THIRD QUARTER 2009
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:

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October 20, 2009

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Environmental Science & Technology

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October 20, 2009

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1. INTRODUCTION

This report was prepared for Freeport-McMoRan Copper Queen Branch (CQB), and provides the results of groundwater monitoring conducted in the third quarter of 2009 in the vicinity of the Concentrator Tailing Storage Area (CTSA). Groundwater monitoring was conducted by CQB pursuant to Tasks 1.0 and 2.2 of the Work Plan (Hydro Geo Chem, Inc. [HGC], 2008a) to characterize sulfate in the vicinity of the CTSA. The Work Plan was submitted to Arizona Department of Environmental Quality (ADEQ) on December 17, 2007 (ADEQ, 2007) pursuant to the Mitigation Order on Consent Docket No. P-121-07. 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. HGC prepared this groundwater monitoring report on behalf of CQB.

1.1 Scope of Groundwater Monitoring

The scope of the groundwater monitoring program is described in Sections 3.2, 3.3.2 and 3.3.3 of the Work Plan (HGC, 2008a). This report presents the results of groundwater monitoring conducted in the third quarter of 2009 for Tasks 1.0 and 2.2 of the Work Plan. Groundwater monitoring for Task 1.0 consisted of identifying private drinking water supply wells and public water supply system wells within one mile of the sulfate plume. The groundwater plume is considered to consist of groundwater with sulfate in excess of 250 milligrams per liter (mg/L) attributable to the CTSA. In addition, ongoing quarterly monitoring of drinking water supply wells and monthly monitoring for sulfate trend analysis at certain wells are conducted as described in Section 4 of the Work Plan. Groundwater monitoring for Task 2.2 consisted of water elevation measurement and collection of groundwater samples from wells in the vicinity of the CTSA. Figure 1 presents a generalized geologic map of the study area and well locations where data were collected during this reporting period.

The Work Plan identifies two purposes for the groundwater monitoring program required in Task 2.2; plume monitoring and regional monitoring. Plume monitoring is conducted

quarterly at wells that are proximal to the sulfate plume in order to track the plume's location in the aquifer. Regional monitoring to characterize hydrologic conditions outside the area of the sulfate plume was completed in the third quarter of 2008 (HGC, 2008b). This report presents the results of well inventory and plume monitoring conducted during the third quarter of 2009. Pursuant to the Work Plan, the only constituent of interest for monitoring is sulfate.

Table 1 lists wells identified in the Work Plan for plume monitoring, their availability for sampling in the third quarter of 2009, and their sampling status. Groundwater sampling and analysis methods used by HGC are described in the Quality Assurance Project Plan (QAPP) contained in Appendix F of the Work Plan (HGC, 2008a). Results of groundwater monitoring for Tasks 1.0 and 2.2 are presented in Section 2.

2. GROUNDWATER MONITORING RESULTS

2.1 Results of Monitoring for Tasks 1.0 and 2.2

Analytical results and groundwater elevation data for the third quarter of 2009 are tabulated in Table 2. Figure 2 shows the concentrations of dissolved sulfate in the wells sampled in the second quarter of 2009. 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 third quarter of 2009. Groundwater elevations were calculated using the depth to water measurements made under static (nonpumping) conditions for all wells shown.

2.2 Quality Assurance/Quality Control Review

Pursuant to Section 6.4 of the QAPP, a data verification report was prepared for quality assurance and quality control purposes. The data verification report and analytical laboratory reports for data collected by HGC during the third quarter of 2009 are included in Appendix A and Appendix B, respectively. Copies of groundwater sampling forms for samples collected by HGC are in Appendix C. As determined by the analytical data verification review, all data for samples collected in the third quarter of 2009 by HGC are of acceptable quality for use in the groundwater monitoring being conducted pursuant to the Mitigation Order.

3. FINDINGS

This report provides the results of groundwater monitoring conducted within the vicinity of the CTSA for the third quarter of 2009. Groundwater samples were collected from 80 plume monitoring and well inventory wells, and depth to water measurements were collected at 75 wells. The April 2009 Aquifer Characterization Report (HGC, 2009) provides detailed descriptions of the hydrogeology, water quality, and sulfate plume. Findings based on the third quarter 2009 groundwater monitoring are described below.

- Water quality samples have been collected from wells completed in three principal water bearing units in the area: basin fill, undifferentiated Bisbee Group, and Glance Conglomerate. The undifferentiated Bisbee Group consists, from youngest to oldest, of the Cintura Formation, Upper Mural Limestone, Lower Mural Limestone and Morita Formation. Figures 2 and 3 provide the screened lithology of the wells sampled.
- Sulfate concentration data indicate that the plume extends to the southwest from the vicinity of the former evaporation pond to the vicinity of Naco and to the south to the vicinity of Bisbee Junction (Figure 2). The groundwater monitoring data indicate that the sulfate plume extends over an area of approximately 2.8 miles by 3.9 miles and is contained primarily in the basin fill and undifferentiated Bisbee Group except near the former evaporation pond where wells in the Glance Conglomerate have sulfate concentrations greater than 250 mg/L. Comparison of the third quarter 2009 sulfate concentrations with previous quarters indicates no significant change in the plume geometry since the Mitigation Order sampling began in the first quarter 2008.
- Groundwater elevations decrease from north to south east of the Black Gap fault in the region between the Bisbee Municipal Airport and Bisbee Junction, and from east to west across the central portion of the study area west of the Black Gap fault (Figure 3). Comparison of the third quarter 2009 water elevations with those observed in the second quarter 2009 indicates about a 1.52-foot decrease in the average groundwater elevation and only minor differences in the apparent groundwater flow directions.
- Groundwater monitoring conducted during the third quarter 2009 is deemed to have met the objectives of monitoring drinking water supply wells within one mile of the plume, identifying the location of the plume, and providing potentiometric data in the vicinity of the plume.

4. REFERENCES

Arizona Department of Environmental Quality. 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.

Hydro Geo Chem, Inc. (HGC). 2008a. 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.

HGC. 2008b. Third Quarter 2008, Groundwater Monitoring Report, Tasks 1.0, 2.2 and 2.3 of Aquifer Characterization Plan Mitigation Order on Consent No. P-121-07, Cochise County, Arizona. October 27, 2008.

HGC. 2009. Aquifer Characterization Report, Task 4.0 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona, Volume I. April 29, 2009.

TABLES

TABLE 1
Summary of Groundwater Monitoring Third Quarter 2009

Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
ANDERSON	613396	Anderson	Well Inventory	236	YES	YES	Water quality sample collected in July 2009
AWC-02	616586	Arizona Water Company	Plume	330	NO	YES	Water quality sample collected in July 2009
AWC-03	616585	Arizona Water Company	Plume	269	NO	YES	Water quality sample collected in July 2009
AWC-04	616584	Arizona Water Company	Plume	250	NO	YES	Water quality sample collected in July 2009
AWC-05	590620	Arizona Water Company	Plume	1183	NO	YES	Water quality sample collected in July 2009
BANKS 986	647986	Banks	Well Inventory	435	NO	YES	Water quality sample collected in July 2009; unable to collect water level due to obstruction
BANKS 987	647987	Banks	Well Inventory	339	YES	NO	Well identified for water level measurements only
BARTON 010	085010	Barton	Plume	300	NO	NO	Dry
BARTON 919	644919	Barton	Plume	130	YES	NO	Well not operational; identified for water level measurements only
BF-01	539783	Copper Queen Branch	Plume	400	YES	YES	Water quality sample collected in August 2009
BIMA	577927	Bisbee Municipal Airport	Plume	465	YES	YES	Water quality sample collected in July 2009
BLOMMER	633472	Blommer	Well Inventory	380	NO	NO	Owner declined participation in monitoring program
BMO-2008-1G	909474	Copper Queen Branch	Plume	310	YES	YES	Water quality sample collected in August 2009
BMO-2008-3B	909147	Copper Queen Branch	Plume	260	YES	YES	Water quality sample collected in August 2009
BMO-2008-4B	910096	Copper Queen Branch	Plume	610	YES	YES	Water quality sample collected in August 2009
BMO-2008-5B	909653	Copper Queen Branch	Plume	285	YES	YES	Water quality sample collected in August 2009
BMO-2008-5M	909552	Copper Queen Branch	Plume	450	YES	YES	Water quality sample collected in August 2009
BMO-2008-6B	909146	Copper Queen Branch	Plume	265	YES	YES	Water quality sample collected in August 2009
BMO-2008-6M	909019	Copper Queen Branch	Plume	450	YES	YES	Water quality sample collected in August 2009
BMO-2008-7M	908794	Copper Queen Branch	Plume	670	YES	YES	Water quality sample collected in August 2009
BMO-2008-8B	910097	Copper Queen Branch	Plume	480	YES	YES	Water quality sample collected in August 2009
BMO-2008-8M	909711	Copper Queen Branch	Plume	1210	YES	YES	Water quality sample collected in August 2009
BMO-2008-9M	909255	Copper Queen Branch	Plume	775	YES	YES	Water quality sample collected in August 2009
BMO-2008-10GU	909272	Copper Queen Branch	Plume	449	YES	YES	Water quality sample collected in August 2009
BMO-2008-10GL	909435	Copper Queen Branch	Plume	810	YES	YES	Water quality sample collected in August 2009
BMO-2008-11G	909434	Copper Queen Branch	Plume	760	YES	YES	Water quality sample collected in August 2009
BMO-2008-13B	909551	Copper Queen Branch	Plume	474	YES	YES	Water quality sample collected in August 2009
BMO-2008-13M	909760	Copper Queen Branch	Plume	1030	YES	YES	Water quality sample collected in August 2009
BULLARD	602134	Bullard	Plume	300	NO	NO	Well not operational; unable to collect water level due to obstruction

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Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
BURKE	212268	Burke	Plume	781	YES	YES	Water quality sample collected in August 2009
CHAMBERS	629807	Chambers	Well Inventory	245	NO	YES	Water quality samples collected in July 2009; no access to well casing for water level measurement
COB MW-1	903992	City of Bisbee	Plume	420	YES	YES	Water quality sample collected in July 2009
COB MW-2	903984	City of Bisbee	Plume	170	YES	YES	Water quality sample collected in July 2009
COB MW-3	906823	City of Bisbee	Plume	269	YES	YES	Water quality sample collected in July 2009
COB WL	593116	City of Bisbee	Plume	150	YES	YES	Water quality sample collected in July 2009
COLLINS[1]	565260	Collins	Well Inventory	320	YES	YES	Water quality sample collected in July 2009
COOPER	623564	Cooper, Teresa	Plume	325	NO	YES	Water quality samples collected in July 2009; unable to collect water level due to obstruction
COOPER C	637069	Cooper, Charles	Plume	220	YES	YES	Water quality sample collected in July 2009
CROWLEY	510298	Crowley	Plume	788	NO	NO	Dry
DODSON	644927	Dodson	Plume	200	YES	YES	Water quality sample collected in July 2009
DOUGLASS 791	592791	Douglass	Well Inventory	200	YES	NO	Well not operational; identified for water level measurements only
DOUGLASS 792	592792	Douglass	Well Inventory	200	YES	NO	Well not operational; identified for water level measurements only
DURAZO	NR	Durazo	Well Inventory	ND	NO	YES	Water quality samples collected in July 2009; no access to well casing for water level measurement
EAST	599796	East	Well Inventory	125	YES	YES	Water quality sample collected in July 2009
EPPELE 641	805641	Eppele	Well Inventory	265	YES	YES	Water quality sample collected in July 2009
FLEMING	218386	Fleming	Well Inventory	400	YES	NO	Well installation completed February 2009 however, not operational; identified for water level measurement only
FRANCO	500101	Franco	Well Inventory	200	NO	YES	Water quality sample collected in July 2009; unable to collect water level measurement due to obstruction
FULTZ	212447	Fultz	Well Inventory	300	YES	YES	Water quality sample collected in July 2009
GARNER 557	558557	Garner	Plume	300	YES	NO	Well identified for water level measurements only
GARNER 635	587635	Garner	Plume	680	YES	YES	Water quality sample collected in July 2009
GGOOSE 546	628546	Galloping Goose Properties	Plume	430	NO	NO	Well not operational, unable to collect water level due to obstruction
GGOOSE 547	628547	Galloping Goose Properties	Plume	800	YES	YES	Water quality sample collected in August 2009
GL-03	539782	Copper Queen Branch	Plume	820	YES	YES	Water quality sample collected in August 2009
GOAR RANCH	610695	Goar	Well Inventory	250	YES	NO	Well identified for water level measurement only
GREGG	630852	Gregg	Plume	ND	NO	NO	Dry
HOBAN	805290	Hoban	Well Inventory	316	YES	YES	Water quality sample collected in July 2009
HOWARD	NR	Howard	Well Inventory	200	YES	YES	Water quality sample collected in July 2009
HULL 854	606854	Hull	Plume	25	NO	NO	Well not located
KEEFER	209744	Keefer	Well Inventory	245	YES	YES	Water quality sample collected in July 2009

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Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
MCCONNELL 265	539265	McConnell, Virginia	Well Inventory	216	YES	YES	Water quality sample collected in July 2009
METZLER	35-71891	Metzler	Well Inventory	351	YES	YES	Water quality sample collected in July 2009
MILLER 340	641340	Miller	Plume	200	NO	NO	Dry
MILLER 341	641341	Miller	Plume	100	NO	NO	Dry
MINOR 317	063317	Minor	Well Inventory	155	NO	NO	Owner declined participation in monitoring program
MOORE	538847	Moore	Well Inventory	220	NO	YES	Water quality sample collected in July 2009; unable to collect water level, sounder diameter too large for access port
MOROYOQUI	647847	Moroyoqui	Well Inventory	290	NO	NO	Dry
NESS	509127	Ness	Well Inventory	812	YES	YES	Water quality sample collected in August 2009
NOTEMAN	212483	Noteman	Well Inventory	400	NO	YES	Water quality sample collected in July 2009; unable to collect water level due to obstruction
NWC-02	562944	Naco Water Company	Plume	312	YES	YES	Water quality sample collected in July 2009
NWC-03	203321	Naco Water Company	Plume	312	YES	YES	Water quality sample collected in July 2009
NWC-03 CAP	627684	Naco Water Company	Plume	179	YES	NO	Well identified for water level measurements only
NWC-04	551849	Naco Water Company	Well Inventory / Sulfate Trend	795	YES	YES	Water quality samples collected in July, August and September 2009
NWC 04 CAP	627685	Naco Water Company	Plume	379	NO	NO	Well Capped
NWC-06	575700	Naco Water Company	Well Inventory	410	YES	YES	Water quality sample collected in July 2009
OSBORN	643436	Osborn	Plume	258	YES	YES	Water quality sample collected in August 2009
PALMER	578819	Palmer	Well Inventory	220	NO	YES	Water quality sample collected in July 2009; no access to well casing for water level measurement
PANAGAKOS	35-76413	Panagakos	Well Inventory	200	YES	YES	Water quality sample collected in July 2009
PARRA	576415	Parra	Plume	355	YES	YES	Water quality sample collected in July 2009
PIONKE	613395	Pionke	Well Inventory	300	YES	YES	Water quality sample collected in July 2009
POOL	509518	Pool	Well Inventory	313	YES	YES	Water quality sample collected in July 2009
RAMIREZ	216425	Ramirez	Well Inventory	300	YES	YES	Water quality sample collected in July 2009
RAY	803772	Ray	Well Inventory	100	YES	YES	Water quality sample collected in July 2009
ROGERS 803	641803	Rogers, Ernest D	Plume	140	YES	YES	Water quality sample collected in August 2009
ROGERS E	216018	Rogers, Ernest M	Well Inventory	290	YES	YES	Water quality sample collected in July 2009
RUIZ	531770	Ruiz	Well Inventory	312	YES	YES	Water quality sample collected in August 2009
SCHWARTZ	210865	Schwartz	Well Inventory	305	YES	YES	Water quality sample collected in July 2009
STEPHENS	808560	Stephens	Well Inventory	NR	YES	NO	Well identified for water level measurement only
SUNBELT	201531	Sunbelt Marketing, Inc.	Well Inventory	380	YES	NO	Well identified for water level measurement only

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Well Name	ADWR 55 Registry No.	Owner	Monitoring Purpose	Casing Depth (feet)	Water Level Measured?	Water Sample Collected?	Status
SWAN	NR	Swan, Alan	Well Inventory	NR	YES	YES	Water quality sample collected in July 2009
TM-02	522573	Copper Queen Branch	Plume	640	NO	NO	Pump intake above water level; unable to collect water level due to obstruction
TM-02A	522574	Copper Queen Branch	Plume	925	YES	YES	Water quality sample collected in August 2009
TM-03	522575	Copper Queen Branch	Plume	200	YES	YES	Water quality sample collected in August 2009
TM-06 MILLER	522695	Miller	Plume	200	YES	YES	Water quality sample collected in August 2009
TM-07	522576	Copper Queen Branch	Plume	350	NO	YES	Water quality sample collected in August 2009; unable to collect water level due to obstruction
TM-10 USBP	522696	U.S. Border Patrol	Plume	290	NO	NO	Owner declined participation in monitoring program
TM-11 PIONKE	522815	Pionke	Plume	160	NO	NO	Dry
TM-13 MILLER	522698	Miller	Plume	200	NO	NO	Dry
TM-15 MILLER	522699	Miller	Well Inventory	325	NO	YES	Water quality sample collected in August 2009; unable to collect water level due to obstruction
TM-16	522578	Copper Queen Branch	Plume	115	YES	YES	Water quality sample collected in August 2009
TM-17	522700	Copper Queen Branch	Plume	200	NO	NO	Dry
TM-19	522581	Copper Queen Branch	Plume	210	NO	NO	Dry
TM-19A	522580	Copper Queen Branch	Plume	700	YES	YES	Water quality sample collected in August 2009
TM-41	562555	Copper Queen Branch	Plume	210	NO	NO	Dry
TM-42	562554	Copper Queen Branch	Plume	250	YES	YES	Water quality sample collected in August 2009
TVI 236	802236	Turquoise Valley, Inc.	Well Inventory	222	YES	YES	Water quality sample collected in July 2009
TVI 713	567713	Turquoise Valley, Inc.	Well Inventory	200	YES	NO	Well identified for water level measurements only
TVI 875	568875	Turquoise Valley, Inc.	Plume	330	NO	YES	Water quality sample collected in July 2009, no access to well casing for water level measurement
WEED	544535	Weed	Plume	320	NO	YES	Water quality sample collected in July 2009, no access to well casing for water level measurement
WEISKOPF	641802	Weiskopf	Plume	200	YES	YES	Water quality sample collected in July 2009
ZANDER	205126	Zander	Well Inventory	280	YES	YES	Water quality sample collected in July 2009

ADWR = Arizona Department of Water Resources
BIMA = Bisbee Municipal Airport
ft amsl = feet above mean sea level
NA = Not Applicable
ND = No Data
NR = No Record
35-71891 = ADWR 35 Database
[1] former owner ENGLUND

