (ft bis): 0.65 Casing Diameter (in): 1.02 5 55.65 1.47 Static Water Level (ft bmp): 2.61 4.08 10 Casing Volume (gal): Casing Volume = gallons/foot * water column (feet) Total Volume Purged (gal): FIELD SAMPLING DATA Specific Total Discharge pΗ Temp **Elapsed Time** Comments Discharge Conductance Rate Time (SU) (°C) (min) (µS/cm) (gpm) (gallons) Pump On Pump Off FIELD PARAMETER STABILIZATION: Three consecutive readings within 0.2 su pH, 2 degrees C, and 200 μS/cm) SAMPLE INFORMATION Filtered No. of Container Analysis Method Preservative Volume Sample ID Time (y/n)Containers Type WATER EVEL MEASUREMENT COLLECTION ☐ Water level measurement collected. ☐ No water level measurement collected. No access to wellhead/No port in wellhead ☐ No water level measurement collegited. Obstruction in well. ☐ No water level measurement collected. Well is pumping. ☐ Other: WELL PURGING INFORMATION ☐ Purged 3 well volumes and field parameters stabilized. Purged 3 well volumes based on previous water level and field paremeters stabilized. ☐ Purged well until field parameters stabilized. ☐ Other:

CLEAR	~
CREEK	
ACCA-7	ATEC

Additional Comments:

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	h		
Task No:	1.0				Date:	7-3-17	>			
Well ID:	SUN	BEL	1		Weather:	SUNN	<u> 500</u>			
ADWR No:					Sampler:	B50 1				
				WELL DAT	A					
Well D	epth (ft bis):				Nominal	Casing Size (inches)	Capacity  Gallons per Linear Foot			
			!			2	0.16 0.65			
Casing I	Diameter (in):		a W		5 1.02			2		
Static Wate	er Level (ft bmp):					6 8	1.47 2.61			
Casing '	Volume (gal):		x3 =		10 4.08					
Total Volum	me Purged (gal):				Casing Volume = gallons/foot * water column (feet)					
		er er eg er gelge 1920 Bliggehere er er	FE	D SAMPLIN	G DATA					
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comme	ents		
	Pump On									
							Pump Off			
	FIELD PARAMET	ER STABILIZA				0.2 su pH, 2 degree	es C, and 200 μS/c	m)		
			SAN	APLE INFOR	MATION					
Sa	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)		
		'	ATER LEVEL	MEASURE	VENT COL	ECTION				
☐ Water	level measuremer	t collected			ekesoruonnasi esin 995					
į.	ter level measuren		No access to w	elihead/No poi	t in wellhead					
1	ter level measuren									
1_	ter level measuren	nent collected. \	Well is pumping	].						
☐ Other:			WELL WELL	PURGING IN	ORMATION					
☐ Purgeo	d 3 well volumes a	nd field narame	ters stabilized	#\$\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		NESKESKISENISESULENKISEKI)ESKI		Masmisiskie paspysiskie väs		
	d 3 well volumes b			nd field parem	eters stabiliz	ed.				
	d well until field pa									
☐ Other:				A 11		<i>j</i>				
Additiona	l Comments:	<u> </u>	<u> </u>	well	150	<u> </u>				