TABLE 2
Compilation of Analytical Results
For Inorganic Analytes and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate, dissolved	Nitrate/Nitrite, dissolved	Nitrite, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Bicarbonate as CaCO3	Carbonate as CaCO3	Hydroxide as CaCO3	Total Alkalinity	Residue, Filterable (TDS) @ 180ºC	TDS (calculated)	TDS Ratio (measured/ calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation/Anion Balance (%)
ANDERSON	613396	03/20/08	7.25	21.1	1176	431	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANDERSON	613396	05/05/08	7.03	21.8	1231	452	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANDERSON	613396	07/14/08	7.11	21.6	1260	472	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANDERSON	613396	10/15/08	7.10	21.3	1252	475	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANDERSON	613396	01/27/09	7.27	21	965	488	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANDERSON	613396	04/14/09	7.12	21.8	1229	534	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ANDERSON	613396	07/14/09	7.03	22.2	1372	550	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-02	616586	01/07/08	ND	ND	ND	14	14	NA	2.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-02	616586	03/03/08	ND	ND	ND	16	16	NA	2.41	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-02	616586	05/05/08	ND	ND	ND	13.3	15.9	NA	2.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-02	616586	08/12/08	7.01	22.3	630	14.3	17.8	0.2	2.42	2.42	<0.01	66.4	9.1	2.1	20.0	181	5	<2	186	280	255	1.10	4.7	5.0	3.1
AWC-02	616586	10/23/08	7.31	23.1	464	15.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-02	616586	03/11/09	7.19	21.8	420	15.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-02	616586	04/22/09	7.17	22.6	430	14.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-02	616586	07/22/09	7.24	22.7	444	14.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-03	616585	01/07/08	ND	ND	ND	41	14	NA	2.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-03	616585	03/03/08	ND	ND	ND	38	14	NA	2.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-03	616585	05/05/08	ND	ND	ND	37.3	12.2	NA	2.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-03	616585	08/12/08	7.28	22.4	469	38.8	15.5	0.2	2.28	2.28	<0.01	62.8	8.6	2.1	22.8	156	5	<2	162	290	260	1.12	4.6	4.9	3.2
AWC-03	616585	10/23/08	7.48	21.0	462	41.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-03	616585	03/11/09	7.25	21.2	445	64.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-03	616585	04/22/09	7.30	21.4	452	42.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-03	616585	07/22/09	7.39	22.6	456	41.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-04	616584	02/04/08	ND	ND	ND	18	40	NA	2.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-04	616584	04/07/08	ND	ND	ND	18	45	NA	2.28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-04	616584	06/02/08	ND	ND	ND	14.3	48	NA	2.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-04	616584	08/12/08	7.08	22.5	458	21.6	47.5	0.1	1.94	1.94	<0.01	88.7	11.6	2.6	22.8	206	<2	<2	206	380	328	1.16	6.0	6.4	3.2
AWC-04	616584	10/23/08	6.91	22.2	616	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-04	616584	03/11/09	7.02	21.3	539	27.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-04	616584	04/22/09	6.93	22.1	560	26.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-04	616584	07/22/09	7.13	22.5	587	26.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-05	590620	02/04/08	ND	ND	ND	13	15	NA	1.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-05	590620	04/07/08	ND	ND	ND	14	14	NA	1.94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-05	590620	06/02/08	ND	ND	ND	14.3	15.6	NA	1.86	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-05	590620	08/12/08	6.74	23.3	425	14.9	16.1	0.1	2.02	2.02	<0.01	50.6	6.2	2.2	35.6	164	8	<2	172	280	242	1.16	4.3	4.6	3.4
AWC-05	590620	10/23/08	7.45	21.0	422	15.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-05	590620	03/11/09	7.31	22.1	398	16.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-05	590620	06/03/09	7.33	22.0	418	12.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AWC-05	590620	07/22/09	7.49	24.4	423	14.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BANKS 986	647986	02/27/08	7.53	21.8	980	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BANKS 986	647986	05/12/08	7.40	22.1	1021	65.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BANKS 986	647986	07/21/08	7.43	22.9	1034	82.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BANKS 986	647986	10/13/08	7.28	21.7	980	53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BANKS 986	647986	01/21/09	7.66	21.6	872	164	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BANKS 986	647986	04/08/09	7.56	22.7	933	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BANKS 986	647986	07/09/09	7.59	23.1	871	70.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-01	539783	03/04/08	6.46	21.9	2745	1320	30.4	<0.1	0.92	0.92	<0.01	621	100	4.5	60.2	610	<2	<2	610	2850	2510	1.14	40.8	42.0	1.4
BF-01	539783	05/23/08	6.41	18.3	2698	1450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-01	539783	08/05/08	6.11	22.4	3095	1330	30	<2	1.09	1.09	<0.01	624	107	4.5	61.3	579	<2	<2	579	2820	2510	1.12	40.4	42.8	2.9
BF-01	539783	11/05/08	6.33	19.9	3027	1490	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-01	539783	02/20/09	6.42	19.2	1477	1330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-01	539783	05/06/09	5.98	23.9	2632	1280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-01	539783	08/17/09	6.21	29.7	2948	1250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA	577927	02/06/08	6.69	22.2	1335	210	105	0.1	6.80	6.80	<0.01	224	48.4	12.4	65.9	510	<2	<2	510	980	1000	0.98	18.0	18.4	1.1
BIMA[1]	577927	04/25/08	6.37	23.1	1521	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA[1]	577927	05/13/08	6.58	22.7	1489	195	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA[1]	577927	06/23/08	6.30	23.3	1572	225	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA DUP	577927	06/23/08	6.30	23.3	1572	196	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA[1]	577927	07/29/08	6.44	23.0	1647	204	101	0.1	7.85	7.85	<0.01	209	46.5	12.2	63.6	456	<2	<2	456	1040	945	1.10	16.8	17.4	1.8
BIMA[1]	577927	08/28/08	M	23.0	1776	256	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA[1]	577927	09/23/08	6.29	23.0	1741	296	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA	577927	10/22/08	6.41	22.3	1801	285	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA	577927	01/20/09	6.40	21.7	1233	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA DUP	577927	01/20/09	6.40	21.7	1233	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA	577927	04/07/09	6.45	23.4	1436	212	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIMA	577927	07/08/09	6.31	23.4	1483	189	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BLOMMER	633472	02/05/08	7.43	20.2	714	206	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BLOMMER[1]	633472	04/21/08	7.06	21.9	753	201	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BLOMMER[1]	633472	05/15/08	7.16	22.2	845	211	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BLOMMER[1]	633472	06/23/08	6.93	21.5	903	193	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BLOMMER[1]	633472	07/29/08	7.21	22.2	921	203	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BLOMMER[1]	633472	08/27/08	7.12	22.1	864	189	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BLOMMER[1]	633472	09/23/08	7.16	22.3	818	193	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BLOMMER	633472	10/22/08	7.17	21.3	873	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-1G	909474	08/27/08	7.09	24.2	808	107	76.3	0.1	13.5	13.5	<0.01	124	32.2	6.4	35.7	229	9	<2	238	580	588	0.99	10.1	10.6	2.4
BMO-2008-1G	909474	11/11/08	7.00	20.8	721	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-1G	909474	02/25/09	7.01	22.0	860	109	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-1G	909474	04/28/09	7.04	22.2	762	198	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-1G	909474	08/04/09	7.23	22.8	950	104	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
Compilation of Analytical Results
For Inorganic Analytes and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate, dissolved	Nitrate/Nitrite, dissolved	Nitrite, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Bicarbonate as CaCO3	Carbonate as CaCO3	Hydroxide as CaCO3	Total Alkalinity	Residue, Filterable (TDS) @ 180ºC	TDS (calculated)	TDS Ratio (measured/ calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation/Anion Balance (%)
BMO-2008-3B	909147	07/18/08	7.35	23.9	615	106	24	0.3	3.68	3.72	0.04	64.5	12	2.9	53.6	151	3	<2	154	390	373	1.05	6.2	6.6	3.1
BMO-2008-3B	909147	11/04/08	7.36	21.4	599	179	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-3B DUP	909147	11/04/08	7.36	21.4	599	177	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-3B	909147	02/19/09	7.24	21.4	664	155	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-3B	909147	05/11/09	7.23	22.1	631	149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-3B	909147	08/06/09	7.33	21.4	718	151	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-3B DUP	909147	08/06/09	7.33	21.4	718	156	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-4B	910096	12/11/08	7.34	22.8	374	9.4	4.3	0.2	0.78	0.78	<0.01	49.2	7.1	1.4	33.4	183	<2	<2	183	240	228	1.05	4.2	4.5	3.4
BMO-2008-4B	910096	02/18/09	7.17	23.2	370	13.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-4B	910096	04/30/09	7.33	24.5	376	11.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-4B DUP	910096	04/30/09	7.33	24.5	376	11.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-4B	910096	08/06/09	7.53	24.6	397	11.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-5B	909653	09/30/08	7.08	22.0	688	193	15	0.3	2.02	2.02	<0.01	108	17.0	2.8	40.1	155	<2	<2	155	510	478	1.07	7.7	8.6	5.5
BMO-2008-5B	909653	02/18/09	7.03	21.5	691	192	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-5B	909653	04/27/09	7.32	22.1	605	177	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-5B	909653	08/04/09	7.35	22.3	724	174	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-5M	909552	10/02/08	7.13	23.6	551	107	15.1	0.2	1.85	1.85	<0.01	75.8	11.4	2.6	34.1	138	<2	<2	138	390	337	1.16	5.5	6.2	6.0
BMO-2008-5M	909552	02/18/09	7.06	22.5	562	122	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-5M	909552	04/27/09	7.50	22.9	501	111	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-5M	909552	08/04/09	7.53	23.1	605	122	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-6B	909146	07/16/08	7.36	24.1	475	53.3	13	0.4	1.97	1.97	<0.01	59.7	10.2	3.0	26.2	151	9	<2	160	300	274	1.09	4.8	5.0	2.0
BMO-2008-6B	909146	11/04/08	7.41	21.5	398	60.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-6B	909146	02/19/09	7.23	21.1	444	54.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-6B	909146	04/27/09	7.55	21.7	389	52.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-6B	909146	08/04/09	7.48	23.4	470	48.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-6M	909019	07/10/08	M	22.1	702	182	16	0.3	1.98	1.98	<0.01	104	17.9	3.60	32.5	144	9	<2	153	480	460	1.04	7.4	8.1	4.5
BMO-2008-6M	909019	11/04/08	7.33	21.8	621	199	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-6M	909019	02/20/09	7.11	22.0	702	193	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-6M	909019	04/28/09	7.34	22.4	595	119	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-6M	909019	08/04/09	7.40	23.3	750	189	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-7M	908794	07/14/08	7.63	25.2	500	31.4	10.4	0.3	1.55	1.55	<0.01	32.4	11.4	2.70	60.8	188	13	<2	201	290	282	1.03	5.1	5.3	1.9
BMO-2008-7M	908794	11/06/08	7.53	22.6	380	34.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-7M	908794	02/18/09	7.31	23.3	452	27.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-7M	908794	05/11/09	7.43	24.4	426	26.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-7M	908794	08/06/09	7.81	24.1	486	25.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-8B	910097	12/05/08	6.47	20.1	2480	1890	80	0.1	2.91	2.93	0.02	529	195	14.4	46.4	630	<2	<2	630	3080	3150	0.98	54.7	44.9	-9.8
BMO-2008-8B	910097	02/19/09	6.19	21.0	2958	1570	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-8B	910097	05/05/09	6.18	21.3	2888	1370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-8B	910097	08/10/09	6.42	21.5	2897	1250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-8M	909711	12/09/08	7.16	23.4	852	197	13	0.3	1.78	1.78	<0.01	89	43.0	5.80	64.9	260	<2	<2	260	640	576	1.11	9.8	11.0	5.8
BMO-2008-8M	909711	02/19/09	7.27	23.5	758	147	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-8M DUP	909711	02/19/09	7.27	23.5	758	149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-8M	909711	05/05/09	7.19	25.1	680	122	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-8M	909711	08/10/09	7.49	24.8	673	107	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-9M	909255	08/08/08	7.72	25.7	415	47.3	14	0.10	1.90	1.93	0.03	28.0	17.8	3.4	64.6	193	6	<2	199	320	306	1.05	5.5	5.7	1.8
BMO-2008-9M	909255	11/05/08	7.89	21.4	444	54.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-9M	909255	02/26/09	7.71	24.5	482	28.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-9M	909255	05/12/09	7.76	24.8	449	51.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-9M	909255	08/17/09	7.76	25.6	534	53.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-10GU	909272	08/04/08	6.41	23.6	3660	2210	60	<2	0.13	0.16	<0.01	649	311	15.3	37.6	984	<2	<2	984	3810	3870	0.98	67.8	60.0	-6.1
BMO-2008-10GU	909272	11/05/08	6.15	20.2	3343	1890	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-10GU	909272	02/25/09	5.96	22.7	3426	1740	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-10GU	909272	05/06/09	5.99	23.2	3359	1710	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-10GU	909272	08/11/09	6.28	22.5	3348	1690	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-10GL	909435	08/20/08	6.22	29.5	2924	1320	30	<2	<0.02	<0.02	<0.01	579	167	10.5	90.5	870	<2	<2	870	2970	2720	1.09	46.0	46.9	1.0
BMO-2008-10GL	909435	11/05/08	6.47	25.3	2573	1290	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-10GL	909435	02/25/09	6.34	26.8	2646	1180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-10GL	909435	05/12/09	6.35	26.2	2402	1120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-10GL	909435	08/11/09	6.52	27.3	2661	1030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-11G	909434	08/22/08	8.02	28.2	359	14.2	2.8	0.2	0.56	0.56	<0.01	10.7	5.1	1.7	64.2	149	14	<2	163	220	205	1.07	3.6	3.8	2.7
BMO-2008-11G	909434	11/12/08	7.96	24.2	257	13.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-11G	909434	02/26/09	7.92	25.1	319	12.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-11G	909434	04/28/09	8.14	25.5	273	11.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-11G	909434	08/12/09	8.24	25.3	365	11.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-13B	909551	10/03/08	6.49	21.6	2180	980	23	<0.2	1.92	1.92	<0.01	420	79.8	6.8	53.0	347	<2	<2	347	2040	1780	1.15	28.3	30.1	3.1
BMO-2008-13B	909551	02/17/09	6.51	20.9	1941	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-13B	909551	05/06/09	6.55	22.0	1891	930	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-13B	909551	08/05/09	6.63	21.5	2137	950	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-13M	909760	12/03/08	7.73	24.1	1463	494	20	0.7	0.02	0.02	<0.01	35.1	13.2	3.4	286	259	3	<2	262	970	1010	0.96	16.2	15.5	-2.2
BMO-2008-13M	909760	02/17/09	8.21	22.7	1340	441	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-13M	909760	04/29/09	8.04	24.8	1126	217	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMO-2008-13M	909760	08/05/09	8.04	25.4	1392	387	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BURKE	212268	02/07/08	7.17	23.0	411	29.5	31.8	0.3	1.83	1.83	<0.01	62.3	22.8	2.8	26.0	212	<2	<2	212	360	311	1.16	5.9	6.2	2.5
BURKE	212268	04/22/08	7.13	27.0	423	26	11	0.2	2.88	2.88	<0.01	52.1	22	2.3	16.9	191	<2	<2	191	260	NA	NA	NA	NA	NA
BURKE	212268	08/05/08	7.06	26.8	496	21.9	10	0.2	2.81	2.85	<0.01	52.5	22.3	2.3	16.1	187	<2	<2	187	260	250	1.04	4.6	5.2	6.1
BURKE	212268	10/20/08	7.57	26.0	466	20.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BURKE	212268	02/11/09	7.23	25.0	363	23.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BURKE	212268	04/28/09	7.16	26.1	369	24.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BURKE	212268	08/19/09	7.36	26.7	486	22.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHAMBERS	629807	03/06/08	7.73	17.8	408	7.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHAMBERS	629807	05/05/08	7.15	22.1	421	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHAMBERS	629807	07/14/08	7.43	23.2	434	5.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHAMBERS	629807	10/15/08	7.41	22.5	420	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
Compilation of Analytical Results
For Inorganic Analytes and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate, dissolved	Nitrate/Nitrite, dissolved	Nitrite, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Bicarbonate as CaCO3	Carbonate as CaCO3	Hydroxide as CaCO3	Total Alkalinity	Residue, Filterable (TDS) @ 180ºC	TDS (calculated)	TDS Ratio (measured/ calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation/Anion Balance (%)
CHAMBERS	629807	01/27/09	7.57	21.5	312	5.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHAMBERS	629807	04/14/09	7.42	22.4	384	6.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHAMBERS	629807	07/15/09	7.83	23.4	414	4.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-1	903992	02/22/08	6.93	21.2	1401	720	19.8	0.3	2.33	2.33	<0.01	257.0	64.5	7.7	56.5	206	11	<2	217	1360	1270	1.07	20.2	20.8	1.5
COB MW-1	903992	05/20/08	6.88	22.0	2050	980	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-1	903992	07/30/08	6.88	21.7	1780	730	19.8	0.1	2.50	2.50	<0.01	273	69.3	8.0	58.9	223	<2	<2	223	1500	1300	1.15	20.5	22.1	3.8
COB MW-1	903992	10/23/08	6.95	21.2	1690	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-1	903992	02/12/09	6.92	21.1	1313	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-1	903992	04/21/09	7.15	22.7	1366	720	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-1	903992	07/22/09	6.94	21.6	1570	680	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-1 DUP	903992	07/22/09	6.94	21.6	1570	730	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-2	903984	02/22/08	7.28	20.2	417	41	19.4	0.3	6.49	6.49	<0.01	66.4	9.0	2.1	25.5	156	12	<2	168	340	298	1.14	5.2	5.2	0.0
COB MW-2	903984	05/20/08	7.32	21.2	490	40.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-2	903984	07/30/08	7.34	20.8	511	37.6	19.9	<0.1	6.80	6.80	<0.01	66.3	9.0	2.1	26.6	158	<2	<2	158	330	286	1.15	4.9	5.2	3.0
COB MW-2	903984	10/23/08	7.36	20.3	498	34.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-2	903984	02/12/09	7.35	20.2	379	35.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-2	903984	04/23/09	7.33	21.8	431	34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-2	903984	07/22/09	7.36	21.3	483	33.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-3	906823	02/28/08	7.39	21.0	416	57.8	16.2	0.2	2.0	2.0	<0.01	62.2	8.9	2.2	25.5	159	<2	<2	159	300	277	1.08	5.0	5.0	0.0
COB MW-3	906823	03/27/08	ND	ND	ND	57.7	16.5	0.301	NA	2.04	NA	NA	9.13	2.65	25.0	158	18	<10	176	332	NA	NA	NA	NA	NA
COB MW-3	906823	04/30/08	ND	ND	ND	37	14.5	0.12	NA	2.05	NA	62.8	8.87	3.13	24.1	184	<10	<10	184	68	NA	NA	NA	NA	NA
COB MW-3	906823	05/20/08	7.56	22.3	473	35.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-3	906823	07/24/08	ND	ND	ND	64.9	16.4	0.354	NA	2.03	NA	61.1	NA	2.13	21.9	176	<10	<10	176	318	NA	NA	NA	NA	NA
COB MW-3	906823	07/30/08	7.64	22.3	541	67.3	16.1	0.2	2.41	2.41	<0.01	66.1	9.2	2.4	26.5	149	<2	<2	149	320	288	1.11	5.0	5.2	2.0
COB MW-3	906823	10/09/08	ND	ND	ND	52.5	17	0.463	NA	1.83	NA	60.7	8.55	2.68	23.1	162	<10	<10	162	355	NA	NA	NA	NA	NA
COB MW-3	906823	10/23/08	7.43	20.8	507	76.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-3	906823	02/12/09	7.35	21.1	432	112	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-3	906823	04/23/09	7.35	22.6	407	43.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB MW-3	906823	07/22/09	7.38	21.5	460	52.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB WL	593116	02/22/08	6.99	20.6	919	90	106	0.3	3.91	3.91	<0.01	128	34.3	7.2	47.8	269	11	<2	280	650	603	1.08	10.8	11.5	3.1
COB WL	593116	03/24/08	ND	ND	ND	98.2	101	0.305	NA	3.55	NA	NA	NA	9.62	56.6	308	<10	<10	308	657	NA	NA	NA	NA	NA
COB WL	593116	04/28/08	ND	ND	ND	98.7	106	0.274	NA	3.49	NA	NA	36.3	9.5	59.6	308	<10	<10	308	743	NA	NA	NA	NA	NA
COB WL	593116	05/20/08	7.30	21.9	1053	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB WL	593116	07/30/08	7.17	22.0	1098	97.1	110	0.1	4.02	4.02	<0.01	130	35	7.5	51.5	274	<2	<2	274	700	613	1.14	10.9	11.8	4.0
COB WL	593116	07/30/08	ND	ND	ND	100	114	0.234	NA	3.55	NA	124	35.6	9.44	57.8	304	<10	<10	304	653	NA	NA	NA	NA	NA
COB WL	593116	10/15/08	ND	ND	ND	107	116	0.26	NA	3.47	NA	132	34.8	8.05	50.7	290	<10	<10	290	651	NA	NA	NA	NA	NA
COB WL	593116	10/23/08	7.23	21.4	1075	104	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB WL	593116	02/12/09	6.98	20.6	814	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB WL	593116	04/23/09	7.29	22.2	923	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COB WL	593116	07/22/09	7.17	22.5	1037	97.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COLLINS	565260	02/12/08	6.88	21.6	1470	520	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COLLINS	565260	05/29/08	7.01	22.0	1459	520	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COLLINS	565260	07/31/08	6.86	21.6	1502	536	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COLLINS	565260	10/20/08	8.44	24.7	1510	518	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COLLINS	565260	02/11/09	6.68	21.4	1147	567	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COLLINS	565260	04/21/09	6.92	22.5	1150	499	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COLLINS	565260	07/22/09	7.00	22.4	1413	460	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER	623564	02/14/08	7.02	20.8	371	33	17.5	0.3	2.82	2.82	<0.01	47.9	13.8	2.2	25.3	154	9	<2	163	270	254	1.06	4.6	4.7	1.1
COOPER	623564	05/14/08	8.08	22.1	419	34.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER	623564	07/31/08	7.81	28.4	455	33.7	16.9	0.2	2.68	2.68	<0.01	48.9	13.3	2.1	24.6	150	7	<2	157	260	249	1.04	4.5	4.6	1.1
COOPER	623564	10/20/08	8.44	24.7	448	31.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER	623564	02/11/09	7.32	19.2	333	34.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER	623564	04/21/09	8.19	24.9	346	33.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER	623564	07/20/09	8.45	29.8	430	32.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER C	637069	03/20/08	6.93	21.3	2081	880	49	<0.1	3.09	3.10	0.01	393	59.8	6.0	45.0	229	<2	<2	229	1810	1690	1.07	27.0	26.7	0.6
COOPER C	637069	05/05/08	6.78	22.4	2139	990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER C	637069	07/15/08	6.86	22.3	2162	1040	46.5	<0.1	3.24	3.24	<0.01	386	58.8	5.8	43.3	235	<2	<2	235	1860	1740	1.07	28.1	26.2	-3.5
COOPER C DUP	637069	07/15/08	6.86	22.3	2162	960	46.4	0.1	3.25	3.25	<0.01	398	61.7	6.1	46.2	234	<2	<2	234	1860	1670	1.11	26.4	27.2	1.5
COOPER C	637069	10/16/08	6.80	21.4	2078	1020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER C	637069	01/27/09	6.92	20.5	1489	950	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER C	637069	04/14/09	6.85	21.6	1833	930	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
COOPER C	637069	07/14/09	6.75	22.1	1972	910	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DODSON	644927	02/20/08	7.61	17.3	857	54	129	0.3	10.70	10.70	<0.01	111	37.5	12.3	41.2	252	14	<2	266	590	598	0.99	10.8	10.8	0.0
DODSON	644927	05/12/08	7.11	21.1	1118	34.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DODSON	644927	07/24/08	7.25	21.6	1233	49.3	160	0.2	13.10	13.10	<0.01	124	43.3	13.7	51.3	223	12	<2	235	740	646	1.15	11.2	12.4	5.1
DODSON	644927	10/13/08	7.15	20.5	1095	56.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DODSON	644927	01/22/09	7.20	20.4	892	51.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DODSON	644927	04/09/09	7.09	21.4	1103	50.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DODSON	644927	07/08/09	7.18	21.1	1153	55.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DURAZO	NR	02/10/09	7.22	18.8	848	386	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DURAZO	NR	04/20/09	7.37	22.7	901	367	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DURAZO	NR	07/15/09	7.57	22.8	1102	332	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EAST	599796	02/08/08	7.45	19.9	423	10.6	31.2	0.4	6.30	6.30	<0.01	59.9	24.3	2.5	31.6	227	<2	<2	227	320	325	0.98	6.1	6.4	2.4
EAST	599796	05/14/08	7.31	20.9	595	14.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EAST	599796	07/23/08	7.34	20.8	605	11.8	33.3	0.4	6.10	6.10	<0.01	59.5	24.4	2.4	31.4	217	6	<2	223	350	326	1.07	6.0	6.4	3.2
EAST	599796	10/14/08	7.33	20.3	531	8.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EAST	599796	01/20/09	7.33	20.0	482	12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EAST	599796	04/08/09	7.32	20.6	555	15.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EAST	599796	07/13/09	7.33	21.2	613	13.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPPELE 641	805641	03/11/08	7.98	21.4	646	21.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPPELE 641	805641	05/12/08	7.21	21.7	667	24.7	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPPELE 641	805641	07/21/08	7.49	23.9	605	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPPELE 641	805641	10/14/08	7.56	20.4	642	21.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
Compilation of Analytical Results
For Inorganic Analytes and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate, dissolved	Nitrate/Nitrite, dissolved	Nitrite, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Bicarbonate as CaCO3	Carbonate as CaCO3	Hydroxide as CaCO3	Total Alkalinity	Residue, Filterable (TDS) @ 180ºC	TDS (calculated)	TDS Ratio (measured/ calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation/Anion Balance (%)
EPPELE 641	805641	01/21/09	7.60	21.1	500	22.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPPELE 641	805641	04/08/09	7.56	22.4	538	19.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPPELE 641	805641	07/09/09	7.43	24.3	550	17.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRANCO	500101	02/06/08	7.47	19.6	1301	670	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRANCO	500101	05/05/08	6.93	23.1	1557	680	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRANCO	500101	07/14/08	7.00	22.7	1586	680	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRANCO	500101	10/15/08	7.20	20.5	1560	680	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRANCO	500101	01/22/09	7.19	20.1	1178	740	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRANCO	500101	04/14/09	7.24	23.1	1416	690	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FRANCO	500101	07/13/09	7.30	27.3	1532	670	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ	212447	02/27/08	6.76	21.1	1827	152	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ[1]	212447	04/21/08	6.74	22.0	1739	137	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ[1]	212447	05/14/08	6.88	22.3	1532	131	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ[1]	212447	06/23/08	6.74	22.0	1788	111	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ[1]	212447	07/29/08	6.74	22.2	1989	152	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ[1]	212447	08/28/08	M	21.6	1889	137	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ[1]	212447	09/23/08	6.82	21.9	1821	137	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ	212447	10/22/08	6.80	21.4	1940	145	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ	212447	01/21/09	6.74	21.2	1481	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ	212447	04/09/09	6.78	21.5	1695	138	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FULTZ	212447	07/13/09	7.04	23.4	1452	81	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GALLANT	502527	02/11/08	7.46	20.2	604	17.9	12.7	0.2	3.04	3.04	<0.01	106	15.9	4.3	25.6	344	<2	<2	344	400	402	1.00	7.8	7.8	0.0
GALLANT	502527	07/23/08	7.26	21.2	925	20.9	56.9	0.1	19.2	19.20	<0.01	138	19.8	4.8	29.6	303	<2	<2	303	560	537	1.04	9.4	9.9	2.6
GARNER 635	587635	02/04/08	7.61	22.7	479	37.8	13.7	0.2	1.68	1.69	0.01	39.2	8.2	2.8	65.0	182	<2	<2	182	290	284	1.02	4.9	5.5	5.8
GARNER 635	587635	05/05/08	7.26	24.9	468	35.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GARNER 635	587635	07/15/08	7.63	25.6	480	37.4	13.5	0.2	1.92	1.92	<0.01	37.6	7.8	2.5	60.2	163	16	<2	179	300	281	1.07	4.0	5.2	4.0
GARNER 635	587635	10/15/08	7.65	24.1	472	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GARNER 635	587635	01/28/09	7.69	23.4	368	37.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GARNER 635	587635	04/15/09	7.83	24.1	412	36.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GARNER 635	587635	07/16/09	7.56	25.1	445	35.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GGOOSE 547	628547	05/21/08	7.08	22.7	856	199	37.1	0.1	7.14	7.14	<0.01	113	32.9	5.5	25.6	194	<2	<2	194	600	561	1.07	9.6	9.6	0.0
GGOOSE 547	628547	08/15/08	7.02	24.8	915	178	35.4	0.1	8.90	8.90	<0.01	117	32.4	5.6	25.4	187	<2	<2	187	590	545	1.08	9.1	9.7	3.2
GGOOSE 547	628547	10/29/08	7.27	22.6	897	216	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GGOOSE 547	628547	02/24/09	7.06	23.8	851	186	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GGOOSE 547	628547	05/14/09	7.15	23.9	743	174	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GGOOSE 547	628547	08/19/09	7.20	23.8	887	175	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GL-03	539782	03/04/08	7.43	25.7	417	20.3	20.3	<0.1	0.75	0.77	0.02	46.7	22.8	2.6	18.7	192	<2	<2	192	260	250	1.04	4.8	5.1	3.0
GL-03	539782	05/22/08	7.06	25.3	647	43.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GL-03	539782	08/04/08	7.10	26.8	673	36.1	21.4	<0.1	0.60	0.62	0.02	68.7	38.9	3.4	19.5	278	<2	<2	278	400	358	1.12	6.9	7.5	4.2
GL-03	539782	11/12/08	7.21	25.2	478	34.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GL-03	539782	02/26/09	7.05	26.5	603	54.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GL-03	539782	05/05/09	6.91	28.1	682	43.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GL-03	539782	08/01/09	7.12	27.4	768	43.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOBAN	805290	02/27/08	6.93	22.1	1359	510	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOBAN	805290	05/07/08	6.88	22.3	1532	670	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOBAN	805290	07/14/08	6.88	23.1	1719	690	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOBAN	805290	10/16/08	6.98	22.4	1624	692	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOBAN	805290	01/28/09	6.82	21.3	1220	580	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOBAN	805290	04/15/09	7.07	21.7	1423	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOBAN	805290	07/14/09	6.78	22.6	1551	670	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOWARD	NR	03/04/08	7.06	20.4	1280	571	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOWARD	NR	05/08/08	6.95	21.0	1494	673	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOWARD	NR	07/14/08	7.00	21.1	1566	610	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOWARD	NR	10/15/08	7.00	20.6	1598	683	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOWARD	NR	01/28/09	6.82	21.0	1203	640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOWARD DUP	NR	01/28/09	6.82	21.0	1203	640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOWARD	NR	04/15/09	7.02	21.5	1397	620	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOWARD	NR	07/15/09	7.16	21.5	1539	640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KEEFER	209744	02/06/08	7.70	19.0	378	6.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KEEFER	209744	05/06/08	7.19	20.3	512	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KEEFER	209744	07/16/08	7.21	21.4	539	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KEEFER	209744	10/28/08	7.32	20.1	534	21.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KEEFER	209744	01/28/09	7.42	19.5	356	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KEEFER	209744	04/16/09	7.29	20.0	452	7.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
KEEFER	209744	07/14/09	7.35	22.1	533	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCCONNELL 265	539265	02/20/08	7.21	21.1	1435	720	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCCONNELL 265	539265	05/06/08	6.77	21.6	1668	737	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCCONNELL 265	539265	07/15/08	6.91	22.3	1775	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCCONNELL 265	539265	10/15/08	6.82	21.3	1686	703	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCCONNELL 265	539265	01/28/09	6.85	21	1274	660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCCONNELL 265	539265	04/15/09	7.04	21.3	1472	657	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCCONNELL 265	539265	07/15/09	7.01	22.2	1607	662	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER	35-71891	03/05/08	7.27	21.6	1055	317	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER	35-71891	05/15/08	7.12	22.8	1051	329	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER	35-71891	07/31/08	7.16	22.5	1078	317	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER	35-71891	10/20/08	7.24	22.2	1080	305	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER DUP	35-71891	10/20/08	7.24	22.2	1080	326	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER	35-71891	02/11/09	7.12	21.3	818	321	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER	35-71891	04/20/09	7.22	23.2	845	313	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER	35-71891	07/15/09	7.41	22.9	1031	293	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METZLER DUP	35-71891	07/15/09	7.41	22.9	1031	309	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MOORE	538847	02/20/08	7.69	22.2	362	7.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MOORE	538847	05/08/08	7.09	22.4	432	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
Compilation of Analytical Results
For Inorganic Analytes and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate, dissolved	Nitrate/Nitrite, dissolved	Nitrite, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Bicarbonate as CaCO3	Carbonate as CaCO3	Hydroxide as CaCO3	Total Alkalinity	Residue, Filterable (TDS) @ 180ºC	TDS (calculated)	TDS Ratio (measured/ calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation/Anion Balance (%)
MOORE	538847	07/16/08	7.34	23.0	482	9.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MOORE	538847	10/29/08	7.32	22.4	452	19.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MOORE	538847	01/29/09	7.11	21.7	328	6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MOORE	538847	04/16/09	7.40	22.1	374	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MOORE	538847	07/15/09	7.44	23.3	439	5.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NESS	509127	07/24/08	7.35	26.5	563	50.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NESS	509127	10/16/08	7.47	21.4	542	48.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NESS	509127	01/26/09	7.39	17.2	422	52.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NESS	509127	05/11/09	7.52	28.8	472	45.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NESS	509127	08/11/09	7.56	28.7	525	39.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NOTEMAN	212483	02/05/08	6.70	19.9	1317	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NOTEMAN	212483	05/13/08	6.67	23.0	1445	272	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NOTEMAN	212483	07/24/08	6.68	24.2	1539	274	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NOTEMAN	212483	10/23/08	6.57	23.2	1643	356	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NOTEMAN	212483	01/19/09	6.38	22.9	1098	322	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NOTEMAN	212483	04/07/09	6.56	23.8	1375	303	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NOTEMAN	212483	07/08/09	6.55	24.6	1405	260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NSD-02	527587	02/05/08	ND	ND	ND	43	52.5	0.201	<1.00	NA	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	388	NA	NA	NA	NA	NA
NSD-02	527587	07/07/08	8.02	21.0	609	44	42	0.0431	0.641	NA	0.007	NA	NA	NA	NA	NA	NA	NA	NA	369	NA	NA	NA	NA	NA
NSD-03	527586	02/05/08	ND	ND	ND	70.7	14.1	0.186	3.20	NA	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	396	NA	NA	NA	NA	NA
NSD-03	527586	07/07/08	7.64	21.0	570	58.9	11.6	0.041	3.20	NA	0.011	NA	NA	NA	NA	NA	NA	NA	NA	372	NA	NA	NA	NA	NA
NWC-02	562944	10/27/08	7.47	22.2	438	5.1	20.7	0.1	2.74	2.74	<0.01	63.6	8.3	1.1	20.2	176	<2	<2	176	280	237	1.18	4.4	4.7	3.3
NWC-02	562944	02/12/09	7.58	21.6	330	6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-02	562944	04/23/09	7.39	23.8	373	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-02	562944	07/21/09	7.62	23.9	408	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-03	203321	03/04/08	ND	ND	ND	560	30	NA	4.64	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-03	203321	06/09/08	ND	ND	ND	524	NA	NA	4.75	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-03	203321	10/27/08	7.07	21.9	1374	489	30	<0.1	4.41	4.41	<0.01	222	34.1	3.5	47.2	181	<2	<2	181	1010	954	1.06	15.10	16.10	3.20
NWC-03	203321	02/12/09	7.06	20.2	1023	412	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-03	203321	04/23/09	6.98	21.9	1129	466	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-03 DUP	203321	04/23/09	6.98	21.9	1129	460	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-03	203321	07/21/09	7.21	22.9	1194	458	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04	551849	03/04/08	ND	ND	ND	240	41	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04	551849	06/09/08	ND	ND	ND	231	41.9	NA	6.25	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04	551849	10/27/08	7.32	25.0	856	162	41.4	0.1	6.54	6.54	<0.01	91.5	36.7	6.2	41.5	182	<2	<2	182	540	518	1.04	8.6	9.5	5.0
NWC-04[1]	551849	01/22/09	7.23	22.9	688	184	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04[1]	551849	02/12/09	7.20	19.8	699	181	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04 DUP	551849	02/12/09	7.20	19.8	699	198	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04[1]	551849	03/11/09	7.15	23.4	846	197	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04[1]	551849	04/23/09	7.21	24.1	797	188	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04[1]	551849	05/28/09	7.01	24.1	933	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04[1]	551849	06/24/09	6.93	25.6	792	169	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04[1]	551849	07/21/09	7.48	24.3	859	193	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04[1]	551849	08/19/09	7.12	24.5	906	183	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-04[1]	551849	09/23/09	7.16	23.8	953	202	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-06	575700	03/04/08	ND	ND	ND	7.9	13	NA	1.71	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-06	575700	06/09/08	ND	ND	ND	7.2	12.9	NA	1.78	NA	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-06	575700	10/27/08	7.35	23.3	414	6.4	13.4	0.2	1.86	1.86	<0.01	54.5	7.4	1.4	26.4	173	<2	<2	173	260	222	1.17	4.1	4.5	4.7
NWC-06	575700	02/12/09	7.54	21.8	306	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-06	575700	04/23/09	7.30	24.5	354	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWC-06	575700	07/21/09	7.63	23.5	388	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OSBORN	643436	02/25/08	7.35	22.4	508	16.4	18.2	0.3	3.76	3.76	<0.01	84.4	15.4	4.3	25.2	246	29	<2	275	370	357	1.04	6.6	6.7	0.8
OSBORN	643436	05/13/08	7.22	22.2	576	17.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OSBORN	643436	07/22/08	7.24	22.9	618	17.7	19.7	0.4	4.38	4.4	<0.01	80.3	15	4.2	24.7	252	29	<2	281	350	362	0.97	6.8	6.4	-3.0
OSBORN DUP	643436	07/22/08	7.24	22.9	618	17.5	19.6	0.3	4.65	4.7	<0.01	80.9	15.1	4.2	25.0	250	31	<2	281	350	364	0.96	6.8	6.4	-3.0
OSBORN	643436	10/16/08	7.39	22.4	595	15.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OSBORN	643436	01/20/09	7.33	22.4	469	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OSBORN	643436	04/07/09	7.25	24.0	542	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OSBORN	643436	08/18/09	7.16	24.6	643	17.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PALMER	578819	02/14/08	7.91	17.5	435	15.9	11.3	0.4	2.13	2.13	<0.01	31.9	27.1	5.4	50.1	235	15	< 2	251	300	308	0.97	5.8	6.1	2.5
PALMER	578819	05/13/08	7.92	22.9	508	16.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PALMER	578819	07/22/08	7.64	25.8	548	16.2	11.3	0.4	2.34	2.34	<0.01	30	25.4	5.1	47.9	226	39	<2	265	300	321	0.93	6.1	5.8	-2.5
PALMER	578819	10/16/08	7.61	17.0	527	15.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PALMER	578819	01/20/09	7.33	19.4	441	14.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PALMER	578819	04/08/09	7.65	19.1	475	15.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PALMER	578819	07/08/09	7.47	27.2	521	14.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PANAGAKOS	35-76413	04/21/08	6.80	20.5	1228	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PANAGAKOS	35-76413	07/21/08	6.95	21.9	1390	444	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PANAGAKOS	35-76413	10/13/08	6.86	21.2	1386	480	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PANAGAKOS DUP	35-76413	10/13/08	6.86	21.2	1386	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PANAGAKOS	35-76413	01/22/09	6.92	19.7	997	397	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PANAGAKOS	35-76413	04/09/09	6.81	21.7	1228	431	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PANAGAKOS DUP	35-76413	04/09/09	6.81	21.7	1228	426	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PANAGAKOS	35-76413	07/09/09	6.89	22.3	1469	490	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PARRA	576415	02/11/08	7.08	21.8	1067	360	33.4	0.1	4.17	< 0.04	<0.01	178	50.4	4.4	31.6	177	<2	<2	177	880	783	1.12	12.3	14.5	8.2
PARRA	576415	05/15/08	7.10	21.8	1200	405	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PARRA	576415	07/31/08	7.00	22.4	1248	423	33.5	<0.1	4.23	4.23	<0.01	181	49.8	4.5	32.4	213	<2	<2	213	930	871	1.07	14.4	14.7	1.0
PARRA DUP	576415	07/31/08	7.00	22.4	1248	404	33.5	<0.1	4.33	4.33	<0.01	177	48.5	4.3	30.9	212	<2	<2	212	920	845	1.09	14.0	14.3	1.1
PARRA	576415	10/20/08	7.07	22.9	1246	387	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PARRA	576415	02/13/09	7.24	22.1	965	405	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PARRA	576415	04/20/09	7.10	22.6	971	372	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PARRA	576415	07/20/09	7.17	23.9	1174	375	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
Compilation of Analytical Results
For Inorganic Analytes and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate, dissolved	Nitrate/Nitrite, dissolved	Nitrite, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Bicarbonate as CaCO3	Carbonate as CaCO3	Hydroxide as CaCO3	Total Alkalinity	Residue, Filterable (TDS) @ 180ºC	TDS (calculated)	TDS Ratio (measured/ calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation/Anion Balance (%)
PIONKE	613395	02/06/08	7.53	19.9	910	394	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PIONKE	613395	05/07/08	7.08	21.4	1100	391	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PIONKE	613395	07/17/08	6.99	21.9	1209	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PIONKE	613395	10/27/08	7.03	20.8	1175	460	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PIONKE	613395	01/29/09	7.13	19.9	847	385	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PIONKE	613395	04/14/09	7.58	20.7	1053	411	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PIONKE	613395	07/13/09	7.35	21.5	1165	472	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POOL	509518	02/20/08	7.95	20.9	497	134	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POOL	509518	05/19/08	7.40	22.2	585	122	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POOL	509518	07/31/08	7.47	22.3	599	117	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POOL	509518	10/21/08	7.51	21.4	598	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POOL	509518	02/13/09	7.62	20.8	473	141	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POOL	509518	04/21/09	7.73	22.6	470	124	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POOL	509518	07/20/09	7.76	22.9	579	122	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
POWER	624535	02/12/08	7.11	18.9	428	15.5	6.1	0.1	7.00	7.00	<0.01	95	7.6	3.8	7.4	242	<2	< 2	242	310	312	0.99	5.8	5.8	0.0
POWER	624535	07/22/08	7.10	21.7	795	20.2	37.8	<0.1	24.1	24.1	<0.01	124	11	3.8	13.6	222	29	<2	251	550	479	1.15	8.2	7.8	-2.5
RAMIREZ	216425	02/04/08	7.47	21.7	408	7.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAMIREZ	216425	05/06/08	7.19	22.7	405	8.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAMIREZ	216425	07/17/08	7.32	24.5	439	8.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAMIREZ	216425	10/27/08	7.41	22.2	412	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAMIREZ	216425	01/29/09	7.24	22.2	301	8.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAMIREZ	216425	04/16/09	7.49	22.4	344	7.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAMIREZ	216425	07/10/09	7.52	23.9	411	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY	803772	02/15/08	7.30	19.1	1540	159	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY [1]	803772	04/21/08	6.92	21.3	1418	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY [1]	803772	05/13/08	7.05	20.9	1418	123	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY [1]	803772	06/23/08	6.87	21.1	1593	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY [1]	803772	07/29/08	6.98	21.8	1411	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY [1]	803772	08/28/08	M	21.1	1519	129	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY [1]	803772	09/23/08	6.90	22.2	1519	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY	803772	10/22/08	6.96	20.8	1604	145	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY	803772	01/20/09	6.92	20.6	1355	88	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY	803772	04/08/09	6.85	21.4	1759	178	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RAY	803772	07/09/09	6.93	22.3	1434	126	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803	641803	02/07/08	7.45	18.6	601	138	13.2	0.2	4.69	4.71	0.02	94	11.7	3.0	26.6	148	<2	<2	148	410	383	1.07	6.3	6.9	4.5
ROGERS 803[1]	641803	04/21/08	7.32	21.4	552	128	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803[1]	641803	05/08/08	7.14	21.2	622	141	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803[1]	641803	06/23/08[1]	7.06	22.9	660	129	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803[1]	641803	07/29/08	6.78	23.1	339	134	13.1	0.2	4.30	4.30	<0.01	92.5	12.6	3.3	28.7	149	<2	<2	149	430	393	1.09	6.4	7.0	4.5
ROGERS 803[1]	641803	08/28/08	7.18	21.6	635	128	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803[1]	641803	09/23/08	7.24	21.9	599	133	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803	641803	10/22/08	7.36	21.3	650	144	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803	641803	02/10/09	7.42	17.9	475	141	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803	641803	04/29/09	7.52	21.9	506	211	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS 803	641803	08/03/09	7.39	24.2	674	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS E	216018	02/04/08	7.40	21.0	435	4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS E	216018	05/07/08	7.18	22.2	415	5.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS E	216018	07/17/08	7.28	23.0	446	7.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS E	216018	10/27/08	7.38	21.4	434	15.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS E	216018	02/10/09	7.51	20.7	322	5.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS E	216018	04/16/09	7.48	22.0	361	4.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ROGERS E	216018	07/13/09	7.34	22.6	420	3.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RUIZ	531770	02/05/08	7.73	18.2	445	263	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RUIZ	531770	05/15/08	7.23	25.9	965	265	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RUIZ	531770	07/30/08	6.99	22.1	999	243	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RUIZ	531770	10/20/08	7.04	22.0	995	238	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RUIZ	531770	02/12/09	6.94	20.9	748	254	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RUIZ	531770	04/21/09	7.18	22.3	759	227	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RUIZ	531770	08/03/09	7.05	22.9	1029	221	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ	210865	02/08/08	7.52	21.5	506	158	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	04/21/08	7.23	21.7	563	122	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	05/19/08	7.38	22.4	629	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	06/23/08	7.02	22.1	674	129	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	07/29/08	7.25	22.4	955	245	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	08/28/08	M	22.3	669	131	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	09/23/08	7.27	22.2	607	124	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	10/22/08	7.31	22.0	653	135	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	11/19/08	7.38	21.1	612	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	12/17/08	6.78	21.6	472	144	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	01/29/09	7.08	22.0	475	124	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ[1]	210865	02/23/09	7.33	22.1	610	123	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ	210865	04/17/09	7.46	22.2	520	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ	210865	07/10/09	7.52	22.8	651	116	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCHWARTZ DUP	210865	07/10/09	7.52	22.8	651	117	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SRC	211345	04/23/08	7.57	25.8	380	19	10	0.2	3.61	3.61	<0.01	25.8	16.3	2.1	48.2	174	<2	<2	174	230	NA	NA	NA	NA	NA
SRC	211345	08/05/08	7.40	27.2	452	15.4	10.4	0.2	3.74	3.74	<0.01	26.8	17.8	2.0	44.6	173	<2	<2	173	250	238	1.05	4.3	4.8	5.5
SWAN	NR	02/13/08	7.28	20.7	467	24.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWAN	NR	05/14/08	7.24	21.2	479	23.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWAN	NR	07/24/08	7.35	22.4	506	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWAN	NR	10/16/08	7.32	20.7	488	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWAN	NR	01/20/09	7.05	20.4	391	19.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
Compilation of Analytical Results
For Inorganic Analytes and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate, dissolved	Nitrate/Nitrite, dissolved	Nitrite, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Bicarbonate as CaCO3	Carbonate as CaCO3	Hydroxide as CaCO3	Total Alkalinity	Residue, Filterable (TDS) @ 180ºC	TDS (calculated)	TDS Ratio (measured/ calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation/Anion Balance (%)
SWAN	NR	04/07/09	7.21	21.5	447	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWAN	NR	07/08/09	7.18	23.1	473	18.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-02A	522574	03/04/08	8.67	22.6	302	12.3	8.6	0.3	<0.02	0.02	0.02	12.6	5.8	2.2	58.0	146	9	<2	155	190	196	0.97	3.6	3.7	1.4
TM-02A	522574	05/23/08	7.75	22.9	321	14.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-02A	522574	08/15/08	7.84	26.4	369	14.4	8.2	0.2	0.25	0.3	<0.01	14.7	5.2	2.4	60.2	143	8	<2	151	190	200	0.95	3.5	3.8	4.1
TM-02A	522574	10/30/08	8.07	23.9	375	21.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-02A	522574	02/24/09	8.10	24.8	340	20.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-02A	522574	05/06/09	8.06	26.7	320	18.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-02A	522574	08/12/09	8.34	26.9	398	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-03	522575	05/20/08	7.51	22.2	778	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-03	522575	08/06/08	7.08	21.6	828	97	40.7	0.2	7.68	7.68	<0.01	94.3	36.6	3.5	27.8	221	<2	<2	221	510	467	1.09	8.1	9.0	5.3
TM-03	522575	11/12/08	7.47	20.5	590	128	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-03	522575	02/26/09	7.21	21.8	737	107	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-03 DUP	522575	02/26/09	7.21	21.8	737	102	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-03	522575	05/13/09	7.47	22.2	695	109	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-03	522575	08/18/09	7.48	22.4	822	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-06 MILLER	522695	02/27/08	7.44	19.6	457	13.9	7.1	0.3	0.96	0.96	<0.01	42.2	19	1.7	54.3	218	<2	<2	218	310	274	1.13	4.9	6.1	10.9
TM-06 MILLER	522695	05/20/08	7.50	20.7	506	32.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-06 MILLER	522695	08/04/08	7.41	20.7	529	31.3	18	0.7	0.89	0.89	<0.01	37.8	19.5	1.9	52.1	210	<2	<2	210	300	291	1.03	5.4	5.8	3.6
TM-06 MILLER	522695	10/29/08	7.55	20.2	531	34.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-06 MILLER	522695	02/26/09	7.18	20.4	574	32.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-06 MILLER	522695	05/13/09	7.35	20.9	465	30.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-06 MILLER	522695	08/18/09	7.50	20.9	560	30.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-06 MILLER DUP	522695	08/18/09	7.50	20.9	560	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-07	522576	03/06/08	7.54	20.8	726	22.5	9	0.2	3.04	3.04	<0.01	49	15.8	2.0	22.6	133	9	<2	142	220	223	0.10	3.7	4.7	11.9
TM-07	522576	05/22/08	6.96	20.1	385	22.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-07	522576	08/06/08	7.04	22.8	519	22.2	8.9	0.2	2.52	2.52	<0.01	45.8	14.7	1.9	20.5	157	<2	<2	159	240	220	1.09	4.0	4.4	4.8
TM-07	522576	11/04/08	7.76	20.6	347	31.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-07	522576	02/20/09	7.77	19.9	376	22.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-07	522576	05/13/09	7.30	22.9	559	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-07	522576	08/17/09	7.60	22.6	442	134	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-08 SWAN	522817	02/13/08	7.63	24.1	511	24.1	32.1	0.3	5.30	5.30	<0.01	43.4	21.4	4.9	35.5	204	<2	< 2	204	310	296	1.1	5.6	5.6	0.0
TM-08 SWAN	522817	05/14/08	7.44	24.4	480	12.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-08 SWAN	522817	07/23/08	7.76	28.1	522	12.6	14.8	0.3	2.86	2.86	<0.01	<0.02	<0.02	1.1	128	204	11	<2	215	310	303	1.02	5.2	5.6	3.7
TM-15 MILLER	522699	02/27/08	7.66	21.9	344	14	7.1	0.4	1.56	1.56	<0.01	32.9	18	2.0	32.4	181	2	<2	183	220	224	0.98	4.2	4.6	4.5
TM-15 MILLER	522699	05/23/08	7.54	22.1	371	14.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-15 MILLER	522699	08/05/08	7.42	23.3	413	13.7	7	0.3	1.99	1.99	<0.01	29.8	18.9	2.0	32.0	173	<2	<2	174	210	216	0.97	4.1	4.5	4.7
TM-15 MILLER	522699	10/28/08	7.63	22.6	387	18.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-15 MILLER DUP	522699	10/28/08	7.63	22.6	387	18.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-15 MILLER	522699	02/26/09	7.57	22.0	373	14.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-15 MILLER	522699	05/13/09	7.61	23.1	344	13.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-15 MILLER	522699	08/17/09	7.73	23.2	398	14.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-16	522578	03/05/08	7.17	20.6	1351	497	28.9	<0.1	6.80	6.90	<0.01	225	51.7	13.4	30.7	205	<2	<2	205	1030	1000	1.03	15.8	17.2	4.2
TM-16	522578	05/22/08	7.05	20.5	1304	522	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-16	522578	08/06/08	6.67	20.9	1410	466	28.1	<0.1	8.07	8.07	<0.01	215	52.7	13.3	30.0	191	<2	<2	191	1070	955	1.12	15.0	16.7	5.4
TM-16	522578	11/05/08	7.14	19.8	1162	547	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-16	522578	02/20/09	6.90	21.1	1292	492	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-16	522578	05/13/09	6.93	21.1	1179	484	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-16	522578	08/19/09	7.08	21.2	1354	468	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-19A	522581	03/06/08	8.02	22.2	240	56.1	15.4	0.1	0.26	0.26	<0.01	37.9	11.6	3.0	57.7	119	19	<2	138	280	273	1.03	4.3	5.4	11.3
TM-19A	522581	05/22/08	7.36	24.0	501	64.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-19A	522581	08/06/08	7.32	22.6	494	55.3	15.4	0.1	0.09	0.09	<0.01	37.3	10.8	2.9	53.0	153	5	<2	158	270	272	0.99	4.7	5.1	4.1
TM-19A	522581	11/18/08	7.79	24.3	365	66.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-19A	522581	03/03/09	7.41	24.5	489	66.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-19A	522581	04/22/09	7.44	24.3	494	62.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-19A	522581	08/12/09	7.61	24.4	554	61.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-42	562554	03/05/08	7.10	20.8	1342	482	27	0.2	6.55	6.55	<0.01	185	55.8	10.4	37.9	186	<2	<2	186	980	939	1.04	15.1	15.8	2.3
TM-42	562554	05/22/08	7.05	21.4	1270	483	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-42	562554	08/06/08	6.69	22.0	1388	467	27.3	0.2	7.20	7.20	<0.01	191	60.7	10.1	38.7	208	<2	<2	208	1010	952	1.04	15.3	16.5	3.8
TM-42	562554	11/06/08	6.90	21.0	1025	477	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-42	562554	02/18/09	6.72	22.3	1245	429	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-42	562554	05/07/09	6.88	24.5	1155	430	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-42 DUP	562554	05/07/09	6.88	24.5	1155	445	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-42	562554	08/18/09	7.04	24.4	1336	428	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TM-43	564729	03/03/08	8.57	21.0	341	2.1	7.7	0.3	0.04	0.04	<0.01	10.1	5.7	2.2	79.4	197	20	<2	217	250	246	1.02	4.6	4.5	-1.1
TM-43	564729	08/04/08	8.14	25.7	436	<5	12	<1	0.25	0.25	<0.01	10.4	5.8	2.0	79.7	174	12	<2	186	270	227	1.19	4.0	4.5	5.9
TM-43A	564726	03/03/08	6.17	19.9	2788	1420	31	<0.2	0.99	0.99	<0.01	570	181	4.5	42.1	713	<2	<2	713	3000	2680	1.19	45.0	45.0	0.3
TM-43A	564726	08/04/08	6.03	21.6	3149	1320	30	<0.2	1.31	1.31	<0.01	577	188	4.7	40.5	658	<2	<2	658	2950	2560	1.15	41.8	46.2	5.0
TM-43B	565004	03/03/08	6.79	20.6	514	0.7	5	<0.1	0.05	0.06	0.01	54.6	23.8	2.9	47.9	338	<2	<2	338	350	338	1.04	6.9	6.8	-0.7
TM-43B	565004	08/05/08	6.89	21.0	507	31.8	4.7	<0.1	0.03	0.03	<0.01	47.5	21.5	2.6	44.9	231	<2	<2	231	300	292	1.03	5.4	6.1	6.1
TM-43B DUP	565004	08/05/08	6.89	21.0	507	32.5	4.7	<0.1	0.11	0.11	<0.01	47.9	21.7	2.5	44.9	234	<2	<2	234	310	295	1.05	5.5	6.2	6.0
TVI 236	802236	03/20/08	7.48	20.0	488	31.3	26	0.1	3.90	3.93	0.03	70.5	9.3	1.9	25.6	178	<2	<2	178	310	289	1.07	5.2	5.4	1.9
TVI 236	802236	05/07/08	7.13	20.4	494	32.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 236	802236	07/15/08	7.39	21.9	532	37.6	23.5	0.2	3.46	3.46	<0.01	70.4	9.3	1.8	26.3	161	11	<2	173	310	292	1.06	5.1	5.4	2.9
TVI 236	802236	10/15/08	7.45	22.3	490	36.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 236	802236	02/11/09	7.32	20.1	391	27.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 236	802236	04/17/09	7.36	19.3	418	28.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 236 DUP	802236	04/17/09	7.36	19.3	418	28.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 236	802236	07/21/09	7.59	22.9	484	31.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 875	568875	02/21/08	7.28	21.1	739	244	20.1	0.2	2.99	2.99	<0.01	120	16.1	2.9	41.1	161	11	<2	172	630	565	1.12	9.3	9.2	-0.5
TVI 875	568875	05/07/08	7.09	21.2	833	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 875	568875	07/15/08	7.27	22.4	925	274	20.2	0.2	3.00	3.00	<0.01	131	17.4	2.8	39.6	148	11	<2	160	640	598	1.07	9.7	9.7	0.0
TVI 875	568875	10/15/08	7.26	22.1	878	245	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 2
Compilation of Analytical Results
For Inorganic Analytes and Field Parameters

Well Name	ADWR 55 Registry No.	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate, dissolved	Nitrate/Nitrite, dissolved	Nitrite, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Bicarbonate as CaCO3	Carbonate as CaCO3	Hydroxide as CaCO3	Total Alkalinity	Residue, Filterable (TDS) @ 180ºC	TDS (calculated)	TDS Ratio (measured/ calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation/Anion Balance (%)
TVI 875	568875	02/11/09	7.20	20.7	738	312	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 875	568875	04/17/09	7.31	21.5	690	251	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TVI 875	568875	07/21/09	7.47	22.2	812	236	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WALKER	200393	02/13/08	7.05	20.2	650	20	4	0.2	2.26	2.26	<0.01	117	14.4	3.6	14.3	355	<2	<2	355	440	396	1.11	7.8	7.7	-0.6
WALKER	200393	07/23/08	7.25	20.7	740	45.4	37.8	0.3	7.24	7.24	<0.01	89	27.9	2.9	28.6	250	7	<2	257	450	421	1.07	7.6	8.0	2.6
WEED	544535	02/14/08	7.74	21.7	323	11.1	9	NA	1.72	1.72	<0.02	35.6	14.5	2.2	30.0	162	5	<2	168	230	212	1.08	3.9	4.3	4.9
WEED	544535	05/15/08	7.22	22.7	365	12.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEED	544535	07/30/08	7.42	32.0	407	11.5	10.1	0.3	1.92	1.92	<0.01	34.1	13.6	2.2	29.4	163	2	<2	165	230	209	1.10	3.9	4.1	2.5
WEED	544535	10/20/08	8.10	31.6	405	10.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEED	544535	02/13/09	7.66	21.0	303	12.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEED	544535	04/22/09	7.46	22.2	368	11.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEED	544535	07/16/09	7.50	21.9	365	10.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEISKOPF	641802	02/15/08	7.48	20.0	1072	500	33.1	0.2	4.74	4.74	<0.01	218	31.4	4.3	35.7	177	<2	<2	177	1010	950	1.06	15.3	15.2	-0.3
WEISKOPF	641802	05/07/08	7.10	21.8	1251	483	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEISKOPF	641802	07/16/08	7.07	22.2	1399	560	26	0.1	4.29	4.29	<0.01	248	34.3	4.4	38.6	170	3	<2	173	1060	1040	1.0	16.3	17.0	2.1
WEISKOPF	641802	10/28/08	6.98	20.8	1401	602	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEISKOPF	641802	01/29/09	6.79	20.7	1014	503	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEISKOPF	641802	04/15/09	7.53	21.1	1164	503	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WEISKOPF	641802	07/15/09	7.84	22.1	1317	486	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ZANDER	205126	02/04/08	7.24	19.7	392	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ZANDER	205126	05/06/08	7.26	21.2	404	6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ZANDER	205126	07/16/08	6.92	22.9	441	6.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ZANDER	205126	10/28/08	7.40	21.2	415	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ZANDER	205126	02/10/09	7.50	20.4	317	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ZANDER	205126	04/16/09	7.47	21.7	352	5.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ZANDER	205126	07/14/09	7.36	22.9	418	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

All units are in milligrams per liter (mg/L) unless otherwise noted
deg C = degrees Celsius
meq/l = milliequivalent per liter
M = pH Meter Malfunction
NA = Not Analyzed
NR = No Record
ND = No Data
SC = Specific Conductance
SU = Standard Units
TDS = Total Dissolved Solids
µS/cm = microsiemens per centimeter
[1] Verified drinking water supply well, sample collected for sulfate trend analysis and interim action evaluation

TABLE 3
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East	UTM North	Date	Measuring Point Elevation[1] (ft amsl)	Depth To Water (feet)	Groundwater Elevation (ft amsl)
ANDERSON	613396	601134.729	3468816.065	03/20/08	4580.34	145.46	4434.88
ANDERSON	613396	601134.729	3468816.065	05/05/08	4580.34	145.84	4434.50
ANDERSON	613396	601134.729	3468816.065	07/14/08	4580.34	146.16	4434.18
ANDERSON	613396	601134.729	3468816.065	10/15/08	4580.34	146.21	4434.13
ANDERSON	613396	601134.729	3468816.065	01/27/09	4580.34	145.97	4434.37
ANDERSON	613396	601134.729	3468816.065	04/14/09	4580.34	146.21	4434.13
ANDERSON	613396	601134.729	3468816.065	07/14/09	4580.34	146.88	4433.46
AWC-02	616586	598907.911	3468549.357	08/27/08	4547.64	121.12	4426.52
AWC-02 [2]	616586	598907.911	3468549.357	04/08/08	4547.64	116	4431.64
AWC-02 [3]	616586	598907.911	3468549.357	10/23/08	4547.64	115	4432.64
AWC-02 [3]	616586	598907.911	3468549.357	04/22/09	4547.64	118	4429.64
AWC-03	616585	599090.322	3468681.898	08/27/08	4539.52	119.40	4420.12
AWC-03 [2]	616585	599090.322	3468681.898	04/08/08	4539.52	112	4427.52
AWC-03 [3]	616585	599090.322	3468681.898	10/23/08	4539.52	106	4433.52
AWC-03 [3]	616585	599090.322	3468681.898	04/22/09	4539.52	114	4425.52
AWC-04	616584	598949.929	3468717.084	08/18/08	4540.48	112.56	4427.92
AWC-04 [2]	616584	598949.929	3468717.084	04/08/08	4540.48	108	4432.48
AWC-04 [3]	616584	598949.929	3468717.084	10/23/08	4540.48	111.31	4429.17
AWC-04 [3]	616584	598949.929	3468717.084	04/22/09	4540.48	110	4430.48
AWC-05	590620	599269.904	3468541.692	08/27/08	4542.51	299.65	4242.86
AWC-05 [2]	590620	599269.904	3468541.692	04/08/08	4542.51	284	4258.51
AWC-05 [3]	590620	599269.904	3468541.692	10/23/08	4542.51	284	4258.51
AWC-05 [3]	590620	599269.904	3468541.692	04/22/09	4542.51	286	4256.51
AWC-05 [3]	590620	599269.904	3468541.692	06/03/09	4542.51	125	4417.51
BANKS 987	647987	606981.921	3469206.175	02/27/08	4648.18	208.00	4440.18
BANKS 987	647987	606981.921	3469206.175	05/12/08	4648.18	216.30	4431.88
BANKS 987	647987	606981.921	3469206.175	07/21/08	4648.18	228.95	4419.23
BANKS 987	647987	606981.921	3469206.175	10/13/08	4648.18	228.20	4419.98
BANKS 987	647987	606981.921	3469206.175	01/21/09	4648.18	206.64	4441.54
BANKS 987	647987	606981.921	3469206.175	04/08/09	4648.18	205.50	4442.68
BANKS 987	647987	606981.921	3469206.175	07/09/09	4648.18	235.68	4412.50
BARTON 919	644919	606243.850	3469076.689	05/12/08	4692.36	113.71	4578.65
BARTON 919	644919	606243.850	3469076.689	07/23/08	4692.36	113.56	4578.80
BARTON 919	644919	606243.850	3469076.689	10/16/08	4692.36	113.20	4579.16
BARTON 919	644919	606243.850	3469076.689	03/11/09	4692.36	112.92	4579.44
BARTON 919	644919	606243.850	3469076.689	04/10/09	4692.36	112.89	4579.47
BARTON 919	644919	606243.850	3469076.689	07/07/09	4692.36	112.86	4579.50
BF-01	539783	604169.077	3472151.593	03/04/08	4835.23	348.99	4486.24
BF-01	539783	604169.077	3472151.593	05/23/08	4835.23	348.80	4486.43
BF-01	539783	604169.077	3472151.593	08/05/08	4835.23	348.66	4486.57
BF-01	539783	604169.077	3472151.593	11/05/08	4835.23	348.94	4486.29
BF-01	539783	604169.077	3472151.593	02/20/09	4835.23	348.78	4486.45
BF-01	539783	604169.077	3472151.593	05/06/09	4835.23	348.73	4486.50
BF-01	539783	604169.077	3472151.593	08/17/09	4835.23	348.73	4486.50
BIMA	577927	606001.245	3471852.804	05/13/08	4802.05	367.31	4434.74
BIMA	577927	606001.245	3471852.804	08/18/08	4802.05	370.24	4431.81
BIMA	577927	606001.245	3471852.804	10/23/08	4802.05	353.96	4448.09
BIMA	577927	606001.245	3471852.804	01/20/09	4802.05	353.07	4448.98
BIMA	577927	606001.245	3471852.804	04/07/09	4802.05	357.76	4444.29
BIMA	577927	606001.245	3471852.804	07/08/09	4802.05	365.44	4436.61
BMO-2008-1G	909474	606467.681	3471723.644	08/27/08	4805.10	62.05	4743.05
BMO-2008-1G	909474	606467.681	3471723.644	11/11/08	4805.10	60.95	4744.15
BMO-2008-1G	909474	606467.681	3471723.644	02/25/09	4805.10	61.43	4743.67
BMO-2008-1G	909474	606467.681	3471723.644	04/28/09	4805.10	62.01	4743.09
BMO-2008-1G	909474	606467.681	3471723.644	08/04/09	4805.10	62.96	4742.14
BMO-2008-3B	909147	602012.923	3467919.582	07/18/08	4583.97	138.05	4445.92
BMO-2008-3B	909147	602012.923	3467919.582	11/04/08	4583.97	137.95	4446.02
BMO-2008-3B	909147	602012.923	3467919.582	02/19/09	4583.97	138.19	4445.78
BMO-2008-3B	909147	602012.923	3467919.582	05/11/09	4583.97	138.46	4445.51
BMO-2008-3B	909147	602012.923	3467919.582	08/06/09	4583.97	139.02	4444.95