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	h	
Task No:					Date:	23/12			
Well ID:	SINAI	7			Weather:	Diene	a 505		
ADWR No:					Sampler:	MMC			
				WELL DA	~~~~				
Well De	epth (ft bls):		98		Nominal	Casing Size (inches)	Capacity Gallons per L	inear Foot	
AAGII DE	spur (it bis).		1		Homma	2	0.16	0.16	
Casing E	Diameter (in):		4			4 0.65 5 1.02			
Static Wate	r Level (ft bmp):	3-	1.86			6	1,47	'	
Casina \	/olume (gal):	39	x3 =	117		8 10	2.61 4.08		
	ne Purged (gal):		ů.		Casin	g Volume = gallons	s/foot * water colum	ın (feet)	
rotal voluli	ie ruigeu (gai).			D SAMPLIN	G DATA				
eletorous (Allerment) (1915-219)	Elapsed Time	Discharge	Total	pН	Temp	Specific			
Time	(min)	Rate (gpm)	Discharge (gallons)	(SU)	(°C)	Conductance (µS/cm)	Comme	ents	
1103	Pump On								
1107	4	ΙQ	48	7.44	203	476.4			
1111	8	, , ,	96	7.41	20.4	483.2			
1115	172_		144	740	20.5	484.5			
1112					40.0	-10			
							Pump Off		
	I FIELD PARAMET	ER STABILIZA	ATION: Three c	I onsecutive rea	dinas within (	l ).2 su pH, 2 degree	<u> </u>	m)	
			niekurowycasiał potaciąłatowa gorony	IPLE INFOR					
			Container		No. of			Filtered	
Sa	mple ID	Time	Туре	Volume	Containers	Analysis Method	Preservative	(y/n)	
SW	AN	1119	Plastic	250	1	300.0	N	Y	
	0120203	Carbelant	Plastic	250	1	300-0	7	Ÿ	
LWY Z		1800 M	ATER LEVEL	<u> </u>	MENT COLL				
0	evel measuremen er level measurem		No popor to w	allhaad/Na no	t in wallhead				
i .	er level measurem				T III WCIIIICGG				
1	er level measurem								
☐ Other:				·					
	Angridates patagrafika Balburi at otostorana		WELL	PURGING INI	FORMATION				
10	3 well volumes ar								
T	3 well volumes ba			nd field parem	eters stabilize	ed.			
1	well until field par	ameters stabil	ized.						
Other:									
Additional	Comments:				······				

Project No:	055038				Client:	Freeport Coppe	er Queen Branc	h		
Task No:	1.0				Date:	2-3-12	<i>-</i>			
Well ID:	-TV1-	713			Weather:	SUNNY 5	30's			
ADWR No:					Sampler:	377				
				WELL DAT	***************************************					
					Namina	Casing I Size (inches)	Capacity Gallons per Linear Foot			
Well L	Depth (ft bls):				Nomma	2	0.16			
Casing	Diameter (in):					4 5	0.65 1.02	1		
Static Wat	er Level (ft bmp):	130	16.c			6	1.47	•		
Casina	Volume (gal):		x3 =			8 10	2.61 4.08			
	•				Casing Volume = gallons/foot * water column (feet)					
Total Volu	ime Purged (gal):			D SAMPLIN						
		Discharge	Total	2511,0000,01000,0000,0100		Specific				
Time	Elapsed Time (min)	Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (°C)	Conductance (µS/cm)	Comme	ents		
	Pump On									
							Pump Off			
	FIELD PARAMET	L ER STABILIZA	ATION: Three co	nsecutive rea	idings within	0.2 su pH, 2 degree	s C, and 200 μS/cr	n)		
			oogorfoj firmoodog nagigalkalkariotoogas	IPLE INFOR	paragalan pajaan Valuuca:					
S	ample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)		
		W	ATER LEVEL	MEASURE	MENT COLI	EEGRON				
1	level measuremen									
1	ter level measurem				t in wellhead					
1	iter level measurem iter level measurem									
☐ No wa		ent conected.	aacii is barribirië	<b>j.</b>						
			WELL	PURGING IN	ORMATION					
□ Purge	d 3 well volumes ar	nd field parame	ters stabilized.	ini manini kangan kangan		(BEAMINE BOOM) Element in recent in Standard in the	STATES OF THE ST			
	d 3 well volumes ba			nd field parem	eters stabiliz	ed.				
☐ Purge	d well until field par	ameters stabili	zed.							
☐ Other		(N) (1)	<u> </u>							
Additiona	al Comments:									
							.,			