TABLE 3
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East	UTM North	Date	Measuring Point Elevation[1] (ft amsl)	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-4B	910096	601099.405	3468383.430	12/11/08	4573.17	130.77	4442.40
BMO-2008-4B	910096	601099.405	3468383.430	02/18/09	4573.17	130.58	4442.59
BMO-2008-4B	910096	601099.405	3468383.430	04/30/09	4573.17	131.24	4441.93
BMO-2008-4B	910096	601099.405	3468383.430	08/06/09	4573.17	131.96	4441.21
BMO-2008-5B	909653	600438.159	3468994.715	09/30/08	4585.10	145.10	4440.00
BMO-2008-5B	909653	600438.159	3468994.715	02/18/09	4585.10	144.35	4440.75
BMO-2008-5B	909653	600438.159	3468994.715	04/27/09	4585.10	144.78	4440.32
BMO-2008-5B	909653	600438.159	3468994.715	08/04/09	4585.10	145.36	4439.74
BMO-2008-5M	909552	600445.071	3468994.282	10/02/08	4585.02	146.65	4438.37
BMO-2008-5M	909552	600445.071	3468994.282	02/18/09	4585.02	145.97	4439.05
BMO-2008-5M	909552	600445.071	3468994.282	04/27/09	4585.02	146.46	4438.56
BMO-2008-5M	909552	600445.071	3468994.282	08/04/09	4585.02	147.13	4437.89
BMO-2008-6B	909146	600366.523	3469820.644	07/16/08	4627.44	190.13	4437.31
BMO-2008-6B	909146	600366.523	3469820.644	11/04/08	4627.44	190.23	4437.21
BMO-2008-6B	909146	600366.523	3469820.644	02/19/09	4627.44	189.71	4437.73
BMO-2008-6B	909146	600366.523	3469820.644	04/27/09	4627.44	189.99	4437.45
BMO-2008-6B	909146	600366.523	3469820.644	08/04/09	4627.44	190.80	4436.64
BMO-2008-6M	909019	600367.943	3469813.885	07/10/08	4626.90	191.63	4435.27
BMO-2008-6M	909019	600367.943	3469813.885	11/04/08	4626.90	190.25	4436.65
BMO-2008-6M	909019	600367.943	3469813.885	02/20/09	4626.90	190.70	4436.20
BMO-2008-6M	909019	600367.943	3469813.885	04/28/09	4626.90	190.98	4435.92
BMO-2008-6M	909019	600367.943	3469813.885	08/04/09	4626.90	191.77	4435.13
BMO-2008-7M	908794	603099.165	3470029.283	07/14/08	4688.33	238.31	4450.02
BMO-2008-7M	908794	603099.165	3470029.283	11/06/08	4688.33	239.69	4448.64
BMO-2008-7M	908794	603099.165	3470029.283	02/18/09	4688.33	238.90	4449.43
BMO-2008-7M	908794	603099.165	3470029.283	05/11/09	4688.33	239.03	4449.30
BMO-2008-7M	908794	603099.165	3470029.283	08/06/09	4688.33	239.17	4449.16
BMO-2008-8B	910097	604171.347	3471141.719	12/05/08	4753.25	297.94	4455.31
BMO-2008-8B	910097	604171.347	3471141.719	02/19/09	4753.25	297.63	4455.62
BMO-2008-8B	910097	604171.347	3471141.719	05/05/09	4753.25	297.37	4455.88
BMO-2008-8B	910097	604171.347	3471141.719	08/10/09	4753.25	297.53	4455.72
BMO-2008-8M	909711	604167.912	3471127.902	12/09/08	4752.45	299.79	4452.66
BMO-2008-8M	909711	604167.912	3471127.902	02/19/09	4752.45	298.32	4454.13
BMO-2008-8M	909711	604167.912	3471127.902	05/05/09	4752.45	298.27	4454.18
BMO-2008-8M	909711	604167.912	3471127.902	08/10/09	4752.45	298.57	4453.88
BMO-2008-9M	909255	604668.669	3471121.675	08/08/08	4762.61	287.17	4475.44
BMO-2008-9M	909255	604668.669	3471121.675	11/05/08	4762.61	287.65	4474.96
BMO-2008-9M	909255	604668.669	3471121.675	02/26/09	4762.61	285.65	4476.96
BMO-2008-9M	909255	604668.669	3471121.675	05/12/09	4762.61	285.28	4477.33
BMO-2008-9M	909255	604668.669	3471121.675	08/17/09	4762.61	286.09	4476.52
BMO-2008-10GU	909272	605267.551	3471731.866	08/04/08	4793.45	299.28	4494.17
BMO-2008-10GU	909272	605267.551	3471731.866	11/05/08	4793.45	295.89	4497.56
BMO-2008-10GU	909272	605267.551	3471731.866	02/25/09	4793.45	289.84	4503.61
BMO-2008-10GU	909272	605267.551	3471731.866	05/06/09	4793.45	289.35	4504.10
BMO-2008-10GU	909272	605267.551	3471731.866	08/11/09	4793.45	289.09	4504.36
BMO-2008-10GL	909435	605264.072	3471702.043	08/20/08	4792.21	521.75	4270.46
BMO-2008-10GL	909435	605264.072	3471702.043	11/05/08	4792.21	520.50	4271.71
BMO-2008-10GL	909435	605264.072	3471702.043	02/25/09	4792.21	516.72	4275.49
BMO-2008-10GL	909435	605264.072	3471702.043	05/12/09	4792.21	514.68	4277.53
BMO-2008-10GL	909435	605264.072	3471702.043	08/11/09	4792.21	513.23	4278.98
BMO-2008-11G	909434	603800.995	3472626.482	08/22/08	4844.67	577.76	4266.91
BMO-2008-11G	909434	603800.995	3472626.482	11/12/08	4844.67	576.80	4267.87
BMO-2008-11G	909434	603800.995	3472626.482	02/26/09	4844.67	575.91	4268.76
BMO-2008-11G	909434	603800.995	3472626.482	04/08/09	4844.67	575.46	4269.21
BMO-2008-11G	909434	603800.995	3472626.482	08/12/09	4844.67	574.84	4269.83
BMO-2008-13B	909551	601657.612	3470076.358	10/03/08	4649.21	206.42	4442.79
BMO-2008-13B	909551	601657.612	3470076.358	02/17/09	4649.21	206.11	4443.10
BMO-2008-13B	909551	601657.612	3470076.358	05/06/09	4649.21	206.32	4442.89
BMO-2008-13B	909551	601657.612	3470076.358	08/05/09	4649.21	206.79	4442.42
BMO-2008-13M	909760	601650.495	3470040.455	12/03/08	4647.15	206.00	4441.15
BMO-2008-13M	909760	601650.495	3470040.455	02/17/09	4647.15	208.74	4438.41
BMO-2008-13M	909760	601650.495	3470040.455	04/29/09	4647.15	208.53	4438.62
BMO-2008-13M	909760	601650.495	3470040.455	08/05/09	4647.15	208.85	4438.30

TABLE 3
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East	UTM North	Date	Measuring Point Elevation[1] (ft amsl)	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BURKE	212268	602230.087	3473029.816	04/22/08	4856.30	606.55	4249.75
BURKE	212268	602230.087	3473029.816	08/05/08	4856.30	605.86	4250.44
BURKE	212268	602230.087	3473029.816	10/28/08	4856.30	604.88	4251.42
BURKE	212268	602230.087	3473029.816	02/19/09	4856.30	603.91	4252.39
BURKE	212268	602230.087	3473029.816	04/28/09	4856.30	603.70	4252.60
BURKE	212268	602230.087	3473029.816	08/19/09	4856.30	602.66	4253.64
COB MW-1	903992	603153.259	3469889.889	02/22/08	4683.26	232.47	4450.79
COB MW-1	903992	603153.259	3469889.889	05/20/08	4683.26	233.12	4450.14
COB MW-1	903992	603153.259	3469889.889	07/30/08	4683.26	233.37	4449.89
COB MW-1	903992	603153.259	3469889.889	10/23/08	4683.26	233.62	4449.64
COB MW-1	903992	603153.259	3469889.889	02/12/09	4683.26	234.05	4449.21
COB MW-1	903992	603153.259	3469889.889	04/21/09	4683.26	234.99	4448.27
COB MW-1	903992	603153.259	3469889.889	07/22/09	4683.26	234.34	4448.92
COB MW-2	903984	600973.257	3468114.836	02/22/08	4566.21	122.85	4443.36
COB MW-2	903984	600973.257	3468114.836	05/20/08	4566.21	123.00	4443.21
COB MW-2	903984	600973.257	3468114.836	07/30/08	4566.21	123.53	4442.68
COB MW-2	903984	600973.257	3468114.836	10/23/08	4566.21	124.02	4442.19
COB MW-2	903984	600973.257	3468114.836	02/12/09	4566.21	123.39	4442.82
COB MW-2	903984	600973.257	3468114.836	04/23/09	4566.21	124.16	4442.05
COB MW-2	903984	600973.257	3468114.836	07/22/09	4566.21	124.91	4441.30
COB MW-3	906823	599169.225	3468726.000	02/28/08	4538.63	120.84	4417.79
COB MW-3	906823	599169.225	3468726.000	05/20/08	4538.63	125.00	4413.63
COB MW-3	906823	599169.225	3468726.000	07/30/08	4538.63	118.50	4420.13
COB MW-3	906823	599169.225	3468726.000	10/23/08	4538.63	117.93	4420.70
COB MW-3	906823	599169.225	3468726.000	02/12/09	4538.63	110.91	4427.72
COB MW-3	906823	599169.225	3468726.000	04/23/09	4538.63	125.13	4413.50
COB MW-3	906823	599169.225	3468726.000	07/22/09	4538.63	124.09	4414.54
COB WL	593116	606357.506	3472502.012	02/22/08	4832.06	56.50	4775.56
COB WL	593116	606357.506	3472502.012	05/20/08	4832.06	57.50	4774.56
COB WL	593116	606357.506	3472502.012	07/30/08	4832.06	58.64	4773.42
COB WL	593116	606357.506	3472502.012	10/23/08	4832.06	58.76	4773.30
COB WL	593116	606357.506	3472502.012	02/12/09	4832.06	58.89	4773.17
COB WL	593116	606357.506	3472502.012	04/23/09	4832.06	59.73	4772.33
COB WL	593116	606357.506	3472502.012	07/22/09	4832.06	61.27	4770.79
COLLINS	565260	602551.286	3471341.335	02/12/08	4733.72	289.47	4444.25
COLLINS	565260	602551.286	3471341.335	05/29/08	4733.72	288.53	4445.19
COLLINS	565260	602551.286	3471341.335	07/31/08	4733.72	290.08	4443.64
COLLINS	565260	602551.286	3471341.335	10/20/08	4733.72	290.15	4443.57
COLLINS	565260	602551.286	3471341.335	04/21/09	4733.72	290.66	4443.06
COLLINS	565260	602551.286	3471341.335	07/20/09	4733.72	290.78	4442.94
COOPER C	637069	601349.987	3468913.011	03/04/08	4595.06	155.08	4439.98
COOPER C	637069	601349.987	3468913.011	05/05/08	4595.06	155.34	4439.72
COOPER C	637069	601349.987	3468913.011	07/15/08	4595.06	156.01	4439.05
COOPER C	637069	601349.987	3468913.011	10/16/08	4595.06	155.85	4439.21
COOPER C	637069	601349.987	3468913.011	01/27/09	4595.06	155.62	4439.44
COOPER C	637069	601349.987	3468913.011	04/14/09	4595.06	155.86	4439.20
COOPER C	637069	601349.987	3468913.011	07/14/09	4595.06	156.50	4438.56
DODSON	644927	605594.560	3469063.772	05/12/08	4686.34	81.38	4604.96
DODSON	644927	605594.560	3469063.772	07/24/08	4686.34	82.20	4604.14
DODSON	644927	605594.560	3469063.772	10/13/08	4686.34	81.82	4604.52
DODSON	644927	605594.560	3469063.772	01/22/09	4686.34	82.33	4604.01
DODSON	644927	605594.560	3469063.772	04/09/09	4686.34	82.84	4603.50
DODSON	644927	605594.560	3469063.772	07/08/09	4686.34	86.88	4599.46
DOUGLASS 791	592791	607632.993	3470222.677	02/13/08	4703.27	22.11	4681.16
DOUGLASS 791	592791	607632.993	3470222.677	05/13/08	4703.27	24.60	4678.67
DOUGLASS 791	592791	607632.993	3470222.677	07/22/08	4703.27	27.00	4676.27
DOUGLASS 791	592791	607632.993	3470222.677	10/16/08	4703.27	23.60	4679.67
DOUGLASS 791	592791	607632.993	3470222.677	01/19/09	4703.27	26.51	4676.76
DOUGLASS 791	592791	607632.993	3470222.677	04/08/09	4703.27	28.53	4674.74
DOUGLASS 791	592791	607632.993	3470222.677	07/07/09	4703.27	31.04	4672.23
DOUGLASS 792	592792	607607.541	3469829.115	02/13/08	4681.73	87.76	4593.97
DOUGLASS 792	592792	607607.541	3469829.115	05/13/08	4681.73	87.21	4594.52
DOUGLASS 792	592792	607607.541	3469829.115	07/22/08	4681.73	86.90	4594.83
DOUGLASS 792	592792	607607.541	3469829.115	10/16/08	4681.73	86.45	4595.28

TABLE 3
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East	UTM North	Date	Measuring Point Elevation[1] (ft amsl)	Depth To Water (feet)	Groundwater Elevation (ft amsl)
DOUGLASS 792	592792	607607.541	3469829.115	01/20/09	4681.73	86.26	4595.47
DOUGLASS 792	592792	607607.541	3469829.115	04/08/09	4681.73	86.04	4595.69
DOUGLASS 792	592792	607607.541	3469829.115	07/07/09	4681.73	86.16	4595.57
EAST	599796	607076.365	3468712.215	02/08/08	4626.01	50.20	4575.81
EAST	599796	607076.365	3468712.215	05/14/08	4626.01	52.45	4573.56
EAST	599796	607076.365	3468712.215	07/23/08	4626.01	52.16	4573.85
EAST	599796	607076.365	3468712.215	10/14/08	4626.01	52.19	4573.82
EAST	599796	607076.365	3468712.215	01/20/09	4626.01	50.52	4575.49
EAST	599796	607076.365	3468712.215	04/08/09	4626.01	51.91	4574.10
EAST	599796	607076.365	3468712.215	07/13/09	4626.01	56.93	4569.08
EPPELE 641	805641	607165.354	3469229.942	03/11/08	4642.86	29.52	4613.34
EPPELE 641	805641	607165.354	3469229.942	05/12/08	4642.86	30.64	4612.22
EPPELE 641	805641	607165.354	3469229.942	07/21/08	4642.86	25.59	4617.27
EPPELE 641	805641	607165.354	3469229.942	10/14/08	4642.86	24.53	4618.33
EPPELE 641	805641	607165.354	3469229.942	01/21/09	4642.86	27.35	4615.51
EPPELE 641	805641	607165.354	3469229.942	04/08/09	4642.86	29.08	4613.78
EPPELE 641	805641	607165.354	3469229.942	07/09/09	4642.86	31.51	4611.35
FLEMING	218386	605565.701	3469342.523	02/18/09	4693.68	299.30	4394.38
FLEMING	218386	605565.701	3469342.523	04/08/09	4693.68	301.81	4391.87
FLEMING	218386	605565.701	3469342.523	07/07/09	4693.68	304.60	4389.08
FULTZ	212447	607153.306	3469063.892	10/22/08	4642.92	40.59	4602.33
FULTZ	212447	607153.306	3469063.892	01/21/09	4642.92	40.66	4602.26
FULTZ	212447	607153.306	3469063.892	04/09/09	4642.92	42.88	4600.04
FULTZ	212447	607153.306	3469063.892	07/13/09	4642.92	54.94	4587.98
GARNER 557	558557	602659.240	3468962.415	02/21/08	4626.44	191.05	4435.39
GARNER 557	558557	602659.240	3468962.415	05/05/08	4626.44	191.28	4435.16
GARNER 557	558557	602659.240	3468962.415	07/15/08	4626.44	191.44	4435.00
GARNER 557	558557	602659.240	3468962.415	10/16/08	4626.44	191.83	4434.61
GARNER 557	558557	602659.240	3468962.415	01/28/09	4626.44	191.92	4434.52
GARNER 557	558557	602659.240	3468962.415	04/15/09	4626.44	192.09	4434.35
GARNER 557	558557	602659.240	3468962.415	07/16/09	4626.44	192.52	4433.92
GARNER 635	587635	602665.352	3468967.902	02/04/08	4628.29	193.20	4435.09
GARNER 635	587635	602665.352	3468967.902	05/05/08	4628.29	195.90	4432.39
GARNER 635	587635	602665.352	3468967.902	07/15/08	4628.29	193.58	4434.71
GARNER 635	587635	602665.352	3468967.902	10/15/08	4628.29	194.35	4433.94
GARNER 635	587635	602665.352	3468967.902	01/28/09	4628.29	194.80	4433.49
GARNER 635	587635	602665.352	3468967.902	04/15/09	4628.29	195.54	4432.75
GARNER 635	587635	602665.352	3468967.902	07/16/09	4628.29	194.88	4433.41
GGOOSE 547	628547	606256.657	3469820.260	05/21/08	4717.11	220.91	4496.20
GGOOSE 547	628547	606256.657	3469820.260	08/15/08	4717.11	238.48	4478.63
GGOOSE 547	628547	606256.657	3469820.260	10/29/08	4717.11	235.90	4481.21
GGOOSE 547	628547	606256.657	3469820.260	02/24/09	4717.11	236.13	4480.98
GGOOSE 547	628547	606256.657	3469820.260	05/14/09	4717.11	236.17	4480.94
GGOOSE 547	628547	606256.657	3469820.260	08/19/09	4717.11	236.01	4481.10
GL-03	539782	604386.940	3473747.943	05/22/08	4924.31	660.15	4264.16
GL-03	539782	604386.940	3473747.943	08/04/08	4924.31	659.79	4264.52
GL-03	539782	604386.940	3473747.943	12/02/08	4924.31	658.25	4266.06
GL-03	539782	604386.940	3473747.943	02/26/09	4924.31	658.62	4265.69
GL-03	539782	604386.940	3473747.943	05/05/09	4924.31	657.23	4267.08
GL-03	539782	604386.940	3473747.943	08/12/09	4924.31	656.56	4267.75
GOAR RANCH	610695	602454.751	3468892.471	02/21/08	4631.13	183.90	4447.23
GOAR RANCH	610695	602454.751	3468892.471	05/05/08	4631.13	188.11	4443.02
GOAR RANCH	610695	602454.751	3468892.471	07/16/08	4631.13	184.41	4446.72
GOAR RANCH	610695	602454.751	3468892.471	10/22/08	4631.13	184.68	4446.45
GOAR RANCH	610695	602454.751	3468892.471	01/27/09	4631.13	184.87	4446.26
GOAR RANCH	610695	602454.751	3468892.471	04/15/09	4631.13	184.96	4446.17
GOAR RANCH	610695	602454.751	3468892.471	07/07/09	4631.13	185.36	4445.77
HOBAN	805290	601705.848	3468880.329	02/27/08	4597.21	163.05	4434.16
HOBAN	805290	601705.848	3468880.329	05/07/08	4597.21	163.28	4433.93
HOBAN	805290	601705.848	3468880.329	07/14/08	4597.21	163.87	4433.34
HOBAN	805290	601705.848	3468880.329	10/16/08	4597.21	163.95	4433.26
HOBAN	805290	601705.848	3468880.329	01/28/09	4597.21	163.82	4433.39
HOBAN	805290	601705.848	3468880.329	04/15/09	4597.21	164.16	4433.05
HOBAN	805290	601705.848	3468880.329	07/14/09	4597.21	164.59	4432.62

TABLE 3
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East	UTM North	Date	Measuring Point Elevation[1] (ft amsl)	Depth To Water (feet)	Groundwater Elevation (ft amsl)
HOWARD	NR	601281.936	3468768.622	03/04/08	4589.70	150.10	4439.60
HOWARD	NR	601281.936	3468768.622	05/08/08	4589.70	150.70	4439.00
HOWARD	NR	601281.936	3468768.622	07/14/08	4589.70	150.91	4438.79
HOWARD	NR	601281.936	3468768.622	10/15/08	4589.70	150.67	4439.03
HOWARD	NR	601281.936	3468768.622	01/28/09	4589.70	150.67	4439.03
HOWARD	NR	601281.936	3468768.622	04/15/09	4589.70	151.15	4438.55
HOWARD	NR	601281.936	3468768.622	07/15/09	4589.70	151.76	4437.94
KEEFER	209744	599879.175	3468119.015	02/06/08	4572.03	134.67	4437.36
KEEFER	209744	599879.175	3468119.015	05/06/08	4572.03	135.28	4436.75
KEEFER	209744	599879.175	3468119.015	07/16/08	4572.03	136.24	4435.79
KEEFER	209744	599879.175	3468119.015	10/28/08	4572.03	135.87	4436.16
KEEFER	209744	599879.175	3468119.015	01/28/09	4572.03	134.88	4437.15
KEEFER	209744	599879.175	3468119.015	04/16/09	4572.03	135.00	4437.03
KEEFER	209744	599879.175	3468119.015	07/14/09	4572.03	136.07	4435.96
MCCONNELL 265	539265	601463.094	3468840.139	02/20/08	4600.70	156.15	4444.55
MCCONNELL 265	539265	601463.094	3468840.139	05/06/08	4600.70	156.40	4444.30
MCCONNELL 265	539265	601463.094	3468840.139	07/15/08	4600.70	157.07	4443.63
MCCONNELL 265	539265	601463.094	3468840.139	11/19/08	4600.70	157.17	4443.53
MCCONNELL 265	539265	601463.094	3468840.139	01/28/09	4600.70	156.70	4444.00
MCCONNELL 265	539265	601463.094	3468840.139	04/15/09	4600.70	157.22	4443.48
MCCONNELL 265	539265	601463.094	3468840.139	07/15/09	4600.70	157.59	4443.11
METZLER	35-71891	602091.308	3471381.176	03/05/08	4728.53	288.30	4440.23
METZLER	35-71891	602091.308	3471381.176	05/15/08	4728.53	286.53	4442.00
METZLER	35-71891	602091.308	3471381.176	07/31/08	4728.53	286.82	4441.71
METZLER	35-71891	602091.308	3471381.176	10/20/08	4728.53	287.09	4441.44
METZLER	35-71891	602091.308	3471381.176	02/11/09	4728.53	287.74	4440.79
METZLER	35-71891	602091.308	3471381.176	04/20/09	4728.53	287.47	4441.06
METZLER	35-71891	602091.308	3471381.176	07/15/09	4728.53	287.58	4440.95
NESS	509127	607866.391	3471419.494	07/24/08	4761.23	557.90	4203.33
NESS	509127	607866.391	3471419.494	10/16/08	4761.23	549.30	4211.93
NESS	509127	607866.391	3471419.494	02/25/09	4761.23	536.40	4224.83
NESS	509127	607866.391	3471419.494	05/11/09	4761.23	544.64	4216.59
NESS	509127	607866.391	3471419.494	08/11/09	4761.23	566.87	4194.36
NOTEMAN	212483	606053.800	3471576.400	05/13/08	4800.68	339.77	4460.91
NOTEMAN	212483	606053.800	3471576.400	08/27/08	4800.68	344.34	4456.34
NOTEMAN	212483	606053.800	3471576.400	11/22/08	4800.68	322.26	4478.42
NOTEMAN	212483	606053.800	3471576.400	02/25/09	4800.68	327.54	4473.14
NWC-02	562944	600177.435	3467474.673	10/27/08	4600.44	160.51	4439.93
NWC-02 [5]	562944	600177.435	3467474.673	04/29/09	4600.44	160.5	4439.94
NWC-02 [5]	562944	600177.435	3467474.673	09/10/09	4600.44	155.0	4445.44
NWC-03	203321	601153.857	3468350.838	11/03/08	4574.99	131.48	4443.51
NWC-03 [5]	203321	601153.857	3468350.838	04/29/09	4574.99	130	4444.99
NWC-03 [5]	203321	601153.857	3468350.838	09/10/09	4574.99	126	4448.99
NWC-03 CAP	627684	601153	3468350	02/02/09	4572	130.03	4441.97
NWC-03 CAP [4]	627684	601151.704	3468343.653	04/23/09	4572.82	130.62	4442.20
NWC-03 CAP	627684	601151.704	3468343.653	07/21/09	4572.82	131.26	4441.56
NWC-04	551849	605829.808	3469071.959	12/02/08	4690.77	352.11	4338.66
NWC-04 [5]	551849	605829.808	3469071.959	04/29/09	4690.77	328	4362.77
NWC-04 [5]	551849	605829.808	3469071.959	09/10/09	4690.77	324	4366.77
NWC-06 [5]	575700	599822.821	3467749.954	04/29/09	4592.50	156	4436.50
NWC-06 [5]	575700	599822.821	3467749.954	09/10/09	4592.50	155	4437.50
OSBORN	643436	607031.823	3470270.548	05/13/08	4711.95	68.65	4643.30
OSBORN	643436	607031.823	3470270.548	08/05/08	4711.95	69.53	4642.42
OSBORN	643436	607031.823	3470270.548	10/16/08	4711.95	69.83	4642.12
OSBORN	643436	607031.823	3470270.548	01/20/09	4711.95	69.23	4642.72
OSBORN	643436	607031.823	3470270.548	04/07/09	4711.95	69.60	4642.35
OSBORN	643436	607031.823	3470270.548	07/08/09	4711.95	96.61	4615.34
PANAGAKOS	35-76413	605304.234	3469323.140	01/22/09	4691.40	155.28	4536.12
PANAGAKOS	35-76413	605304.234	3469323.140	04/09/09	4691.40	156.15	4535.25
PANAGAKOS	35-76413	605304.234	3469323.140	07/09/09	4691.40	161.61	4529.79
PARRA	576415	602170.716	3471263.549	05/15/08	4727.21	279.78	4447.43
PARRA	576415	602170.716	3471263.549	08/18/08	4727.21	280.06	4447.15
PARRA	576415	602170.716	3471263.549	11/03/08	4727.21	280.39	4446.82
PARRA	576415	602170.716	3471263.549	02/13/09	4727.21	280.75	4446.46

TABLE 3
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East	UTM North	Date	Measuring Point Elevation[1] (ft amsl)	Depth To Water (feet)	Groundwater Elevation (ft amsl)
PARRA	576415	602170.716	3471263.549	04/28/09	4727.21	280.88	4446.33
PARRA	576415	602170.716	3471263.549	07/20/09	4727.21	280.99	4446.22
PIONKE	613395	601045.471	3468960.981	07/17/08	4592.13	149.88	4442.25
PIONKE	613395	601045.471	3468960.981	11/03/08	4592.13	150.99	4441.14
PIONKE	613395	601045.471	3468960.981	02/25/09	4592.13	149.68	4442.45
PIONKE	613395	601045.471	3468960.981	04/14/09	4592.13	150.01	4442.12
PIONKE	613395	601045.471	3468960.981	07/13/09	4592.13	150.47	4441.66
POOL	509518	599683.603	3470013.823	02/20/08	4639.09	204.22	4434.87
POOL	509518	599683.603	3470013.823	05/19/08	4639.09	204.72	4434.37
POOL	509518	599683.603	3470013.823	07/31/08	4639.09	205.56	4433.53
POOL	509518	599683.603	3470013.823	10/21/08	4639.09	205.06	4434.03
POOL	509518	599683.603	3470013.823	02/13/09	4639.09	204.74	4434.35
POOL	509518	599683.603	3470013.823	04/21/09	4639.09	204.87	4434.22
POOL	509518	599683.603	3470013.823	07/20/09	4639.09	205.69	4433.40
RAMIREZ	216425	599730.649	3467584.363	10/27/08	4596.61	159.45	4437.16
RAMIREZ	216425	599730.649	3467584.363	01/29/09	4596.61	158.74	4437.87
RAMIREZ	216425	599730.649	3467584.363	04/16/09	4596.61	158.66	4437.95
RAMIREZ	216425	599730.649	3467584.363	07/10/09	4596.61	159.64	4436.97
RAY	803772	607083.422	3469195.147	02/15/08	4647.91	40.85	4607.06
RAY	803772	607083.422	3469195.147	05/13/08	4647.91	43.82	4604.09
RAY	803772	607083.422	3469195.147	07/29/08	4647.91	45.25	4602.66
RAY	803772	607083.422	3469195.147	10/22/08	4647.91	44.54	4603.37
RAY	803772	607083.422	3469195.147	01/20/09	4647.91	44.31	4603.60
RAY	803772	607083.422	3469195.147	04/08/09	4647.91	44.68	4603.23
RAY	803772	607083.422	3469195.147	07/09/09	4647.91	48.99	4598.92
ROGERS 803	641803	600977.690	3468417.386	02/07/08	4579.02	129.85	4449.17
ROGERS 803	641803	600977.690	3468417.386	07/29/08	4579.02	131.86	4447.16
ROGERS 803	641803	600977.690	3468417.386	10/22/08	4579.02	132.08	4446.94
ROGERS 803	641803	600977.690	3468417.386	02/10/09	4579.02	130.62	4448.40
ROGERS 803	641803	600977.690	3468417.386	04/29/09	4579.02	131.33	4447.69
ROGERS 803	641803	600977.690	3468417.386	08/03/09	4579.02	135.07	4443.95
ROGERS E	216018	600449.648	3467636.029	07/17/08	4590.66	149.65	4441.01
ROGERS E	216018	600449.648	3467636.029	11/03/08	4590.66	150.15	4440.51
ROGERS E	216018	600449.648	3467636.029	02/10/09	4590.66	149.02	4441.64
ROGERS E	216018	600449.648	3467636.029	04/16/09	4590.66	149.53	4441.13
ROGERS E	216018	600449.648	3467636.029	07/13/09	4590.66	150.31	4440.35
RUIZ	531770	602857.357	3471424.219	02/05/08	4735.18	293.29	4441.89
RUIZ	531770	602857.357	3471424.219	05/15/08	4735.18	293.57	4441.61
RUIZ	531770	602857.357	3471424.219	07/30/08	4735.18	293.86	4441.32
RUIZ	531770	602857.357	3471424.219	10/20/08	4735.18	294.18	4441.00
RUIZ	531770	602857.357	3471424.219	02/12/09	4735.18	294.62	4440.56
RUIZ	531770	602857.357	3471424.219	04/21/09	4735.18	294.66	4440.52
RUIZ	531770	602857.357	3471424.219	08/03/09	4735.18	294.98	4440.20
SCHWARTZ	210865	600811.529	3468268.057	02/08/08	4551.58	121.80	4429.78
SCHWARTZ	210865	600811.529	3468268.057	05/19/08	4551.58	123.49	4428.09
SCHWARTZ	210865	600811.529	3468268.057	07/29/08	4551.58	122.64	4428.94
SCHWARTZ	210865	600811.529	3468268.057	10/22/08	4551.58	123.39	4428.19
SCHWARTZ	210865	600811.529	3468268.057	01/29/09	4551.58	122.87	4428.71
SCHWARTZ	210865	600811.529	3468268.057	04/17/09	4551.58	123.53	4428.05
SCHWARTZ	210865	600811.529	3468268.057	07/10/09	4551.58	124.15	4427.43
STEPHENS	808560	606981.766	3469072.799	05/13/08	4651.22	44.94	4606.28
STEPHENS	808560	606981.766	3469072.799	08/05/08	4651.22	46.61	4604.61
STEPHENS	808560	606981.766	3469072.799	10/16/08	4651.22	46.60	4604.62
STEPHENS	808560	606981.766	3469072.799	01/21/09	4651.22	47.19	4604.03
STEPHENS	808560	606981.766	3469072.799	04/08/09	4651.22	48.45	4602.77
STEPHENS	808560	606981.766	3469072.799	07/07/09	4651.22	49.41	4601.81
SUNBELT	201531	605998.250	3471735.149	02/06/08	4806.52	352.10	4454.42
SUNBELT	201531	605998.250	3471735.149	05/15/08	4806.52	358.97	4447.55
SUNBELT	201531	605998.250	3471735.149	08/05/08	4806.52	Dry	<4426
SUNBELT	201531	605998.250	3471735.149	10/16/08	4806.52	347.00	4459.52
SUNBELT	201531	605998.250	3471735.149	01/21/09	4806.52	344.78	4461.74
SUNBELT	201531	605998.250	3471735.149	04/10/09	4806.52	349.64	4456.88
SUNBELT	201531	605998.250	3471735.149	07/08/09	4806.52	356.99	4449.53

TABLE 3
Compilation of Groundwater Elevation Data

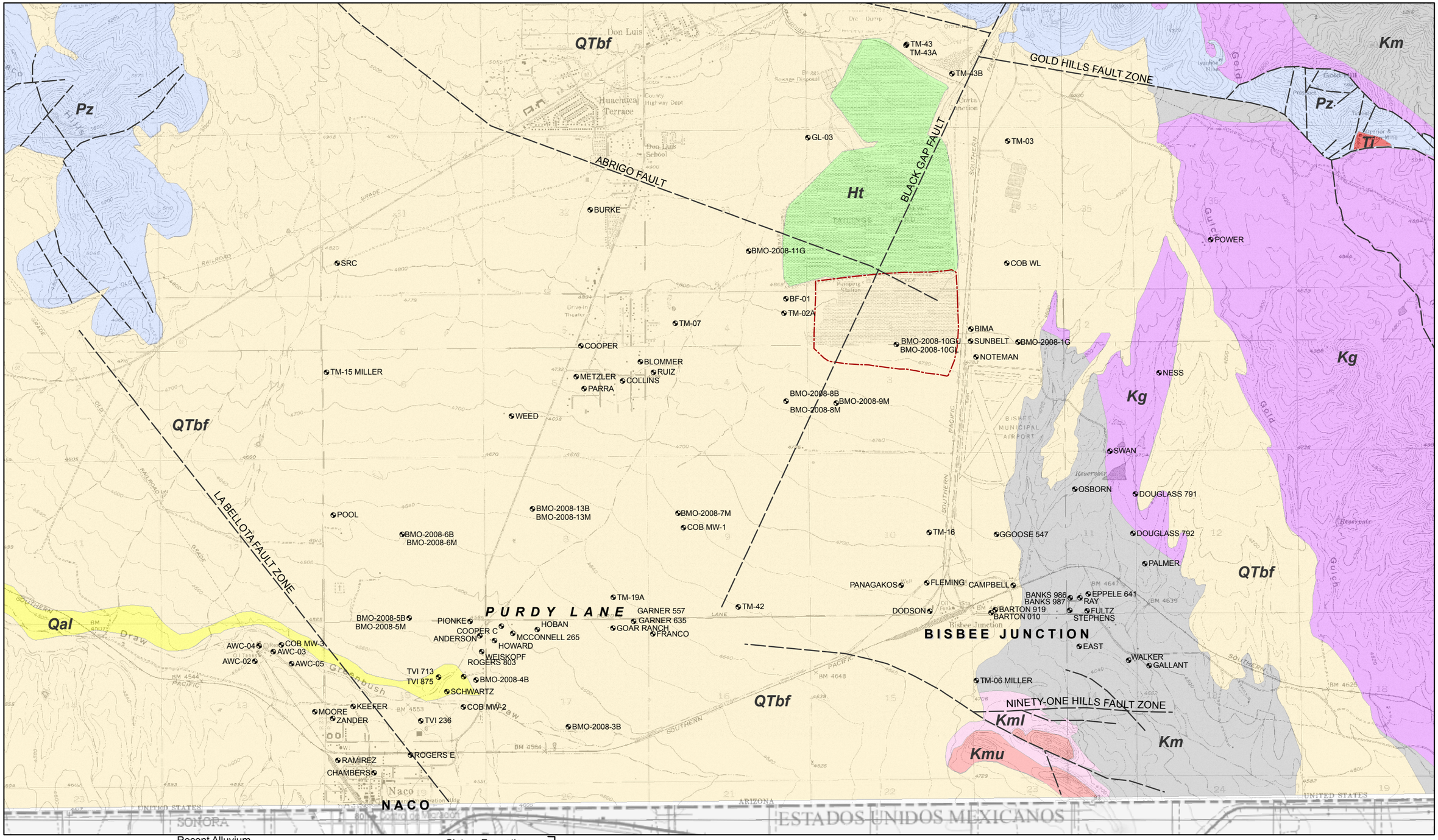
Well Name	ADWR 55 Registry No.	UTM East	UTM North	Date	Measuring Point Elevation[1] (ft amsl)	Depth To Water (feet)	Groundwater Elevation (ft amsl)
SWAN	NR	607378.547	3470648.298	02/13/08	4716.59	26.50	4690.09
SWAN	NR	607378.547	3470648.298	05/14/08	4716.59	30.69	4685.90
SWAN	NR	607378.547	3470648.298	07/24/08	4716.59	32.06	4684.53
SWAN	NR	607378.547	3470648.298	10/16/08	4716.59	27.53	4689.06
SWAN	NR	607378.547	3470648.298	01/20/09	4716.59	29.77	4686.82
SWAN	NR	607378.547	3470648.298	04/07/09	4716.59	31.47	4685.12
SWAN	NR	607378.547	3470648.298	07/08/09	4716.59	33.61	4682.98
TM-02A	522574	604152.059	3472008.794	03/04/08	4808.43	346.62	4461.81
TM-02A	522574	604152.059	3472008.794	05/23/08	4808.43	346.16	4462.27
TM-02A	522574	604152.059	3472008.794	08/15/08	4808.43	353.91	4454.52
TM-02A	522574	604152.059	3472008.794	10/30/08	4808.43	349.45	4458.98
TM-02A	522574	604152.059	3472008.794	02/24/09	4808.43	348.64	4459.79
TM-02A	522574	604152.059	3472008.794	05/06/09	4808.43	349.38	4459.05
TM-02A	522574	604152.059	3472008.794	08/12/09	4808.43	349.13	4459.30
TM-03	522575	606366.130	3473711.046	03/12/08	4897.85	127.14	4770.71
TM-03	522575	606366.130	3473711.046	05/20/08	4897.85	127.40	4770.45
TM-03	522575	606366.130	3473711.046	08/06/08	4897.85	128.02	4769.83
TM-03	522575	606366.130	3473711.046	11/12/08	4897.85	128.00	4769.85
TM-03	522575	606366.130	3473711.046	02/26/09	4897.85	126.94	4770.91
TM-03	522575	606366.130	3473711.046	05/13/09	4897.85	113.86	4783.99
TM-03	522575	606366.130	3473711.046	08/18/09	4897.85	128.80	4769.05
TM-06 MILLER	522695	606055.975	3468376.658	02/26/08	4707.88	158.78	4549.10
TM-06 MILLER	522695	606055.975	3468376.658	05/20/08	4707.88	158.76	4549.12
TM-06 MILLER	522695	606055.975	3468376.658	08/04/08	4707.88	158.80	4549.08
TM-06 MILLER	522695	606055.975	3468376.658	10/29/08	4707.88	158.85	4549.03
TM-06 MILLER	522695	606055.975	3468376.658	02/16/09	4707.88	159.28	4548.60
TM-06 MILLER	522695	606055.975	3468376.658	05/13/09	4707.88	158.81	4549.07
TM-06 MILLER	522695	606055.975	3468376.658	08/18/09	4707.88	158.91	4548.97
TM-16	522578	605588.075	3469842.199	03/05/08	4717.71	81.00	4636.71
TM-16	522578	605588.075	3469842.199	05/22/08	4717.71	81.24	4636.47
TM-16	522578	605588.075	3469842.199	08/06/08	4717.71	81.65	4636.06
TM-16	522578	605588.075	3469842.199	11/05/08	4717.71	81.75	4635.96
TM-16	522578	605588.075	3469842.199	02/26/09	4717.71	81.88	4635.83
TM-16	522578	605588.075	3469842.199	05/13/09	4717.71	82.01	4635.70
TM-16	522578	605588.075	3469842.199	08/19/09	4717.71	82.37	4635.34
TM-19A	522581	602458.710	3469197.426	03/06/08	4645.87	199.85	4446.02
TM-19A	522581	602458.710	3469197.426	05/22/08	4645.87	199.50	4446.37
TM-19A	522581	602458.710	3469197.426	08/06/08	4645.87	199.19	4446.68
TM-19A	522581	602458.710	3469197.426	11/18/08	4645.87	199.46	4446.41
TM-19A	522581	602458.710	3469197.426	03/03/09	4645.87	199.81	4446.06
TM-19A	522581	602458.710	3469197.426	04/22/09	4645.87	200.57	4445.30
TM-19A	522581	602458.710	3469197.426	08/12/09	4645.87	201.46	4444.41
TM-42	562554	603698.271	3469104.903	03/05/08	4666.67	211.04	4455.63
TM-42	562554	603698.271	3469104.903	05/22/08	4666.67	210.98	4455.69
TM-42	562554	603698.271	3469104.903	08/06/08	4666.67	211.55	4455.12
TM-42	562554	603698.271	3469104.903	11/06/08	4666.67	207.05	4459.62
TM-42	562554	603698.271	3469104.903	02/18/09	4666.67	212.31	4454.36
TM-42	562554	603698.271	3469104.903	05/07/09	4666.67	212.37	4454.30
TM-42	562554	603698.271	3469104.903	08/18/09	4666.67	212.77	4453.90
TVI 236	802236	600552.215	3467978.431	05/07/08	4561.98	123.30	4438.68
TVI 236	802236	600552.215	3467978.431	07/15/08	4561.98	121.55	4440.43
TVI 236	802236	600552.215	3467978.431	10/15/08	4561.98	122.35	4439.63
TVI 236	802236	600552.215	3467978.431	02/11/09	4561.98	121.28	4440.70
TVI 236	802236	600552.215	3467978.431	04/17/09	4561.98	122.73	4439.25
TVI 236	802236	600552.215	3467978.431	07/21/09	4561.98	123.96	4438.02
TVI 713	567713	600729.095	3468412.946	05/07/08	4567.22	127.10	4440.12
TVI 713	567713	600729.095	3468412.946	07/14/08	4567.22	126.30	4440.92
TVI 713	567713	600729.095	3468412.946	10/15/08	4567.22	130.00	4437.22
TVI 713	567713	600729.095	3468412.946	02/11/09	4567.22	149.87	4417.35
TVI 713	567713	600729.095	3468412.946	04/17/09	4567.22	126.73	4440.49
TVI 713	567713	600729.095	3468412.946	07/21/09	4567.22	127.36	4439.86
WEISKOPF	641802	601154.951	3468658.855	02/15/08	4586.89	143.31	4443.58
WEISKOPF	641802	601154.951	3468658.855	05/07/08	4586.89	143.90	4442.99
WEISKOPF	641802	601154.951	3468658.855	07/16/08	4586.89	144.22	4442.67

TABLE 3
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry No.	UTM East	UTM North	Date	Measuring Point Elevation[1] (ft amsl)	Depth To Water (feet)	Groundwater Elevation (ft amsl)
WEISKOPF	641802	601154.951	3468658.855	10/28/08	4586.89	145.81	4441.08
WEISKOPF	641802	601154.951	3468658.855	01/29/09	4586.89	143.99	4442.90
WEISKOPF	641802	601154.951	3468658.855	04/15/09	4586.89	144.38	4442.51
WEISKOPF	641802	601154.951	3468658.855	07/15/09	4586.89	144.99	4441.90
ZANDER	205126	599678.880	3467998.486	02/04/08	4580.94	144.85	4436.09
ZANDER	205126	599678.880	3467998.486	05/06/08	4580.94	145.33	4435.61
ZANDER	205126	599678.880	3467998.486	07/16/08	4580.94	146.40	4434.54
ZANDER	205126	599678.880	3467998.486	10/28/08	4580.94	146.01	4434.93
ZANDER	205126	599678.880	3467998.486	02/10/09	4580.94	144.83	4436.11
ZANDER	205126	599678.880	3467998.486	04/16/09	4580.94	144.94	4436.00
ZANDER	205126	599678.880	3467998.486	07/14/09	4580.94	146.14	4434.80

UTM = Universal Transverse Mercator Zone 12, North American Datum 1983 (NAD83)
ft amsl = feet above mean sea level
NA = Not Applicable
NR = No Record
[1] Survey Source: Hydro Geo Chem, Inc. (measuring point elevation = top of well casing)
[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 for second quarter 2009 changed to reflect well survey completed on April 27, 2009
[5] Depth to Water measurement provided by Naco Water Company

FIGURES



Legend

- AWC-05 Well ID
- Faults (inferred)
- Former Evaporation Ponds

Recent Alluvium
- Ht Holocene Tailings
- Qal Quaternary Alluvium

Basin Fill
- QTbf Quaternary - Tertiary Basin Fill

Bedrock Complex
- Ti Tertiary Intrusive

Undifferentiated Bisbee Group
- Kc Cintura Formation
- Kmu Upper Mural Limestone
- Kml Lower Mural Limestone
- Km Morita Formation

- Kg Glance Conglomerate
- Pz Paleozoic Sedimentary Formations, Undifferentiated

0 1500 3000 4500 Feet

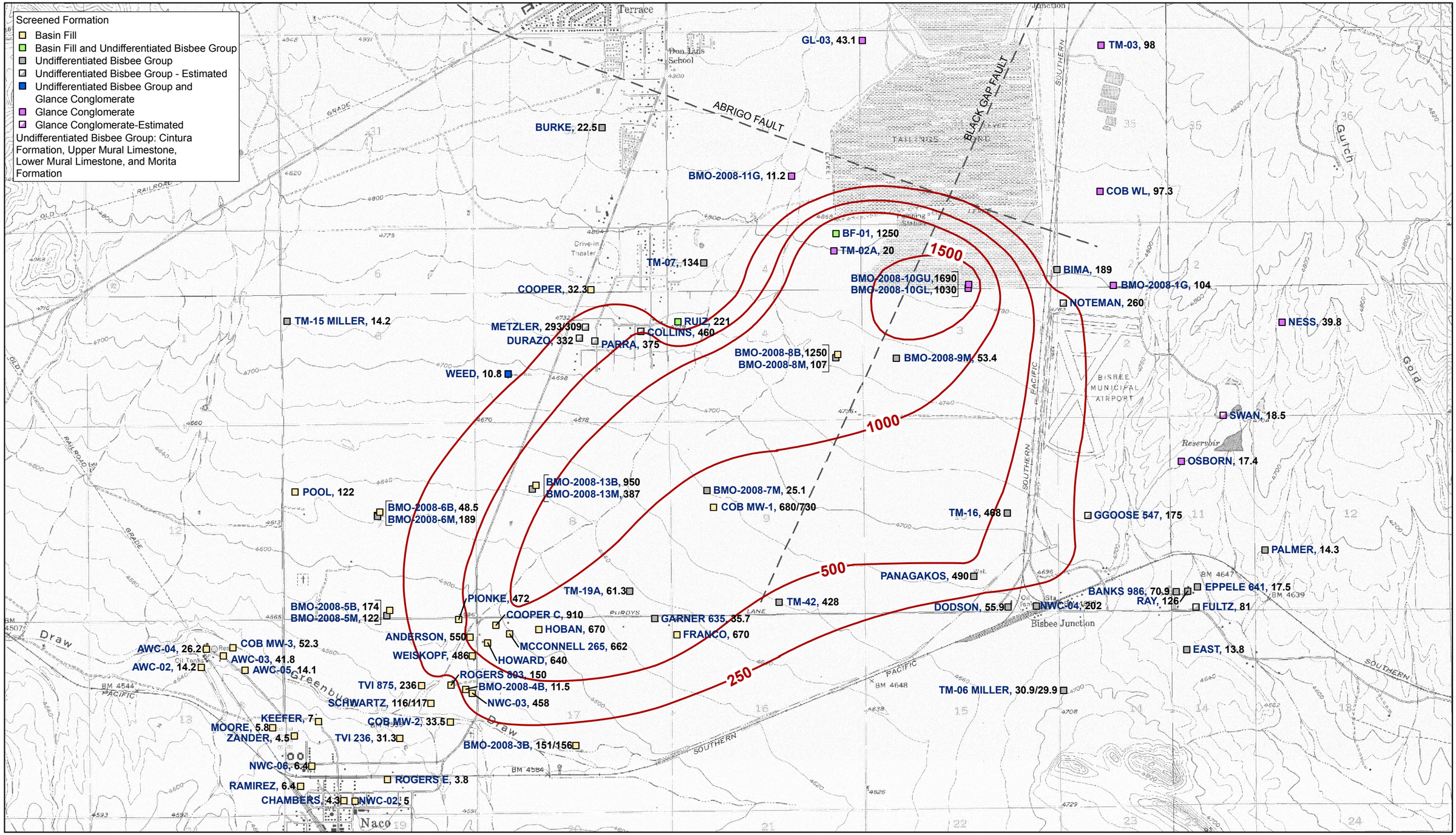
PROJECTION: UTM Zone 12 NAD83

N

HYDRO GEO CHEM, INC.

GENERALIZED GEOLOGY AND WELL LOCATIONS

Approved	Date	Author	Date	File Name	Figure
DRS	10/19/09	AMC	10/19/09	8720314G	1



Legend

TM-19A, 61.3 Well ID, Sulfate Concentration (mg/L)
(Duplicate results separated by "/")

250 Sulfate Isoline (mg/L)

Faults (inferred)

0 1250 2500 3750 Feet

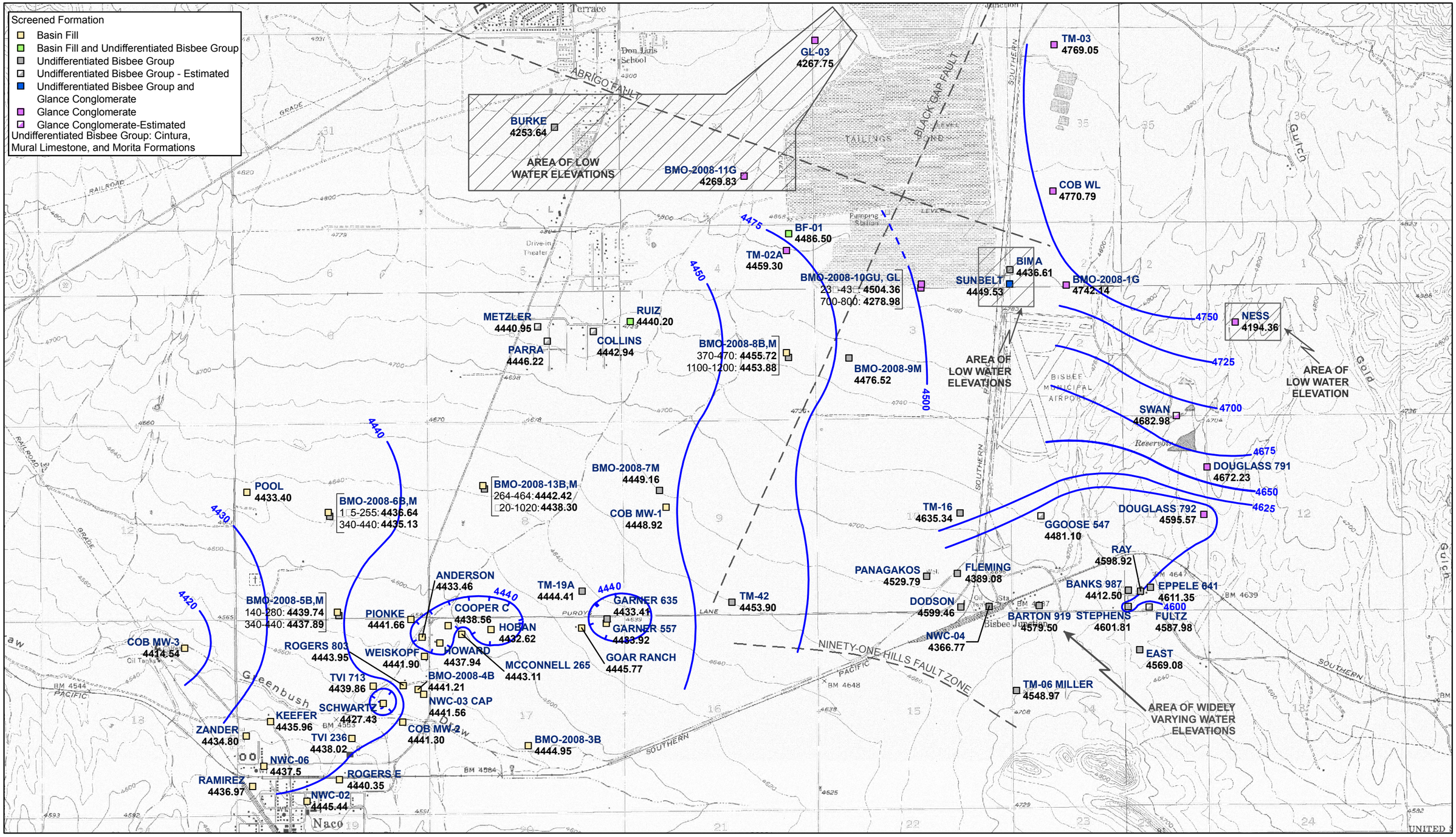
PROJECTION: UTM Zone 12 NAD83

N

HYDRO GEO CHEM, INC.