Project No:	055038				Client:	Freeport Copp	er Queen Bran	ch	
Task No:	1.0				Date:	2-3-1	7		
Well ID:	TV1-	875			Weather:	SUNN	<u>50i</u>		
ADWR No:					Sampler:	ろづり			
				WELLDA	A				
. Well De	epth (ft bls):	33	50 <u> </u>		Nominal	Size (inches)		Galions per Linear Foot	
Casing D	Diameter (in):	8	(1			4	i	0.16 0.65	
		130 i	TIT.	713		5	1.02 1.4	i i	
	r Level (ft bmp):		NIV	~ ~~~		8	2.6	1	
Casing \	/olume (gal):	525	) x3 = /	<u> </u>	~ ·	10	4.0		
Total Volum	ne Purged (gal):					ig Volume = gallor	s/foot * water colur	nn (teet)	
				D SAMPLIN	G DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
10:45	Pump On								
10.50	5	-500		7.26	19.1	870			
10.55	10	500		7.70	20.1	886			
11:00	15	500		7.70	20.5	850			
				<u> </u>			Pump Off		
	FIELD PARAMET	ER STABILIZA	(a.J.L.: Dagic department	atomieta (brita bibliografia i britalia)	dan dan pelangkan kadali liliki ini	0.2 su pH, 2 degre	es C, and 200 μS/c	m)	
			ii ii ii ii ii ii ii SAN	IPLE INFOR	MALION				
Sa	mple ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
11/	工875	11:02	Poly	LSOML		300.0	1		
			/					7	
		en en en en en ev	I /ATER LEVEL	MEASURE	MENT COLL	ECTION			
A deuts de la	evel measuremen				pereldenianse.				
I //	r level measurem		No access to we	ellhead/No por	t in wellhead				
□ No wate	r level measurem	ent collected.	Obstruction in w	vell.					
1	r level measurem	ent collected.	Well is pumping	<b>J</b> .					
☐ Other:	ing samang ng kabupatan				ODWITON				
				PURGING IN	-ORWANON				
	3 well volumes ar 3 well volumes ba			nd field parem	eters stabilize	ed.			
1 4 /	well until field par			na noia param	01010 0100				
Other:	•								
Additional	Comments:				· · · · · · · · · · · · · · · · · · ·				
					****				

Project No:	055038				Client:	Freeport Coppe	er Queen Brand	ch	
Task No:	<u> </u>				Date:	2/6/12	***************************************		
Well ID:	WEED				Weather:	Sunni	4 68, u	indy	
ADWR No:	_				Sampler:	MML	· ·		
				WELL DA	ΓΑ				
Well De	pth (ft bis):				Nominal	Size (inches)	Capacity Gallons per L	inear Foot	
Casing D	iameter (in):					2	0.16 0.65		
	Level (ft bmp):	/	٨			5	1.02 1.47		
	, , ,				8 2.61				
Casing V	folume (gal):		x3 =	·	Casin	10   ng Volume = gallons			
Total Volum	e Purged (gal):	64466000000000000		D SAMPLIN		ig volume – ganons	mater colum		
		Disabatas	Total	id Sawielin I	G DATA	Specific			
Time	Elapsed Time (min)	Discharge Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (°C)	Conductance (µS/cm)	Comm	ents	
1456	Pump On								
1458	2	5	10	7.63	マルフ	389,0			
1503	7		35	7.57	21.3	384,9			
1508	12		60	7.60	21.4	385.0			
							<del></del>		
							D Off		
	IEI D DADAMET	ED CTADII 17/	TION: Three or	neecutive res	dings within (	).2 su pH, 2 degree	Pump Off	m)	
		EK OTABIEIZ	academic de la companio	IPLE INFOR	treditiririi 2001				
			Container		No. of			Filtered	
Sar	mple ID	Time	Type	Volume	Containers	Analysis Method	Preservative	(y/n)	
WEE	<i>I</i> 2	1512	Plastic	250	)	300.0	7	У	
								,	
		i i i	ATER LEVEL	MEASURE	MENT COLL	ECTION			
☐ Water le	vel measurement	t collected.				landisi makai piana mishi mbali maka milaki mil			
No wate	r level measurem	ent collected.	No access to we	ellhead/No por	t in wellhead		,		
	r level measurem								
☐ No wate	r level measurem	ent collected.	Well is pumping	l <b>.</b>					
		Busing G.S.	WELL	PURGING INF	ORMATION				
☐ Purged 3	3 well volumes an	nd field parame	ters stabilized.		under eine eine eine keise				
	3 well volumes ba			nd field parem	eters stabilize	ed.			
T	well until field para	ameters stabili	zed.						
Other:	O			<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>					
Additional	Comments:								