SULFATE CONCENTRATIONS IN GROUNDWATER THIRD QUARTER 2009

Approved	Date	Author	Date	File Name	Figure
DRS	10/19/09	AMC	10/19/09	8720396G	2


Screened Formation
Basin Fill
Basin Fill and Undifferentiated Bisbee Group
Undifferentiated Bisbee Group
Undifferentiated Bisbee Group - Estimated
Undifferentiated Bisbee Group and Glance Conglomerate
Glance Conglomerate
Glance Conglomerate-Estimated
Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations
AREA OF LOW WATER ELEVATIONS
AREA OF LOW WATER ELEVATIONS
AREA OF LOW WATER ELEVATION
AREA OF WIDELY VARYING WATER ELEVATIONS
ABRIGO FAULT
BLACK GAP FAULT
NINETY-ONE HILLS FAULT ZONE
TAILINGS
BISBEE MUNICIPAL AIRPORT
Bisbee Junction
Naco
GL-03 4267.75
BURKE 4253.64
BMO-2008-11G 4269.83
TM-03 4769.05
COB WL 4770.79
BF-01 4486.50
TM-02A 4459.30
BMO-2008-10GU, GL 23-43: 4504.36 700-800: 4278.98
BIM A 4436.61
SUNBELT 4449.53
BMO-2008-1G 4742.14
NESS 4194.36
METZLER 4440.95
RUIZ 4440.20
PARRA 4446.22
COLLINS 4442.94
BMO-2008-8B,M 370-470: 4455.72 1100-1200: 4453.88
BMO-2008-9M 4476.52
SWAN 4682.98
DOUGLASS 791 4672.23
DOUGLASS 792 4595.57
POOL 4433.40
BMO-2008-6B,M 1-5-255: 4436.64 340-440: 4435.13
BMO-2008-13B,M 264-464: 4442.42 20-1020: 4438.30
BMO-2008-7M 4449.16
COB MW-1 4448.92
TM-16 4635.34
GGOOSE 547 4481.10
RAY 4598.92
PANAGAKOS 4529.79
FLEMING 4389.08
BANKS 987 4412.50
EPPELE 641 4611.35
DODSON 4599.46
BARTON 919 4579.50
STEPHENS 4601.81
FULTZ 4587.98
NWC-04 4366.77
EAST 4569.08
TM-06 MILLER 4548.97
ANDERSON 4433.46
TM-19A 4444.41
GARNER 635 4433.41
GARNER 557 4433.92
TM-42 4453.90
COOPER C 4438.56
HOBAN 4432.62
BMO-2008-5B,M 140-280: 4439.74 340-440: 4437.89
PIONKE 4441.66
COB MW-3 4414.54
ROGERS 803 4443.95
WEISKOPF 4441.90
HOWARD 4437.94
MCCONNELL 265 4443.11
GOAR RANCH 4445.77
TVI 713 4439.86
BMO-2008-4B 4441.21
NWC-03 CAP 4441.56
SCHWARTZ 4427.43
KEEFER 4435.96
COB MW-2 4441.30
ZANDER 4434.80
TVI 236 4438.02
BMO-2008-3B 4444.95
NWC-06 4437.5
RAMIREZ 4436.97
ROGERS E 4440.35
NWC-02 4445.44
4475
4450
4500
4750
4725
4700
4675
4650
4625
4440
4430
4420
Legend
POOL Well ID
4433.40 Groundwater Elevation (ft amsl)
Groundwater Elevation Contours (dashed where inferred)
Groundwater Depression
Faults (inferred)
Co-Located Wells
Well ID
Screen (ft bgs): Water Elevation (ft amsl)
0 1250 2500 3750 Feet
PROJECTION: UTM Zone 12 NAD83
N
HYDRO GEO CHEM, INC.
GROUNDWATER ELEVATIONS
THIRD QUARTER 2009
Approved DRS
Date 10/19/09
Author AMC
Date 10/19/09
File Name 8720395G
Figure 3

APPENDIX A

DATA VERIFICATION REPORT

THIRD QUARTER 2009
GROUNDWATER MONITORING REPORT

APPENDIX A

DATA VERIFICATION REPORT

THIRD QUARTER 2009
GROUNDWATER MONITORING REPORT

Prepared for:

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

Prepared by:

HYDRO GEO CHEM, INC.
51 West Wetmore Road
Tucson, Arizona 85705
(520) 293-1500

October 20, 2009

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1. INTRODUCTION

This report summarizes the data verification review of groundwater samples collected and analyzed during the third quarter 2009 by Hydro Geo Chem, Inc. (HGC) pursuant to Mitigation Order on Consent Docket No. P-121-07 (ADEQ, 2007). HGC collected groundwater samples from wells identified in Tasks 1.0 and 2.2 of the Work Plan (HGC, 2008a). Analytical results for groundwater samples collected for this project during the third quarter of 2009 were provided to HGC by ACZ Laboratories, Inc. (ACZ) for preparation of the third quarter 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, 2008a) for field sampling, chain-of-custody (COC) documentation, laboratory analysis, and reporting. This report reviews field sampling for samples collected by HGC. Additionally, sample handling and laboratory QA/QC data are evaluated according to the data quality indicators (DQIs) given in the QAPP.

Appendix C of the main text contains laboratory reports for third quarter 2009 samples including COC forms, laboratory correspondence, QC summaries, data qualifiers, and any case narratives. The analytical results for all 97 samples collected by HGC are contained in 15 reports having the ACZ Project numbers identified in the following table.

ACZ Project ID	Wells Reported
Number of wells sampled: 80 *Number of duplicate samples collected: 5* *Number of field and equipment blank samples collected: 10*	
L76872	BIMA, NOTEMAN, SWAN, PALMER, DODSON, PANAGAKOS, EPPELE641, RAY, BANKS986
L76907	SCHWARTZ, RAMIREZ, DUP071009, EQB071009, FB071009
L76944	FULTZ, EAST, PIONKE, ROGERS E, FRANCO, HOBAN, COOPERC, ANDERSON, KEEFER ZANDER
L77033	HOWARD, MOORE, CHAMBERS, WEISKOPF, MCCONNELL265, DURAZO, METZLER GARNER635, WEED, DUP071509, EQB071509, FB071509
L77089	NWC-02, NWC-03, NWC-04, NWC-06
L77113	AWC-02, AWC-03, AWC-04, AWC-05
L77114	POOL, PARRA, COLLINS, COOPER, TVI236, TVI875, COBMW-1, COBMW-2, COBMW-3 COBWL, DUP072209, EQB072209, FB072209
L77379	BMO-2008-13M, BMO-2008-13B, BMO-2008-3B, BMO-2008-4B, BMO-2008-7M, FB080609 EQB080609, DUP080609
L77383	RUIZ, ROGERS803, BMO-2008-6M, BMO-2008-6B, BMO-2008-1G, BMO-2008-5B BMO-2008-5M
L77462	BMO-2008-8M, BMO-2008-8B, BMO-2008-10GU, BMO-2008-10GL
L77508	NESS, TM-02A, TM-19A, GL-03, BMO-2008-11G
L77600	BMO-2008-9M, BF-01, TM-07, TM-15 MILLER, TM-42, TM-06 MILLER, OSBORN, TM-03 DUP081809, EQB081809, FB081809
L77668	TM-16, BURKE, GGOOSE 547
L77669	NWC-04
L78382	NWC-04

The results of the internal QA/QC tests performed by ACZ are presented with the laboratory reports included in Appendix B. Based on the results of surrogate spike recoveries, matrix spike/recovery and matrix spike duplicate tests, ACZ did not advise of any modifications that should be made regarding the usability and data validation status of the laboratory test results.

2. HGC FIELD OPERATIONS

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

- Static water level measurement,
- Well purging,
- Collection of water quality field parameters (pH in standard units [SU], specific conductance [SC] in microsiemens per centimeter [µS/cm], and temperature in degrees Celsius [°C]),
- Collection of groundwater samples for water quality analysis,
- Collection of groundwater quality assurance and quality control samples, and
- Equipment decontamination.

Documentation of the field activities was evaluated for quality assurance and has been deemed to have met the documentation requirements stated in the QAPP.

2.1 Water Level Monitoring

Static water level measurements were attempted at each well that was sampled and at all wells where water level monitoring was conducted by HGC. Water levels were measured while the well pump was off. However, it was not always possible to ascertain from the well owners how long the pump had been off. Before measuring the water level at each well, the battery on the water level indicator was checked and the sensitivity level was adjusted, if necessary. Each measurement was collected and verified by measuring the depth to water multiple times in order to obtain a consistent reading and accurate measurement.

2.2 Groundwater Sampling

During this monitoring period groundwater samples were collected from wells designated for sampling for Task 1.0 (well inventory) and Task 2.2 (groundwater monitoring) of the Work Plan. More detailed information regarding the wells sampled for water quality and water level measurements is listed in Table 1 of the main text.

2.2.1 Pre-Sampling Field Activities

On each day of sampling, the pH[1] and SC[2] multipurpose probe was calibrated. In addition, the water level indicator was checked for a signal which indicates a working meter and sufficient battery strength. On each day where sampling extended for more than half a day, a mid-day calibration check was performed on the pH and SC probe to ensure accurate measurement. In addition to calibrating the instruments each day, measures were taken to 1) properly decontaminate field equipment, 2) ensure the appropriate storage and transport temperature of the samples, and 3) document activities related to the collection of groundwater samples as part of this project. These objectives were met by 1) replenishing or obtaining supplies of deionized water and ice daily, 2) use of the proper preservative and sample collection containers, 3) properly packing the samples on ice during field activities, 4) using deionized water to properly decontaminate field equipment prior to the start of sampling each day and after sampling at each well, and 5) obtaining the appropriate field notebook in order to document field activities related to the groundwater monitoring program.

2.2.2 Well Purging, Field Measurements, and Sample Collection

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

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[1] Field pH meter was calibrated using a two point calibration and pH buffers 4 and 7

[2] Field SC meter was calibrated using a standard stock solution of 1413 µS/cm

Field measurements were collected at varying intervals during well purging at each well where a water quality sample was collected. Field parameters were monitored until a consistent measurement was obtained.

During this monitoring period groundwater samples were collected for analysis from 80 plume and well inventory monitor 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 ACZ and maintained in a clean and secure work area until used in the field.

2.2.3 Post-Sampling Field Activities

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

After sample collection, samples from each well were placed into a plastic bag and stored on ice until they could be packed securely for shipping to ACZ. In addition, each set of samples collected from each well was individually bagged (without ice) to prevent the label from getting soaked with water and rubbing off or becoming illegible.

3. SAMPLE HANDLING

All samples collected by HGC were shipped to ACZ for analysis. COC documentation accompanied all samples submitted and included the sample name, collection date and time. COCs contained in laboratory reports included the date and time the samples were received by ACZ. As noted on the analytical data reports from ACZ, all of the sample bottles were received intact, properly preserved, and in good condition.

The temperature of the following shipping container (identified by its laboratory login number) exceeded 4 °C upon receipt at the laboratory.

ACZ Project ID	Sample Collection Date	Sample Relinquished Date	Sample Received Date by ACZ	Temperature Upon Receipt (°C)
L76872	07/08-09/09	07/09/09	07/10/09	4.6
L76907	07/10/09	07/10/09	07/13/09	19.5
L76944	07/13-14/09	07/14/09	07/15/09	4.1
L77113	07/22/09	07/22/09	07/23/09	5.6
L77114	07/20-22/09	07/22/09	07/23/09	5.6
L77379	08/05-06/09	08/06/09	08/07/09	13.1
L77383	08/03-04/09	08/05/09	08/07/09	5.1
L77462	08/10-11/09	08/11/09	08/12/09	14.3
L77508	08/11-12/09	08/13/09	08/14/09	12.7
L77668	08/19/09	08/20/09	08/21/09	7.2
L77669	08/19/09	08/20/09	08/21/09	7.2
L78382	09/23/09	09/23/09	09/24/09	17

As noted in the above table, the samples were shipped within one to two days of sample collection and the time between sample collection and receipt of samples by ACZ was one to four days. This temperature exceedance is not considered to have a significant impact on the analytical results pertaining to the sulfate analysis for these samples.

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

ACZ is licensed with the Arizona Department of Health Services (license number AZ0102) and is accredited in accordance with the National Environmental Laboratory Accreditation Conference.

4.2 Analytical Method

United States Environmental Protection Agency (EPA) method 300.0 was used for sulfate analysis during this monitoring period.

4.3 Method Detection Limit (MDL) and Practical Quantification Limit (PQL)

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

Method	MDL (mg/L)	PQL (mg/L)	Target MDL[1] (mg/L)
EPA 300.0	0.5	3	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 ACZ QA plan and the QAPP.

4.5.2 Analytical Spike

Analytical spike samples were analyzed for the EPA Method 300.0. Spike recoveries for most analytes were within the range of acceptability based on the acceptance criteria set by ACZ. Instances in which analytical spike recoveries were low were qualified with an "M2" flag. However, in each case the method control sample recoveries were acceptable.

4.5.3 Laboratory Duplicate Samples

Analyses of laboratory duplicate samples were reviewed as part of this quality data verification report. Field duplicate samples are discussed in Section 5.1. The RPDs for most laboratory duplicate samples were within 20 percent, which is the tolerance range set by the laboratory. In some instances, the data were qualified with an "RA" flag indicating that the RPD was not used for data validation because the sample concentration was less than ten times the MDL, which is too low for accurate evaluation according to ACZ. In all cases where the RPD could be calculated, the results met QA criteria and demonstrate an appropriate level of precision in laboratory analysis of these samples.

4.5.4 Field Blank Samples

During the third quarter of 2009, ten field blank samples were collected. Five field blanks using unfiltered deionized water (FB071009, FB071509, FB072209, FB080609, and FB081809) and five equipment blanks using filtered deionized water (EQB071009, EQB071509, EQB072209, EQB080609, and EQB081809). Field blank samples were collected and submitted along with other samples to evaluate the potential for contaminant introduction under field conditions. As required by Section 4.2.1.5 of the QAPP, a minimum of one field blank and one equipment blank sample was collected for every twenty samples. Analytical results from field blank and equipment blank samples showed no detections.

5. DATA QUALITY INDICATORS

The QAPP provides several DQIs for assessing the overall quality of the data. These DQIs include the following:

- Precision
- Bias
- Accuracy
- Representativeness
- Comparability
- Completeness
- Sensitivity

Each of these DQIs is discussed below in relation to the Q3-2009 groundwater sampling and analysis conducted by HGC.

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 Sections 4.5.2 and 4.5.4, there were no exceedances of RPD QA criteria for any laboratory duplicates. During this monitoring period five field filtered duplicate samples (DUP071009, DUP071509, DUP072209, DUP080609, and DUP081809) were collected by HGC for analysis. The collection of five duplicate samples meets the QA/QC goal of collecting

one duplicate sample for every twenty groundwater samples collected, as stated in Section 4.2.1.5 of the QAPP.

Results for the five duplicate samples collected are provided in the table below. The range of RPD values was between 0.86 and 7.09 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.

Well ID	Duplicate Sample ID	ACZ Project ID	Sulfate (mg/L)	Duplicate (mg/L)	RPD (%)
SCHWARTZ	DUP071009	L76709	116	117	0.86
METZLER	DUP071509	L77033	293	309	5.32
COB MW-1	DUP072209	L77114	680	730	7.09
MO-2008-3B	DUP080609	L77379	151	156	3.26
TM-06 MILLER	DUP081809	L77600	30.9	29.9	3.29

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

5.2 Bias

Bias is a systematic distortion of measurements causing consistent errors in one direction. Bias is managed in this data set by the consistent application of standardized sample collection and analysis procedures.

5.3 Accuracy

Accuracy is a measure of the agreement of a measurement to a known value and is measured using the recoveries from laboratory control samples. As discussed in Sections 4.5.1, 4.5.2, and 4.5.3 there were no significant exceedances of the recovery QA criteria for any of the calibration standards, analytical spikes, or laboratory duplicates, respectively. Based on this information, the overall accuracy of the data is judged sufficient for the purpose of aquifer characterization.

5.4 Representativeness

All samples were taken from locations specified in the Work Plan (HGC, 2008) following sampling procedures specified in the QAPP. Therefore, the samples are judged to provide a good representation of groundwater quality at the sampled locations. The analytical data are judged to be representative of groundwater conditions because the analyses used standard procedures and methods that met QA/QC guidelines of the QAPP.

5.5 Comparability

All samples were collected using standardized procedures (HGC, 2008) and were analyzed by ACZ 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 ACZ are judged to satisfy the QA/QC criteria for this project and are deemed usable for aquifer characterization. Thus, the completeness of analytical results is 100 percent.

5.7 Sensitivity

The analytical method used to analyze the samples meet the MDL requirements specified in Table F.2 of the QAPP. Therefore, the analytical sensitivity is considered acceptable for use in aquifer characterization.

6. REFERENCES

Arizona Department of Environmental Quality. 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.

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

ACZ LABORATORIES, INC. ANALYTICAL REPORTS

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 31, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L76872

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 10, 2009. This project has been assigned to ACZ's project number, L76872. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L76872. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 31, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BIMA

ACZ Sample ID: ***L76872-01***
Date Sampled: *07/08/09 09:05*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	189		*	mg/L	5	30	07/30/09 16:02	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: NOTEMAN

ACZ Sample ID: ***L76872-02***
Date Sampled: *07/08/09 10:39*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	260		*	mg/L	5	30	07/30/09 16:23	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: SWAN

ACZ Sample ID: ***L76872-03***
Date Sampled: *07/08/09 13:25*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	18.5		*	mg/L	0.5	3	07/30/09 16:44	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: PALMER

ACZ Sample ID: ***L76872-04***
Date Sampled: *07/08/09 14:08*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	14.3		*	mg/L	0.5	3	07/30/09 17:47	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: DODSON

ACZ Sample ID: ***L76872-05***
Date Sampled: *07/08/09 17:19*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	55.9		*	mg/L	0.5	3	07/30/09 18:08	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: PANAGAKOS

ACZ Sample ID: ***L76872-06***
Date Sampled: *07/09/09 09:21*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	490		*	mg/L	10	50	07/30/09 18:30	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: EPPELE 641

ACZ Sample ID: ***L76872-07***
Date Sampled: *07/09/09 13:16*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	17.5			mg/L	0.5	3	07/30/09 18:51	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: RAY

ACZ Sample ID: ***L76872-08***
Date Sampled: *07/09/09 12:32*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	126			mg/L	3	10	07/30/09 19:54	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BANKS 986

ACZ Sample ID: ***L76872-09***
Date Sampled: *07/09/09 14:54*
Date Received: *07/10/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	70.9		*	mg/L	0.5	3	07/22/09 1:04	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.
Project ID: 8720002.2

ACZ Project ID: ***L76872***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG267231													
WG267231ICV	ICV	07/14/09 18:34	WI090615-9	50		51.27	mg/L	102.5	90	110			
WG267231ICB	ICB	07/14/09 18:56				U	mg/L		-1.5	1.5			
WG267231ICV1	ICV	07/22/09 0:01	WI090615-9	50		50.48	mg/L	101	90	110			
WG267231ICB1	ICB	07/22/09 0:22				U	mg/L		-1.5	1.5			
WG267231LFB	LFB	07/22/09 0:43	WI090715-3	30		30.01	mg/L	100	90	110			
L76872-09AS	AS	07/22/09 1:25	WI090715-3	30	70.9	97.3	mg/L	88	90	110			M2
L76872-09DUP	DUP	07/22/09 1:46			70.9	71.28	mg/L				0.5	20	
WG267231ICV2	ICV	07/22/09 18:47	WI090615-9	50		52.37	mg/L	104.7	90	110			
WG267231ICB2	ICB	07/22/09 19:09				U	mg/L		-1.5	1.5			
WG267518													
WG267518ICV	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267518ICB	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267518ICV1	ICV	07/30/09 12:52	WI090615-9	50		48.77	mg/L	97.5	90	110			
WG267518ICB1	ICB	07/30/09 13:13				U	mg/L		-1.5	1.5			
WG267518LFB	LFB	07/30/09 13:34	WI090715-3	30		28.64	mg/L	95.5	90	110			
L76778-03AS	AS	07/30/09 14:16	WI090715-3	600	1010	1425	mg/L	69.2	90	110			M2
L76778-03DUP	DUP	07/30/09 14:37			1010	1115	mg/L				9.9	20	
L76872-07AS	AS	07/30/09 19:12	WI090715-3	30	17.5	48.02	mg/L	101.7	90	110			
L76872-07DUP	DUP	07/30/09 19:33			17.5	17.52	mg/L				0.1	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L76872***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L76872-01	WG267518	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L76872-02	WG267518	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L76872-03	WG267518	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L76872-04	WG267518	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L76872-05	WG267518	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L76872-06	WG267518	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L76872-09	WG267231	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L76872
Date Received: 7/10/2009
Received By:
Date Printed: 7/10/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA8820	4.6	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L76872
Date Received: 7/10/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L76872-01	BIMA									X		
L76872-02	NOTEMAN									X		
L76872-03	SWAN									X		
L76872-04	PALMER									X		
L76872-05	DODSON									X		
L76872-06	PANAGAKOS									X		
L76872-07	EPPELE 641									X		
L76872-08	RAY									X		
L76872-09	BANKS 986									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L76872 **CHAIN of CUSTODY**

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, Az 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, Az 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
BIMA	7-8-09:0905	GW	1	X							
NOTEMAN	7-8-09:1039	GW	1	X							
SWAN	7-8-09:1325	GW	1	X							
PALMER	7-8-09:1408	GW	1	X							
DODSON	7-8-09:1719	GW	1	X							
PANAGAKOS	7-9-09:0921	GW	1	X							
EPPELE 641	7-9-09:1316	GW	1	X							
RAY	7-9-09:1232	GW	1	X							
BANKS 986	7-9-09:1454	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-9-09:1531	[illegible]	7-10-09 11:21

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 31, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L76907

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 13, 2009. This project has been assigned to ACZ's project number, L76907. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L76907. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 31, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

Hydro Geo Chem, Inc. July 31, 2009

Project ID: 8720002.2
ACZ Project ID: L76907

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 ground water samples from Hydro Geo Chem, Inc. on July 13, 2009. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L76907. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following anomaly required further explanation not provided by the Extended Qualifier Report:

1. The samples were received outside of the acceptable temperature range of 0 to 6 degrees C.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: EQB071009

ACZ Sample ID: ***L76907-01***
Date Sampled: *07/10/09 00:00*
Date Received: *07/13/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	07/22/09 5:17	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: FB071009

ACZ Sample ID: ***L76907-02***
Date Sampled: *07/10/09 00:00*
Date Received: *07/13/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	07/22/09 5:38	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: DUP071009

ACZ Sample ID: ***L76907-03***
Date Sampled: *07/10/09 00:00*
Date Received: *07/13/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	117			mg/L	3	10	07/30/09 22:01	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: SCHWARTZ

ACZ Sample ID: ***L76907-04***
Date Sampled: *07/10/09 10:02*
Date Received: *07/13/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	116			mg/L	3	10	07/30/09 22:22	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: RAMIREZ

ACZ Sample ID: ***L76907-05***
Date Sampled: *07/10/09 11:25*
Date Received: *07/13/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	6.4			mg/L	0.5	3	07/30/09 22:43	aml

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.

ACZ Project ID: ***L76907***

Project ID: 8720002.2

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG267231													
WG267231ICV	ICV	07/14/09 18:34	WI090615-9	50		51.27	mg/L	102.5	90	110			
WG267231ICB	ICB	07/14/09 18:56				U	mg/L		-1.5	1.5			
WG267231ICV1	ICV	07/22/09 0:01	WI090615-9	50		50.48	mg/L	101	90	110			
WG267231ICB1	ICB	07/22/09 0:22				U	mg/L		-1.5	1.5			
WG267231LFB	LFB	07/22/09 0:43	WI090715-3	30		30.01	mg/L	100	90	110			
L76872-09AS	AS	07/22/09 1:25	WI090715-3	30	70.9	97.3	mg/L	88	90	110			M2
L76872-09DUP	DUP	07/22/09 1:46			70.9	71.28	mg/L				0.5	20	
WG267231ICV2	ICV	07/22/09 18:47	WI090615-9	50		52.37	mg/L	104.7	90	110			
WG267231ICB2	ICB	07/22/09 19:09				U	mg/L		-1.5	1.5			
WG267518													
WG267518ICV	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267518ICB	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267518ICV1	ICV	07/30/09 12:52	WI090615-9	50		48.77	mg/L	97.5	90	110			
WG267518ICB1	ICB	07/30/09 13:13				U	mg/L		-1.5	1.5			
WG267518LFB	LFB	07/30/09 13:34	WI090715-3	30		28.64	mg/L	95.5	90	110			
L76872-07AS	AS	07/30/09 19:12	WI090715-3	30	17.5	48.02	mg/L	101.7	90	110			
L76872-07DUP	DUP	07/30/09 19:33			17.5	17.52	mg/L				0.1	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L76907***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L76907-01	WG267231	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L76907-02	WG267231	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L76907
Date Received: 7/13/2009
Received By:
Date Printed: 7/13/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1975	19.5	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L76907
Date Received: 7/13/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L76907-01	EQB071009									X		
L76907-02	FB071009									X		
L76907-03	DUP071009									X		
L76907-04	SCHWARTZ									X		
L76907-05	RAMIREZ									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L76907

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
EQB071009	7-10-09:	GW	1	X							
FB071009	7-10-09:	GW	1	X							
DUP071009	7-10-09:	GW	1	X							
SCHWARTZ	7-10-09:1002	GW	1	X							
RAMIREZ	7-10-09:1125	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-10-09:1200	[illegible]	7/13-09 11:01

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 04, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L76944

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 15, 2009. This project has been assigned to ACZ's project number, L76944. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L76944. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 04, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: FULTZ

ACZ Sample ID: ***L76944-01***
Date Sampled: *07/13/09 12:23*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	81		*	mg/L	2	8	08/02/09 17:49	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: EAST

ACZ Sample ID: ***L76944-02***
Date Sampled: *07/13/09 13:27*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	13.8			mg/L	0.5	3	08/02/09 18:10	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: PIONKE

ACZ Sample ID: ***L76944-03***
Date Sampled: *07/13/09 15:01*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	472		*	mg/L	5	30	08/02/09 18:31	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: ROGERS E

ACZ Sample ID: ***L76944-04***
Date Sampled: *07/13/09 16:22*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	3.8			mg/L	0.5	3	08/02/09 18:52	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: FRANCO

ACZ Sample ID: ***L76944-05***
Date Sampled: *07/13/09 17:08*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	670		*	mg/L	10	50	08/02/09 19:56	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: HOBAN

ACZ Sample ID: ***L76944-06***
Date Sampled: *07/14/09 09:46*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	670		*	mg/L	10	50	08/02/09 20:17	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: COOPER C

ACZ Sample ID: ***L76944-07***
Date Sampled: *07/14/09 10:51*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	910		*	mg/L	10	50	08/02/09 20:38	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: ANDERSON

ACZ Sample ID: ***L76944-08***
Date Sampled: *07/14/09 12:33*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	550		*	mg/L	5	30	08/02/09 20:59	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: KEEFER

ACZ Sample ID: ***L76944-09***
Date Sampled: *07/14/09 13:54*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	7.0			mg/L	0.5	3	08/02/09 21:20	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: ZANDER

ACZ Sample ID: ***L76944-10***
Date Sampled: *07/14/09 15:11*
Date Received: *07/15/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	4.5		*	mg/L	0.5	3	08/03/09 2:15	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.
Project ID: 8720002.2

ACZ Project ID: ***L76944***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG267517													
WG267517ICV2	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267517ICB2	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267517ICV3	ICV	07/29/09 14:15	WI090615-9	50		50.16	mg/L	100.3	90	110			
WG267517ICB3	ICB	07/29/09 14:36				U	mg/L		-1.5	1.5			
WG267918													
WG267918ICV	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267918ICB	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267918ICV1	ICV	08/03/09 1:12	WI090615-9	50		49.62	mg/L	99.2	90	110			
WG267918ICB1	ICB	08/03/09 1:33				U	mg/L		-1.5	1.5			
WG267918LFB	LFB	08/03/09 1:54	WI090715-3	30		28.16	mg/L	93.9	90	110			
L76944-10AS	AS	08/03/09 2:37	WI090715-3	30	4.5	34.26	mg/L	99.2	90	110			
L76944-10DUP	DUP	08/03/09 2:58			4.5	4.46	mg/L				0.9	20	RA
WG267918ICV2	ICV	08/03/09 14:16	WI090615-9	50		53.61	mg/L	107.2	90	110			
WG267848													
WG267848ICV	ICV	07/31/09 9:17	WI090615-9	50		47.77	mg/L	95.5	90	110			
WG267848ICB	ICB	07/31/09 9:38				U	mg/L		-1.5	1.5			
WG267848LFB	LFB	07/31/09 10:00	WI090715-3	30		30.33	mg/L	101.1	90	110			
L76940-07AS	AS	08/02/09 17:07	WI090715-3	3000	2010	4845	mg/L	94.5	90	110			
L76940-07DUP	DUP	08/02/09 17:28			2010	2009	mg/L				0	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L76944***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L76944-01	WG267848	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L76944-03	WG267848	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L76944-05	WG267848	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L76944-06	WG267848	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L76944-07	WG267848	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L76944-08	WG267848	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L76944-10	WG267918	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L76944
Date Received: 7/15/2009
Received By:
Date Printed: 7/15/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA8837	4.1	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L76944
Date Received: 7/15/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L76944-01	FULTZ									X		
L76944-02	EAST									X		
L76944-03	PIONKE									X		
L76944-04	ROGERS E									X		
L76944-05	FRANCO									X		
L76944-06	HOBAN									X		
L76944-07	COOPER C									X		
L76944-08	ANDERSON									X		
L76944-09	KEEFER									X		
L76944-10	ZANDER									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L76944

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
FULTZ	7-13-09:1223	GW	1	X							
EAST	7-13-09:1327	GW	1	X							
PIONKE	7-13-09:1501	GW	1	X							
ROGERS E	7-13-09:1622	GW	1	X							
FRANCO	7-13-09:1708	GW	1	X							
HOBAN	7-14-09:0946	GW	1	X							
COOPER C	7-14-09:1051	GW	1	X							
ANDERSON	7-14-09:1233	GW	1	X							
KEEFER	7-14-09:1354	GW	1	X							
ZANDER	7-14-09:1511	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-14-09:1555	[illegible]	7-15-09 8:50

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 10, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L77033

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 18, 2009. This project has been assigned to ACZ's project number, L77033. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77033. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 10, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: HOWARD

ACZ Sample ID: ***L77033-01***
Date Sampled: *07/15/09 09:19*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	640		*	mg/L	10	50	08/03/09 6:50	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: MOORE

ACZ Sample ID: ***L77033-02***
Date Sampled: *07/15/09 10:24*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	5.8			mg/L	0.5	3	08/03/09 7:11	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: CHAMBERS

ACZ Sample ID: ***L77033-03***
Date Sampled: *07/15/09 11:27*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	4.3			mg/L	0.5	3	08/03/09 8:14	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: WEISKOPF

ACZ Sample ID: ***L77033-04***
Date Sampled: *07/15/09 12:36*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	486		*	mg/L	5	30	08/03/09 8:35	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: MCCONNELL 265

ACZ Sample ID: ***L77033-05***
Date Sampled: *07/15/09 14:04*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	662		*	mg/L	5	30	08/03/09 8:57	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: DURAZO

ACZ Sample ID: ***L77033-06***
Date Sampled: *07/15/09 15:08*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	332			mg/L	5	30	08/05/09 22:33	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: METZLER

ACZ Sample ID: ***L77033-07***
Date Sampled: *07/15/09 16:22*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	293			mg/L	5	30	08/05/09 23:36	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: DUP071509

ACZ Sample ID: ***L77033-08***
Date Sampled: *07/15/09 00:00*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	309			mg/L	5	30	08/06/09 19:50	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: EQB071509

ACZ Sample ID: ***L77033-09***
Date Sampled: *07/15/09 00:00*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U		mg/L	0.5	3	08/06/09 0:18	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: FB071509

ACZ Sample ID: ***L77033-10***
Date Sampled: *07/15/09 00:00*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U		mg/L	0.5	3	08/06/09 0:40	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: GARNER 635

ACZ Sample ID: ***L77033-11***
Date Sampled: *07/16/09 10:58*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	35.7			mg/L	0.5	3	08/06/09 1:01	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: WEED

ACZ Sample ID: ***L77033-12***
Date Sampled: *07/16/09 11:43*
Date Received: *07/18/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	10.8			mg/L	0.5	3	08/03/09 18:08	aml

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.

ACZ Project ID: ***L77033***

Project ID: 8720002.2

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG267918													
WG267918ICV	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267918ICB	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267918ICV1	ICV	08/03/09 1:12	WI090615-9	50		49.62	mg/L	99.2	90	110			
WG267918ICB1	ICB	08/03/09 1:33				U	mg/L		-1.5	1.5			
WG267918LFB	LFB	08/03/09 1:54	WI090715-3	30		28.16	mg/L	93.9	90	110			
L76944-10AS	AS	08/03/09 2:37	WI090715-3	30	4.5	34.26	mg/L	99.2	90	110			
L76944-10DUP	DUP	08/03/09 2:58			4.5	4.46	mg/L				0.9	20	RA
L77033-02AS	AS	08/03/09 7:32	WI090715-3	30	5.8	35.54	mg/L	99.1	90	110			
L77033-02DUP	DUP	08/03/09 7:53			5.8	5.57	mg/L				4	20	
WG267918ICV2	ICV	08/03/09 14:16	WI090615-9	50		53.61	mg/L	107.2	90	110			
WG267923													
WG267923ICV	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267923ICB	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267923ICV1	ICV	08/03/09 17:05	WI090615-9	50		50.29	mg/L	100.6	90	110			
WG267923ICB1	ICB	08/03/09 17:26				U	mg/L		-1.5	1.5			
WG267923LFB	LFB	08/03/09 17:47	WI090715-3	30		30.5	mg/L	101.7	90	110			
L77033-12AS	AS	08/03/09 18:29	WI090715-3	30	10.8	40.22	mg/L	98.1	90	110			
L77033-12DUP	DUP	08/03/09 18:50			10.8	10.74	mg/L				0.6	20	
WG267923ICV2	ICV	08/04/09 7:09	WI090615-9	50		49.79	mg/L	99.6	90	110			
WG267923ICB2	ICB	08/04/09 7:30				U	mg/L		-1.5	1.5			
WG267923ICV3	ICV	08/04/09 11:01	WI090615-9	50		49.77	mg/L	99.5	90	110			
WG267923ICB3	ICB	08/04/09 11:22				U	mg/L		-1.5	1.5			
WG268154													
WG268154ICV	ICV	08/04/09 7:09	WI090615-9	50		49.79	mg/L	99.6	90	110			
WG268154ICB	ICB	08/04/09 7:30				U	mg/L		-1.5	1.5			
WG268154ICV1	ICV	08/05/09 14:27	WI090615-9	50		48.07	mg/L	96.1	90	110			
WG268154ICB1	ICB	08/05/09 14:49				U	mg/L		-1.5	1.5			
WG268154LFB	LFB	08/05/09 15:10	WI090715-3	30		33.01	mg/L	110	90	110			
WG268154ICV2	ICV	08/06/09 17:01	WI090615-9	50		51.82	mg/L	103.6	90	110			
WG268154ICB2	ICB	08/06/09 17:22				U	mg/L		-1.5	1.5			
L77032-02AS	AS	08/06/09 19:08	WI090715-3	30	50.9	77.77	mg/L	89.6	90	110			
L77032-02DUP	DUP	08/06/09 19:29			50.9	50.97	mg/L				0.1	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77033***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77033-01	WG267918	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
			300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L77033-04	WG267918	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L77033-05	WG267918	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77033
Date Received: 7/18/2009
Received By:
Date Printed: 7/18/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA8866	0.7	13

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77033
Date Received: 7/18/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77033-01	HOWARD									X		
L77033-02	MOORE									X		
L77033-03	CHAMBERS									X		
L77033-04	WEISKOPF									X		
L77033-05	MCCONNELL 265									X		
L77033-06	DURAZO									X		
L77033-07	METZLER									X		
L77033-08	DUP071509									X		
L77033-09	EQB071509									X		
L77033-10	FB071509									X		
L77033-11	GARNER 635									X		
L77033-12	WEED									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L77033

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, INC
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
HOWARD	7-15-09:0919	GW	1	X							
MOORE	7-15-09:1024	GW	1	X							
CHAMBERS	7-15-09:1127	GW	1	X							
WEISKOPF	7-15-09:1236	GW	1	X							
MCCONNELL 265	7-15-09:1404	GW	1	X							
DURAZO	7-15-09:1508	GW	1	X							
METZLER	7-15-09:1622	GW	1	X							
DUP071509	7-15-09:	GW	1	X							
EQB071509	7-15-09:	GW	1	X							
FB071509	7-15-09:	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 2

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-16-09:1225	UPC	7-18-09 10:14

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc. L77033

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:

Address: 51 W. Wetmore Rd
Tucson, AZ 85705
Telephone: 520-293-1500 X-133

Copy of Report to:

Name:
Company:

E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:

Address: 51 W. Wetmore Rd
Tucson, AZ 85705
Telephone: 520-293-1500 X-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

YES [X]
NO [ ]

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
GARNER 635	7-16-09: 1058	GW	1	X							
WEED	7-16-09: 1143	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 2 of 2

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-16-09: 1225	[illegible]	7-16-09 10:14

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 31, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L77089

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 22, 2009. This project has been assigned to ACZ's project number, L77089. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77089. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 31, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: NWC-04

ACZ Sample ID: ***L77089-01***
Date Sampled: *07/21/09 09:11*
Date Received: *07/22/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	193			mg/L	3	10	07/29/09 16:43	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: NWC-03

ACZ Sample ID: ***L77089-02***
Date Sampled: *07/21/09 09:39*
Date Received: *07/22/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	458			mg/L	5	30	07/29/09 17:04	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: NWC-06

ACZ Sample ID: ***L77089-03***
Date Sampled: *07/21/09 10:03*
Date Received: *07/22/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	6.4			mg/L	0.5	3	07/29/09 17:25	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: NWC-02

ACZ Sample ID: ***L77089-04***
Date Sampled: *07/21/09 10:24*
Date Received: *07/22/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	5.0			mg/L	0.5	3	07/29/09 17:46	aml

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.

ACZ Project ID: ***L77089***

Project ID: 8720002.2

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG267517													
WG267517ICV2	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267517ICB2	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267517ICV3	ICV	07/29/09 14:15	WI090615-9	50		50.16	mg/L	100.3	90	110			
WG267517ICB3	ICB	07/29/09 14:36				U	mg/L		-1.5	1.5			
WG267517LFB	LFB	07/29/09 14:57	WI090715-3	30		30.55	mg/L	101.8	90	110			
L76630-16AS	AS	07/29/09 15:40	WI090715-3	3000	4210	7151	mg/L	98	90	110			
L76630-16DUP	DUP	07/29/09 16:01			4210	4316	mg/L				2.5	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77089***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.

ACZ Project ID:	L77089
Date Received:	10:16:59 AM
Received By:	
Date Printed:	7/22/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA8882	0.8	13

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.

ACZ Project ID: L77089
Date Received: 10:16:59 AM
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77089-01	NWC-04									X		
L77089-02	NWC-03									X		
L77089-03	NWC-06									X		
L77089-04	NWC-02									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L77089

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc.
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
NWC-04	7-21-09:0911	GW	1	X							
NWC-03	7-21-09:0939	GW	1	X							
NWC-06	7-21-09:1003	GW	1	X							
NWC-02	7-21-09:1024	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

1 week turn around please,

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-21-09:1327	[illegible]	7-22-09 10:16

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 31, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L77113

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 23, 2009. This project has been assigned to ACZ's project number, L77113. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77113. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 31, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: AWC-05

ACZ Sample ID: ***L77113-01***
Date Sampled: *07/22/09 11:11*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	14.1			mg/L	0.5	3	07/29/09 18:07	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: AWC-03

ACZ Sample ID: ***L77113-02***
Date Sampled: *07/22/09 11:31*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	41.8			mg/L	0.5	3	07/29/09 19:11	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: AWC-04

ACZ Sample ID: ***L77113-03***
Date Sampled: *07/22/09 11:48*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	26.2			mg/L	0.5	3	07/29/09 19:32	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: AWC-02

ACZ Sample ID: ***L77113-04***
Date Sampled: *07/22/09 12:18*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	14.2			mg/L	0.5	3	07/29/09 19:53	aml

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.

ACZ Project ID: ***L77113***

Project ID: 8720002.2

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG267517													
WG267517ICV2	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267517ICB2	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267517ICV3	ICV	07/29/09 14:15	WI090615-9	50		50.16	mg/L	100.3	90	110			
WG267517ICB3	ICB	07/29/09 14:36				U	mg/L		-1.5	1.5			
WG267517LFB	LFB	07/29/09 14:57	WI090715-3	30		30.55	mg/L	101.8	90	110			
L76630-16AS	AS	07/29/09 15:40	WI090715-3	3000	4210	7151	mg/L	98	90	110			
L76630-16DUP	DUP	07/29/09 16:01			4210	4316	mg/L				2.5	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77113***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77113
Date Received: 7/23/2009
Received By:
Date Printed: 7/23/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
na8890	5.6	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77113
Date Received: 7/23/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77113-01	AWC-05									X		
L77113-02	AWC-03									X		
L77113-03	AWC-04									X		
L77113-04	AWC-02									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L77113

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
AWC-05	7-22-09:1111	GW	1	X							
AWC-03	7-22-09:1131	GW	1	X							
AWC-04	7-22-09:1148	GW	1	X							
AWC-02	7-22-09:1218	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

1 week turn around please.

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-22-09:1525	MC	7-23-09 10:16

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 10, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L77114

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 23, 2009. This project has been assigned to ACZ's project number, L77114. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77114. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 10, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: POOL

ACZ Sample ID: ***L77114-01***
Date Sampled: *07/20/09 11:32*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	122		*	mg/L	1	5	08/03/09 20:15	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: PARRA

ACZ Sample ID: ***L77114-02***
Date Sampled: *07/20/09 13:05*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	375		*	mg/L	5	30	08/03/09 20:36	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: COLLINS

ACZ Sample ID: ***L77114-03***
Date Sampled: *07/20/09 14:24*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	460		*	mg/L	5	30	08/03/09 20:57	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: COOPER

ACZ Sample ID: ***L77114-04***
Date Sampled: *07/20/09 15:11*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	32.3			mg/L	0.5	3	08/04/09 12:04	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TVI 236

ACZ Sample ID: ***L77114-05***
Date Sampled: *07/21/09 11:53*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	31.3			mg/L	0.5	3	08/04/09 12:25	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TVI 875

ACZ Sample ID: ***L77114-06***
Date Sampled: *07/21/09 12:52*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	236			mg/L	3	10	08/03/09 22:42	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: COB WL

ACZ Sample ID: ***L77114-07***
Date Sampled: *07/22/09 09:09*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	97.3			mg/L	0.5	3	08/03/09 23:03	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: COB MW-2

ACZ Sample ID: ***L77114-08***
Date Sampled: *07/22/09 10:01*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	33.5			mg/L	0.5	3	08/04/09 0:07	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: COB MW-3

ACZ Sample ID: ***L77114-09***
Date Sampled: *07/22/09 10:40*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	52.3			mg/L	0.5	3	08/04/09 0:28	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: COB MW-1

ACZ Sample ID: ***L77114-10***
Date Sampled: *07/22/09 14:48*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	680			mg/L	10	50	08/04/09 13:50	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: DUP072209

ACZ Sample ID: ***L77114-11***
Date Sampled: *07/22/09 00:00*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	730			mg/L	10	50	08/04/09 14:11	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: EQB072209

ACZ Sample ID: ***L77114-12***
Date Sampled: *07/22/09 00:00*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	08/06/09 9:49	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: FB072209

ACZ Sample ID: ***L77114-13***
Date Sampled: *07/22/09 00:00*
Date Received: *07/23/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	08/06/09 10:10	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.
Project ID: 8720002.2

ACZ Project ID: ***L77114***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG267923													
WG267923ICV	ICV	07/29/09 12:06	WI090615-9	50		50.6	mg/L	101.2	90	110			
WG267923ICB	ICB	07/29/09 12:27				U	mg/L		-1.5	1.5			
WG267923ICV1	ICV	08/03/09 17:05	WI090615-9	50		50.29	mg/L	100.6	90	110			
WG267923ICB1	ICB	08/03/09 17:26				U	mg/L		-1.5	1.5			
WG267923LFB	LFB	08/03/09 17:47	WI090715-3	30		30.5	mg/L	101.7	90	110			
L77033-12AS	AS	08/03/09 18:29	WI090715-3	30	10.8	40.22	mg/L	98.1	90	110			
L77033-12DUP	DUP	08/03/09 18:50			10.8	10.74	mg/L				0.6	20	
L77114-07DUP	DUP	08/03/09 23:46			97.3	97.58	mg/L				0.3	20	
WG267923ICV2	ICV	08/04/09 7:09	WI090615-9	50		49.79	mg/L	99.6	90	110			
WG267923ICB2	ICB	08/04/09 7:30				U	mg/L		-1.5	1.5			
WG267923ICV3	ICV	08/04/09 11:01	WI090615-9	50		49.77	mg/L	99.5	90	110			
WG267923ICB3	ICB	08/04/09 11:22				U	mg/L		-1.5	1.5			
L77114-07AS	AS	08/04/09 13:07	WI090715-3	150	86	244.7	mg/L	105.8	90	110			
WG268158													
WG268158ICV	ICV	08/04/09 7:09	WI090615-9	50		49.79	mg/L	99.6	90	110			
WG268158ICB	ICB	08/04/09 7:30				U	mg/L		-1.5	1.5			
WG268158ICV1	ICV	08/06/09 2:04	WI090615-9	50		51.55	mg/L	103.1	90	110			
WG268158ICB1	ICB	08/06/09 2:25				U	mg/L		-1.5	1.5			
L77083-06AS	AS	08/06/09 8:24	WI090715-3	300	311	509.4	mg/L	66.1	90	110			M2
L77083-06DUP	DUP	08/06/09 8:45			311	376.8	mg/L				19.1	20	
WG268158ICV2	ICV	08/06/09 20:53	WI090615-9	50		51.05	mg/L	102.1	90	110			
WG268158ICB2	ICB	08/06/09 21:15				U	mg/L		-1.5	1.5			
WG268158LFB	LFB	08/06/09 21:36	WI090715-3	30		32.01	mg/L	106.7	90	110			

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77114***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77114-01	WG267923	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L77114-02	WG267923	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L77114-03	WG267923	Sulfate	300.0 - Ion Chromatography	D1	Sample required dilution due to matrix.
L77114-12	WG268158	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L77114-13	WG268158	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77114
Date Received: 7/23/2009
Received By:
Date Printed: 7/23/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA8890	5.6	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77114
Date Received: 7/23/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77114-01	POOL									X		
L77114-02	PARRA									X		
L77114-03	COLLINS									X		
L77114-04	COOPER									X		
L77114-05	TVI 236									X		
L77114-06	TVI 875									X		
L77114-07	COB WL									X		
L77114-08	COB MW-2									X		
L77114-09	COB MW-3									X		
L77114-10	COB MW-1									X		
L77114-11	DUP072209									X		
L77114-12	EQB072209									X		
L77114-13	FB072209									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L77114

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

YES [X]
NO [ ]

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
POOL	7-20-09:1132	GW	1	X							
PARRA	7-20-09:1305	GW	1	X							
COLLINS	7-20-09:1424	GW	1	X							
COOPER	7-20-09:1511	GW	1	X							
TVI 236	7-21-09:1153	GW	1	X							
TVI 875	7-21-09:1252	GW	1	X							
COB WL	7-22-09:0909	GW	1	X							
COB MW-2	7-22-09:1001	GW	1	X							
COB MW-3	7-22-09:1040	GW	1	X							
COB MW-1	7-22-09:1498	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 2

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-22-09:1525	[illegible]	7-23-09 10:16

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records

ACZ Laboratories, Inc. L7114

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:

Address: 51 W. Wetmore Rd
Tucson, AZ 85705
Telephone: 520-293-1500 X-133

Copy of Report to:

Name:
Company:

E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:

Address: 51 W. Wetmore Rd
Tucson, AZ 85705
Telephone: 520-293-1500 X-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

YES: X
NO:

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
DUP072209	7-22-09:	GW	1	X							
EQB072209	7-22-09:	GW	1	X							
FB072209	7-22-09:	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 2 of 2

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	7-22-09:1525	[illegible]	7-23-09 10:16

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 24, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L77379

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 07, 2009. This project has been assigned to ACZ's project number, L77379. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77379. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 24, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

Hydro Geo Chem, Inc.

August 24, 2009

Project ID: 8720002.2
ACZ Project ID: L77379

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 8 ground water samples from Hydro Geo Chem, Inc. on August 7, 2009. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L77379. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Samples were received outside the EPA recommended temperature of 0-6 degrees C.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-13M

ACZ Sample ID: ***L77379-01***
Date Sampled: *08/05/09 15:47*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	387		*	mg/L	5	30	08/10/09 20:23	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-13B

ACZ Sample ID: ***L77379-02***
Date Sampled: *08/05/09 17:19*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	950		*	mg/L	10	50	08/10/09 20:44	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-3B

ACZ Sample ID: ***L77379-03***
Date Sampled: *08/06/09 07:46*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	151		*	mg/L	3	10	08/10/09 21:06	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-4B

ACZ Sample ID: ***L77379-04***
Date Sampled: *08/06/09 10:07*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	11.5		*	mg/L	0.5	3	08/08/09 11:21	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-7M

ACZ Sample ID: ***L77379-05***
Date Sampled: *08/06/09 12:07*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	25.1			mg/L	0.5	3	08/17/09 20:20	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: FB080609

ACZ Sample ID: ***L77379-06***
Date Sampled: *08/06/09 00:00*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U		mg/L	0.5	3	08/17/09 21:23	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: EQB080609

ACZ Sample ID: ***L77379-07***
Date Sampled: *08/06/09 00:00*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U		mg/L	0.5	3	08/17/09 21:44	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: DUP080609

ACZ Sample ID: ***L77379-08***
Date Sampled: *08/06/09 00:00*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	156		*	mg/L	3	10	08/19/09 14:45	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.
Project ID: 8720002.2

ACZ Project ID: ***L77379***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG268307													
WG268307ICV	ICV	08/04/09 7:09	WI090615-9	50		49.79	mg/L	99.6	90	110			
WG268307ICB	ICB	08/04/09 7:30				U	mg/L		-1.5	1.5			
WG268307ICV1	ICV	08/08/09 0:48	WI090615-9	50		50.3	mg/L	100.6	90	110			
WG268307ICB1	ICB	08/08/09 1:09				U	mg/L		-1.5	1.5			
WG268307LFB	LFB	08/08/09 1:30	WI090715-3	30		28.22	mg/L	94.1	90	110			
L77248-17AS	AS	08/08/09 7:08	WI090715-3	1500	U	1453	mg/L	96.9	90	110			
L77248-17DUP	DUP	08/08/09 7:29			U	U	mg/L				0	20	RA
WG268307ICV2	ICV	08/10/09 18:59	WI090615-9	50		50.72	mg/L	101.4	90	110			
WG268307ICB2	ICB	08/10/09 19:20				U	mg/L		-1.5	1.5			
WG268359													
WG268359ICV	ICV	08/17/09 15:56	WI090615-9	50		49.75	mg/L	99.5	90	110			
WG268359ICB	ICB	08/17/09 16:17				U	mg/L		-1.5	1.5			
WG268359ICV1	ICV	08/17/09 19:16	WI090615-9	50		49.52	mg/L	99	90	110			
WG268359ICB1	ICB	08/17/09 19:37				U	mg/L		-1.5	1.5			
WG268359LFB	LFB	08/17/09 19:58	WI090715-3	30		29.39	mg/L	98	90	110			
L77379-05AS	AS	08/17/09 20:41	WI090715-3	30	25.1	52.02	mg/L	89.7	90	110			
L77379-05DUP	DUP	08/17/09 21:02			25.1	25.12	mg/L				0.1	20	
WG268782													
WG268782ICV	ICV	08/17/09 15:56	WI090817-1	50.2		49.75	mg/L	99.1	90	110			
WG268782ICB	ICB	08/17/09 16:17				U	mg/L		-1.5	1.5			
WG268782ICV1	ICV	08/18/09 14:10	WI090817-1	50.2		49.55	mg/L	98.7	90	110			
WG268782ICB1	ICB	08/18/09 14:31				U	mg/L		-1.5	1.5			
WG268782LFB	LFB	08/18/09 14:52	WI090715-3	30		27.73	mg/L	92.4	90	110			
WG268782ICV2	ICV	08/19/09 14:03	WI090817-1	50.2		49.28	mg/L	98.2	90	110			
WG268782ICB2	ICB	08/19/09 14:24				U	mg/L		-1.5	1.5			
L77379-08DUP	DUP	08/19/09 15:06			156	164	mg/L				5	20	
L77381-01AS	AS	08/19/09 15:49	WI090715-3	300	400	651.5	mg/L	83.8	90	110			M2

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77379***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77379-01	WG268307	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L77379-02	WG268307	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L77379-03	WG268307	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L77379-04	WG268307	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L77379-08	WG268782	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77379
Date Received: 8/7/2009
Received By:
Date Printed: 8/7/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
2156	13.1	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77379
Date Received: 8/7/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77379-01	BMO-2008-13M									X		
L77379-02	BMO-2008-13B									X		
L77379-03	BMO-2008-3B									X		
L77379-04	BMO-2008-4B									X		
L77379-05	BMO-2008-7M									X		
L77379-06	FB080609									X		
L77379-07	EQB080609									X		
L77379-08	DUP080609									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L77379

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: S04-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	S04-IC							
BMO-2008-13M	8-5-09:1547	GW	1	X							
BMO-2008-13B	8-5-09:1719	GW	1	X							
BMO-2008-3B	8-6-09:0746	GW	1	X							
BMO-2008-4B	8-6-09:1007	GW	1	X							
BMO-2008-7M	8-6-09:1207	GW	1	X							
FB080609	8-6-09:	GW	1	X							
EQB080609	8-6-09:	GW	1	X							
DUP080609	8-6-09:	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	8-6-09:1250	[illegible]	8-7-09 10:45

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 19, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L77383

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 07, 2009. This project has been assigned to ACZ's project number, L77383. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77383. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 19, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: RUIZ

ACZ Sample ID: ***L77383-01***
Date Sampled: *08/03/09 13:52*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	221			mg/L	3	10	08/17/09 22:05	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: ROGERS 803

ACZ Sample ID: ***L77383-02***
Date Sampled: *08/03/09 15:50*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	150			mg/L	2	8	08/17/09 22:26	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-6M

ACZ Sample ID: ***L77383-03***
Date Sampled: *08/04/09 10:08*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	189			mg/L	3	10	08/17/09 22:47	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-6B

ACZ Sample ID: ***L77383-04***
Date Sampled: *08/04/09 11:10*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	48.5			mg/L	0.5	3	08/17/09 23:08	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-1G

ACZ Sample ID: ***L77383-05***
Date Sampled: *08/04/09 14:22*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	104			mg/L	2	8	08/18/09 0:12	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-5B

ACZ Sample ID: ***L77383-06***
Date Sampled: *08/04/09 16:00*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	174			mg/L	3	10	08/18/09 0:33	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-5M

ACZ Sample ID: ***L77383-07***
Date Sampled: *08/04/09 17:35*
Date Received: *08/07/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	122			mg/L	2	8	08/18/09 0:54	aml

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

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Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
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ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

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(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.