Project No:	055038				Client:	Freeport Copp	er Queen Bran	ich	
Task No:					_ Date:	2/1/12 (WL) 2/3/12 (Sample			
Well ID:	WEIS	KOPF			Weather:	Sunui			
ADWR No:					- Sampler:	Impler: MINL			
				WELL DA	TA				
Well Depth (ft bls):  Casing Diameter (in):  Static Water Level (ft bmp):  Casing Volume (gal):		20	00		Nomina	Casing al Size (inches)	Capacity Gallons per Linear Foot		
		1			2 4 5		0.16 0.65 1.02		
		11.10	73	***************************************					
		148.23			- 6 8		1.47 2.61		
		$76 \times x3 = 228$		<u> 228</u>	10		4.08		
Total Volum	ne Purged (gal):		51050g ard 210 50000 0000 0000 0000 0000		}	ng Volume = gallon	s/foot * water colu	mn (feet)	
				LD SAMPLIN	IG DATA				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comm	ents	
1409	Pump On								
1419	10	8	80	7.34	209	1349			
1429	20		160	7.35	214	1359			
1439	30		240	7.39	21.5	1363			
					<u> </u>				
<del>". ". ". ". ". ". ". ". ". ". ". ". ". "</del>									
							Pump Off		
F Pélengungan pangangan	FIELD PARAMET	ER STABILIZA			CHOST CONCOLUNCTED LICENSING	0.2 su pH, 2 degree	es C, and 200 μS/c	m)	
			SAN	IPLE INFOR	MATION				
Sample ID		Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)	
WEIS	KOPF	1445	Mastic	250	ĺ	300.0	N	Y	
(Sectorical problem Annual Control									
		<b>W</b>	ATER LEVEL	MEASUREN	MENT COLL	ECTION			
	vel measurement								
	· level measureme · level measureme				in wellhead				
	level measurem								
□ Other:			, , ,						
			WELLI	PURGING INF	ORMATION				
24	well volumes an								
	well volumes ba			nd field pareme	eters stabilize	d.			
☐ Other:	vell until field para	imeters stabiliz	zed.						
Additional C	Comments:	2/1/12:	Ala wate		\ <i>u-t</i>	-			
***************************************	aretaka		No water avai	k wrien	<i>spigot</i> until s	opened of	on any ta	ucet	
		1							
{<	Ceturn 2/3	112 to 50	comple c	vater,	after	speaking	with po	retaker	
						•			

Project No:	055038		,		Client:	Freeport Copper Queen Branch				
Task No:	1.0					1-31-12				
Well ID:	ZAND	JER			Weather:	502y	Windy	,80's		
ADWR No:					Sampler:	B50				
				WELL DAT	Autom					
Well De	pth (ft bls):	280			Nominal Size (inches)		g Capacity  Gallons per Linear Foot			
Casing D	nameter (in):				2 4		0.16 0.65			
		149.31			5 6		1.02 1.47			
Static Water Level (ft bmp):		193		20		8	2.61			
Casing Volume (gal):		193 x3=580			10		4.08			
Total Volum	e Purged (gal):	FIELD SAMPLIN			Casing Volume = gallons/foot * water column (feet)					
			Total	DESAMISEIN	G DATA	Specific				
Time	Elapsed Time (min)	Discharge Rate (gpm)	Discharge (gallons)	pH (SU)	Temp (℃)	Conductance (µS/cm)	Cor	Comments		
15:30	Pump On									
16:10	20	lo	7.00	19.2	7.18	420				
16:30	40	lo	400	10.8	7,37.	420				
16:50	60	le .	(00	20.3	7.29	420				
			:				D Off			
					Pump Off lings within 0.2 su pH, 2 degrees C, and 200 μS/cm)					
	FIELD PARAMET	ER STABILIZA	est pesticada apidraum apidrag	insecutive rea IPLE INFOR		7.2 su pn, 2 degre	es C, and 200 µ	orani)		
								- Filtered		
Sample ID		Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Filtered (y/n)		
2.A	ZANDER		Poly	ZSONL	1	300.0	0	<b>-</b>		
		16:55								
		Programa	ATER LEVEL	MEASHRE	AENT COLL	L ECTION				
V 1	evel measurement Frievel measurem		No access to we	ellhead/No por	t in wellhead					
	r level measurem									
□ No water level measurement collected. Well is pumping.										
□ Other:										
WELL PURGING INFORMATION										
	3 well volumes ar			nd field norem	otore etahiliza	arl				
☐ Purged 3 well volumes based on previous water level and field paremeters stabilized. ☐ Purged well until field parameters stabilized.										
□ Other:										
Additional Comments:										