ACZ Project ID: ***L77383***

Project ID: 8720002.2

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG268359													
WG268359ICV	ICV	08/17/09 15:56	WI090615-9	50		49.75	mg/L	99.5	90	110			
WG268359ICB	ICB	08/17/09 16:17				U	mg/L		-1.5	1.5			
WG268359ICV1	ICV	08/17/09 19:16	WI090615-9	50		49.52	mg/L	99	90	110			
WG268359ICB1	ICB	08/17/09 19:37				U	mg/L		-1.5	1.5			
WG268359LFB	LFB	08/17/09 19:58	WI090715-3	30		29.39	mg/L	98	90	110			
L77379-05AS	AS	08/17/09 20:41	WI090715-3	30	25.1	52.02	mg/L	89.7	90	110			
L77379-05DUP	DUP	08/17/09 21:02			25.1	25.12	mg/L				0.1	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77383***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID:	L77383
Date Received:	8/7/2009
Received By:	
Date Printed:	8/7/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA9004	5.1	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77383
Date Received: 8/7/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77383-01	RUIZ									X		
L77383-02	ROGERS 803									X		
L77383-03	BMO-2008-6M									X		
L77383-04	BMO-2008-6B									X		
L77383-05	BMO-2008-1G									X		
L77383-06	BMO-2008-5B									X		
L77383-07	BMO-2008-5M									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. 677383

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
RUIZ	8-3-09:1352	GW	1	X							
ROGERS 803	8-3-09:1550	GW	1	X							
BMO-2008-6M	8-4-09:1008	GW	1	X							
BMO-2008-6B	8-4-09:1110	GW	1	X							
BMO-2008-1G	8-4-09:1422	GW	1	X							
BMO-2008-5B	8-4-09:1600	GW	1	X							
BMO-2008-5M	8-4-09:1735	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	8-5-09 0820	[illegible]	8-7-09 10:43

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 24, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L77462

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 12, 2009. This project has been assigned to ACZ's project number, L77462. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77462. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 24, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

Hydro Geo Chem, Inc.

August 24, 2009

Project ID: 8720002.2
ACZ Project ID: L77462

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 ground water samples from Hydro Geo Chem, Inc. on August 12, 2009. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L77462. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Samples were received outside the EPA recommended temperature of 0-6 degrees C.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-8M

ACZ Sample ID: ***L77462-01***
Date Sampled: *08/10/09 15:06*
Date Received: *08/12/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	107			mg/L	2	8	08/20/09 17:36	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-8B

ACZ Sample ID: ***L77462-02***
Date Sampled: *08/10/09 17:06*
Date Received: *08/12/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	1250			mg/L	50	300	08/20/09 17:57	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-10GL

ACZ Sample ID: ***L77462-03***
Date Sampled: *08/11/09 12:03*
Date Received: *08/12/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	1030			mg/L	30	100	08/20/09 18:18	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-10GU

ACZ Sample ID: ***L77462-04***
Date Sampled: *08/11/09 13:44*
Date Received: *08/12/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	1690			mg/L	30	100	08/20/09 18:39	aml

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.
Project ID: 8720002.2

ACZ Project ID: ***L77462***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG268855													
WG268855ICV	ICV	08/17/09 15:56	WI090817-1	50.2		49.75	mg/L	99.1	90	110			
WG268855ICB	ICB	08/17/09 16:17				U	mg/L		-1.5	1.5			
WG268855ICV1	ICV	08/19/09 17:55	WI090817-1	50.2		49.34	mg/L	98.3	90	110			
WG268855ICB1	ICB	08/19/09 18:17				U	mg/L		-1.5	1.5			
WG268855LFB	LFB	08/19/09 18:38	WI090715-3	30		29.51	mg/L	98.4	90	110			
WG268855ICV2	ICV	08/20/09 15:51	WI090817-1	50.2		49.64	mg/L	98.9	90	110			
WG268855ICB2	ICB	08/20/09 16:12				U	mg/L		-1.5	1.5			
L77400-01AS	AS	08/20/09 16:54	WI090715-3	3000	2880	5644	mg/L	92.1	90	110			
L77400-01DUP	DUP	08/20/09 17:15			2880	2928	mg/L				1.7	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77462***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77462
Date Received: 8/12/2009
Received By:
Date Printed: 8/12/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA9032	14.3	13

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

UPS opened cooler and removed wet ice.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77462
Date Received: 8/12/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77462-01	BMO-2008-8M									X		
L77462-02	BMO-2008-8B									X		
L77462-03	BMO-2008-10GL									X		
L77462-04	BMO-2008-10GU									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L77462

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc.
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc.
E-mail:
Address: 51 W. Wetmore Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC
BMO-2008-8M	8-10-09:1506	GW	1	X
BMO-2008-8B	8-10-09:1706	GW	1	X
BMO-2008-10GL	8-11-09:1203	GW	1	X
BMO-2008-10GU	8-11-09:1344	GW	1	X

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	8-11-09:1445	[illegible]	8-12-09 11:00

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 25, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

Project ID: 8720002.2
ACZ Project ID: L77508

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 14, 2009. This project has been assigned to ACZ's project number, L77508. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77508. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 25, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

Hydro Geo Chem, Inc.

August 25, 2009

Project ID: 8720002.2
ACZ Project ID: L77508

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 ground water samples from Hydro Geo Chem, Inc. on August 14, 2009. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L77508. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Samples were received outside the EPA recommended temperature of 0-6 degrees C.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: NESS

ACZ Sample ID: ***L77508-01***
Date Sampled: *08/11/09 17:17*
Date Received: *08/14/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	39.8		*	mg/L	0.5	3	08/21/09 2:24	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TM-02A

ACZ Sample ID: ***L77508-02***
Date Sampled: *08/12/09 10:30*
Date Received: *08/14/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	20.0		*	mg/L	0.5	3	08/21/09 2:45	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TM-19A

ACZ Sample ID: ***L77508-03***
Date Sampled: *08/12/09 12:46*
Date Received: *08/14/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	61.3		*	mg/L	0.5	3	08/21/09 3:06	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: GL-03

ACZ Sample ID: ***L77508-04***
Date Sampled: *08/12/09 14:57*
Date Received: *08/14/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	43.1		*	mg/L	0.5	3	08/21/09 3:27	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BM0-2008-11G

ACZ Sample ID: ***L77508-05***
Date Sampled: *08/12/09 16:58*
Date Received: *08/14/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	11.2		*	mg/L	0.5	3	08/21/09 3:48	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.

ACZ Project ID: ***L77508***

Project ID: 8720002.2

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG268957													
WG268957ICV	ICV	08/17/09 15:56	WI090817-1	50.2		49.75	mg/L	99.1	90	110			
WG268957ICB	ICB	08/17/09 16:17				U	mg/L		-1.5	1.5			
WG268957ICV1	ICV	08/20/09 23:56	WI090817-1	50.2		49.47	mg/L	98.5	90	110			
WG268957ICB1	ICB	08/21/09 0:17				U	mg/L		-1.5	1.5			
WG268957LFB	LFB	08/21/09 0:38	WI090715-3	30		28.65	mg/L	95.5	90	110			
WG268957ICV2	ICV	08/21/09 16:17	WI090817-1	50.2		49.12	mg/L	97.8	90	110			
WG268957ICB2	ICB	08/21/09 16:39				U	mg/L		-1.5	1.5			
L77475-06DUP	DUP	08/21/09 17:21			283	288.3	mg/L				1.9	20	
L77487-01AS	AS	08/21/09 18:03	WI090715-3	60	84	137	mg/L	88.3	90	110			M2

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77508***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77508-01	WG268957	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L77508-02	WG268957	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L77508-03	WG268957	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L77508-04	WG268957	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L77508-05	WG268957	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID:	L77508
Date Received:	8/14/2009
Received By:	gac
Date Printed:	8/17/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
NA9047		12.7	13

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

UPS opened removed wet ice.

5 W

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77508
Date Received: 8/14/2009
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77508-01	NESS											
L77508-02	TM-02A											
L77508-03	TM-19A											
L77508-04	GL-03											
L77508-05	BM0-2008-11G											

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: gac

ACZ Laboratories, Inc. L17508 **CHAIN of CUSTODY**

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #: SO4-IC
Project/PO #: 87200022
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SO4-IC							
NESS	8-11-09:1717	GW	1	X							
TM-02A	8-12-09:1030	GW	1	X							
TM-19A	8-12-09:1246	GW	1	X							
GL-03	8-12-09:1457	GW	1	X							
BMO-2008-11G	8-12-09:1658	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 1

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	8-13-09:0922	JLF	8-14-09 10:42am

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 26, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 8720002.2
ACZ Project ID: L77600

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 19, 2009. This project has been assigned to ACZ's project number, L77600. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77600. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 26, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BMO-2008-9M

ACZ Sample ID: ***L77600-01***
Date Sampled: *08/17/09 13:31*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	53.4			mg/L	0.5	3	08/21/09 21:55	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BF-01

ACZ Sample ID: ***L77600-02***
Date Sampled: *08/17/09 15:06*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	1250			mg/L	30	100	08/24/09 14:29	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TM-07

ACZ Sample ID: ***L77600-03***
Date Sampled: *08/17/09 17:06*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	134			mg/L	3	10	08/24/09 14:50	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TM-15 MILLER

ACZ Sample ID: ***L77600-04***
Date Sampled: *08/17/09 17:58*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	14.2			mg/L	0.5	3	08/21/09 22:59	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TM-42

ACZ Sample ID: ***L77600-05***
Date Sampled: *08/18/09 09:23*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	428			mg/L	5	30	08/24/09 15:11	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TM-06 MILLER

ACZ Sample ID: ***L77600-06***
Date Sampled: *08/18/09 10:24*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	30.9			mg/L	0.5	3	08/21/09 23:41	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: OSBORN

ACZ Sample ID: ***L77600-07***
Date Sampled: *08/18/09 13:07*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	17.4			mg/L	0.5	3	08/22/09 0:44	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TM-03

ACZ Sample ID: ***L77600-08***
Date Sampled: *08/18/09 14:47*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	98			mg/L	2	8	08/24/09 15:32	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: DUP081809

ACZ Sample ID: ***L77600-09***
Date Sampled: *08/18/09 00:00*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	29.9			mg/L	0.5	3	08/22/09 1:26	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: EQB081809

ACZ Sample ID: ***L77600-10***
Date Sampled: *08/18/09 00:00*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	08/22/09 1:47	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: FB081809

ACZ Sample ID: ***L77600-11***
Date Sampled: *08/18/09 00:00*
Date Received: *08/19/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	08/22/09 2:51	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.

ACZ Project ID: ***L77600***

Project ID: 8720002.2

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG269063													
WG269063ICV	ICV	08/17/09 15:56	WI090817-1	50.2		49.75	mg/L	99.1	90	110			
WG269063ICB	ICB	08/17/09 16:17				U	mg/L		-1.5	1.5			
WG269063ICV1	ICV	08/21/09 19:49	WI090817-1	50.2		49.18	mg/L	98	90	110			
WG269063ICB1	ICB	08/21/09 20:10				U	mg/L		-1.5	1.5			
WG269063LFB	LFB	08/21/09 20:31	WI090715-3	30		29.88	mg/L	99.6	90	110			
L77535-03AS	AS	08/21/09 21:13	WI090715-3	30	14.6	46.01	mg/L	104.7	90	110			
L77535-03DUP	DUP	08/21/09 21:34			14.6	14.56	mg/L				0.3	20	
L77600-10AS	AS	08/22/09 2:09	WI090715-3	30	U	29.31	mg/L	97.7	90	110			
L77600-10DUP	DUP	08/22/09 2:30			U	U	mg/L				0	20	RA
WG269063ICV2	ICV	08/24/09 13:47	WI090817-1	50.2		49.33	mg/L	98.3	90	110			
WG269063ICB2	ICB	08/24/09 14:08				U	mg/L		-1.5	1.5			

Hydro Geo Chem, Inc. ACZ Project ID: ***L77600***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77600-10	WG269063	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L77600-11	WG269063	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

Hydro Geo Chem, Inc. ACZ Project ID: ***L77600***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID:	L77600
Date Received:	08/19/09 0:00
Received By:	gac
Date Printed:	8/20/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
NA9076		3.9	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77600
Date Received: 08/19/09 0:00
Received By: gac

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77600-01	BMO-2008-9M									X		
L77600-02	BF-01									X		
L77600-03	TM-07									X		
L77600-04	TM-15 MILLER									X		
L77600-05	TM-42									X		
L77600-06	TM-06 MILLER									X		
L77600-07	OSBORN									X		
L77600-08	TM-03									X		
L77600-09	DUP081809									X		
L77600-10	EQB081809									X		
L77600-11	FB081809									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: gac

ACZ Laboratories, Inc. L77600

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name: Jim Norris
Company: HGC, Inc
E-mail: jimn@hgcinc.com
Telephone: 520-293-1500 x-112

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

YES [X]
NO [ ]

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 87200022
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
BMO-2008-9M	8-17-09:1331	GW	1	X							
[illegible]-01	8-17-09:1506	GW	1	X							
TM-07	8-17-09:1706	GW	1	X							
TM-15 MILLER	8-17-09:1758	GW	1	X							
TM-42	8-18-09:0923	GW	1	X							
TM-06 MILLER	8-18-09:1024	GW	1	X							
OSBORN	8-18-09:1307	GW	1	X							
TM-03	8-18-09:1447	GW	1	X							
DUP081809	8-18-[illegible]	GW	1	X							
EQB081809	8-18-09:	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 1 of 2

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	8-18-09:1540	[signature]	8/19/09 8:15

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc. L77600

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:

Address: 51 W. Wetmore Rd
Tucson, AZ 85705
Telephone: 520-293-1500 X-133

Copy of Report to:

Name: Jim Norris
Company: HGC, Inc

E-mail: jimn@hgcinc.com
Telephone: 520-293-1500 X-112

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:

Address: 51 W. Wetmore Rd
Tucson, AZ 85705
Telephone: 520-293-1500 X-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

YES [X]
NO [ ]

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
FB081809	08-18-09	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other

REMARKS/ SAMPLE DISCLOSURES

PAGE 2 of 2

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	8-18-09 1540	[signature]	8/19/09 8:15

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 31, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 8720002.2
ACZ Project ID: L77668

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 21, 2009. This project has been assigned to ACZ's project number, L77668. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77668. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 30, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

Hydro Geo Chem, Inc.

August 31, 2009

Project ID: 8720002.2
ACZ Project ID: L77668

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 3 ground water samples from Hydro Geo Chem, Inc. on August 21, 2009. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L77668. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Samples were received outside the EPA recommended temperature of 0-6 degrees C.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: TM-16

ACZ Sample ID: ***L77668-01***
Date Sampled: *08/19/09 08:58*
Date Received: *08/21/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	468			mg/L	5	30	08/26/09 20:00	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: BURKE

ACZ Sample ID: ***L77668-02***
Date Sampled: *08/19/09 11:56*
Date Received: *08/21/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	22.5			mg/L	0.5	3	08/25/09 6:19	aml

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720002.2
Sample ID: GGOOSE 547

ACZ Sample ID: ***L77668-03***
Date Sampled: *08/19/09 15:34*
Date Received: *08/21/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	175			mg/L	3	10	08/26/09 20:21	aml

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.
Project ID: 8720002.2

ACZ Project ID: ***L77668***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG269101													
WG269101ICV	ICV	08/17/09 15:56	WI090817-1	50.2		49.75	mg/L	99.1	90	110			
WG269101ICB	ICB	08/17/09 16:17				U	mg/L		-1.5	1.5			
WG269101ICV1	ICV	08/24/09 20:07	WI090817-1	50.2		49.31	mg/L	98.2	90	110			
WG269101ICB1	ICB	08/24/09 20:28				U	mg/L		-1.5	1.5			
WG269101LFB	LFB	08/24/09 20:49	WI090715-3	30		31.94	mg/L	106.5	90	110			
WG269101ICV2	ICV	08/26/09 17:11	WI090817-1	50.2		49.73	mg/L	99.1	90	110			
WG269101ICB2	ICB	08/26/09 17:33				U	mg/L		-1.5	1.5			
L77634-05AS	AS	08/26/09 18:36	WI090715-3	3000	2000	4699	mg/L	90	90	110			
L77634-05DUP	DUP	08/26/09 18:57			2000	1999	mg/L				0.1	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77668***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

Certification Qualifiers

Hydro Geo Chem, Inc. ACZ Project ID: ***L77668***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID:	L77668
Date Received:	08/21/09 0:00
Received By:	lcp
Date Printed:	8/21/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?		X	
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

The custody seal was not intact at ACZ receipt and it appears that the wet ice was removed.

Contact (For any discrepancies, the client must be contacted)

The client was not contacted.

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
na9099		7.2	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.
8720002.2

ACZ Project ID: L77668
Date Received: 08/21/09 0:00
Received By: lcp

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77668-01	TM-16									X		
L77668-02	BURKE									X		
L77668-03	GGOOSE 547									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: lcp

ACZ Laboratories, Inc. L77668

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 X-133

Copy of Report to:

Name: Jim Norris
Company: HGC, Inc.
E-mail: Jimn@hgc-inc.com
Telephone: 520-293-1500 X-112

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 X-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

Are samples for CO DW Compliance Monitoring? YES [ ] NO [X]
If yes, please include state forms. Results will be reported to PQL.

PROJECT INFORMATION

Quote #: 504-IC
Project/PO #: 8720002.2
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? Yes (No)

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	504-IC							
TM-16	8-19-09: 0858	GW	1	X							
BURKE	8-19-09: 1156	GW	1	X							
GGOOSE 547	8-19-09: 1534	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	8-20-09: 1200	[signature]	8/21/09 10:12

FRMAD050.01.15.09 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

August 25, 2009

Report to:
Dan Simpson
Hydro Geo Chem, Inc.
51 West Wetmore Road Suite 101
Tuscon, AZ 85705

Bill to:
Accounts Payable
Hydro Geo Chem, Inc.
P. O. Box 97220
Phoenix, AZ 85060

cc: Jim Norris

Project ID: 8720005.0
ACZ Project ID: L77669

Dan Simpson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 21, 2009. This project has been assigned to ACZ's project number, L77669. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77669. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 25, 2009. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

Hydro Geo Chem, Inc.

August 25, 2009

Project ID: 8720005.0
ACZ Project ID: L77669

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 1 ground water sample from Hydro Geo Chem, Inc. on August 21, 2009. The sample was received in good condition. Upon receipt, the sample custodian removed the sample from the cooler, inspected the contents, and logged the sample into ACZ's computerized Laboratory Information Management System (LIMS). The sample was assigned ACZ LIMS project number L77669. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Samples were received outside the EPA recommended temperature of 0-6 degrees C.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

This sample was analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Hydro Geo Chem, Inc.
Project ID: 8720005.0
Sample ID: NWC-04

ACZ Sample ID: ***L77669-01***
Date Sampled: *08/19/09 09:36*
Date Received: *08/21/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	183		*	mg/L	3	10	08/24/09 19:03	aml

Arizona license number: AZ0102

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Hydro Geo Chem, Inc.

ACZ Project ID: ***L77669***

Project ID: 8720005.0

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG269063													
WG269063ICV	ICV	08/17/09 15:56	WI090817-1	50.2		49.75	mg/L	99.1	90	110			
WG269063ICB	ICB	08/17/09 16:17				U	mg/L		-1.5	1.5			
WG269063ICV1	ICV	08/21/09 19:49	WI090817-1	50.2		49.18	mg/L	98	90	110			
WG269063ICB1	ICB	08/21/09 20:10				U	mg/L		-1.5	1.5			
WG269063LFB	LFB	08/21/09 20:31	WI090715-3	30		29.88	mg/L	99.6	90	110			
L77600-10AS	AS	08/22/09 2:09	WI090715-3	30	U	29.31	mg/L	97.7	90	110			
L77600-10DUP	DUP	08/22/09 2:30			U	U	mg/L				0	20	RA
WG269063ICV2	ICV	08/24/09 13:47	WI090817-1	50.2		49.33	mg/L	98.3	90	110			
WG269063ICB2	ICB	08/24/09 14:08				U	mg/L		-1.5	1.5			

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Hydro Geo Chem, Inc. ACZ Project ID: ***L77669***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L77669-01	WG269063	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.

ACZ Project ID: L77669
Date Received: 10:12:41 AM
Received By:
Date Printed: 8/21/2009

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?		X	
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

The custody seal was not intact at ACZ receipt and it appears that the wet ice was removed.

Contact (For any discrepancies, the client must be contacted)

The client was not contacted.

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA9099	7.2	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Hydro Geo Chem, Inc.

ACZ Project ID: L77669
Date Received: 10:12:41 AM
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L77669-01	NWC-04									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L77669

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Dan Simpson
Company: Hydro Geo Chem, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

Copy of Report to:

Name: Jim Norris
Company: HGC, Inc.
E-mail: jimn@hgcinc.com
Telephone: 520-293-1500 x-112

Invoice to:

Name: Dan Simpson
Company: HGC, Inc
E-mail:
Address: 51 W. Wetmore Rd Tucson, AZ 85705
Telephone: 520-293-1500 x-133

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

Are samples for CO DW Compliance Monitoring? YES [ ] NO [X]
If yes, please include state forms. Results will be reported to PQL.

PROJECT INFORMATION

Quote #: SO4-IC
Project/PO #: 87200005.0
Reporting state for compliance testing: AZ
Sampler's Name: Travis Taylor
Are any samples NRC licensable material? Yes (No)

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SO4-IC							
NWC-04	8-19-09:0936	GW	1	X							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

* 72 HOUR TURNAROUND EPA 300.0 ONLY.
OPTION- 1-WEEK TURNAROUND.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Travis Taylor	8-20-09:1200	[illegible]	8-21-09 [illegible]

FRMAD050.01.15.09 White - Return with sample. Yellow - Retain for your records.

APPENDIX C

GROUNDWATER SAMPLING FORMS

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-14-09
Well ID:	ANDERSON	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	236'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	146.88'
Casing Volume (gals):	131
3 Casing Volumes (gals):	393

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1148							
1158	10	10	100	7.06	23.7	1361	
1209	21	10	210	7.05	22.6	1413	
1223	35	10	350	7.03	23.5	1370	
1229	41	10	410	7.03	22.2	1372	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
ANDERSON	1233						

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	AWC-02	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
12.09	—	—	—	7.24	22.7	444	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
AWC-02	1218	Plastic	250ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	AWC-03	Weather:	Cloudy, hot
ADWR No:		Sampler:	

WELL DATA

Well Depth (ft bls):	269'
Casing Diameter (in):	
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1128	—	—	—	7.39	22.6	456	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
AWC-03	1131	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: * well has been running all morning.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	AWC-04	Weather:	cloudy, hot, rain
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	250'
Casing Diameter (in):	
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1142	—	—	—	7.13	22.5	587	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
AWC-04	1148	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: * well has been running all morning.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	AWC-05	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1103	—	—	—	7.49	24.4	423	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
AWC-05	1111	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: * Well has been on all all morning.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-9-09
Well ID:	BANKS 986	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	435'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1418							
1426	8	8	64	7.28	24.6	968	
1437	19	8	152	7.56	23.0	871	
1445	27	8	216	7.57	23.6	866	
1451	33	8	264	7.59	23.1	871	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BANKS 986	1454	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: *obstruction in well, will purge til parameters are stable, Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-9-09
Well ID:	BANKS 987	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	339'
Casing Diameter (in):	
Static Water Level (ft bmp):	235.68'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
~~1418~~							
		~~8~~					

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * WL only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-7-09
Well ID:	BARTON 919	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	130'
Casing Diameter (in):	
Static Water Level (ft bmp):	112.86'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * WL only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-17-09
Well ID:	BF-01	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	400'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	348.73'
Casing Volume (gals):	34
3 Casing Volumes (gals):	102

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1418							
1420	2	7	14	6.01	23.8	2880	
1423	5	7	35	6.20	24.0	2909	
1424	—	—	—	—	—	—	Well Dry
1435	—	—	—	—	—	—	Pump on
1436	—	—	—	—	—	—	No discharge, well dry
1456	6	7	42	6.21	29.7	2948	Pump on
1457	—	—	—	—	—	—	Well Dry

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BF-01	1506	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-8-09
Well ID:	BIMA	Weather:	Sunny, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	465'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	365.44'
Casing Volume (gals):	65
3 Casing Volumes (gals):	195

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0843							
0855	12	12	144	6.22	23.8	1470	
0900	17	12	204	6.25	23.4	1479	
0903	20	12	240	6.31	23.4	1483	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BIMA	0905	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-4-09
Well ID:	BMO-2008-1G	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	310'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	62.96'
Casing Volume (gals):	252
3 Casing Volumes (gals):	756

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1243							
1250	7	8	56	7.02	24.1	1022	brown color
1311	28	8	224	7.26	22.8	971	
1331	48	8	384	7.18	23.2	979	
1351	68	8	544	7.21	23.2	960	
1418	95	8	760	7.23	22.8	950	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-1G	1422	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-6-09
Well ID:	BMO-2008-3B	Weather:	Cloudy, warm, light rain
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	260'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	139.02'
Casing Volume (gals):	124
3 Casing Volumes (gals):	372

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0730							
0735	5	30	150	7.24	21.6	776	
0739	9	30	270	7.30	21.4	712	
0743	13	30	390	7.33	21.4	718	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-3B	0746	plastic	250 ml	1	EPA 300.0	none	filtered
DUP080609	0746	"	"	1	"	"	"

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-6-09
Well ID:	BMO-2008-4B	Weather:	Sunny, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	610'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	131.96'
Casing Volume (gals):	488
3 Casing Volumes (gals):	1464

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0831							
0838	7	16	112	7.84	22.5	329	
0859	28	16	448	7.57	23.8	385	
0920	49	16	784	7.54	24.2	393	
0941	70	16	1120	7.57	24.5	389	
1003	92	16	1472	7.53	24.6	397	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-4B	1007	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-4-09
Well ID:	BMO-2008-5B	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	285'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	145.36'
Casing Volume (gals):	143
3 Casing Volumes (gals):	429

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1540							
1544	4	28	112	7.17	23.8	745	
1548	8	28	224	7.23	22.5	716	
1552	12	28	336	7.30	22.3	721	
1556	16	28	448	7.35	22.3	724	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-5B	1600	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-4-09
Well ID:	BMO-2008-5M	Weather:	sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	450'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	147.13'
Casing Volume (gals):	309
3 Casing Volumes (gals):	927

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1607							
1613	6	11	66	7.46	23.9	614	
1633	26	11	286	7.45	24.1	610	
1654	47	11	517	7.47	23.5	609	
1714	67	11	737	7.50	23.4	608	
1732	85	11	935	7.53	23.1	605	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-5M	1735	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-4-09
Well ID:	BMO-2008-6B	Weather:	sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	265'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	190.80
Casing Volume (gals):	76
3 Casing Volumes (gals):	228

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1020							
1033	13	5	65	7.38	23.3	417	
1044	24	5	120	7.48	23.1	459	
1055	35	5	175	7.48	23.3	471	
1107	47	5	235	7.48	23.4	470	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-6B	1110	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-4-09
Well ID:	BMO-2008-6M	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	450'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	191.77'
Casing Volume (gals):	264
3 Casing Volumes (gals):	792

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0907							
0920	13	14	182	7.30	23.1	772	
0939	32	14	448	7.39	22.9	744	
0951	44	14	616	7.39	23.3	749	
1005	58	14	812	7.40	23.3	750	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-6M	1008	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-6-09
Well ID:	BMQ-2008-7M	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	670'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	239.17'
Casing Volume (gals):	440
3 Casing Volumes (gals):	1320

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1041							
1048	7	16	112	7.65	24.3	448	
1108	27	16	432	7.60	24.3	472	
1129	48	16	768	7.59	24.3	478	
1152	71	16	1136	7.80	24.3	487	
1204	83	16	1328	7.81	24.1	486	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMQ-2008-7M	1207	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-10-09
Well ID:	BMO-2008-8B	Weather:	cloudy, warm, rain
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	480'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	297.53'
Casing Volume (gals):	187
3 Casing Volumes (gals):	561

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1606							
1614	8	10	80	6.33	21.3	2868	Brown color
1625	19	10	190	6.40	21.4	2899	Brown color
1636	30	10	300	6.41	21.4	2905	clear color
1646	40	10	400	6.41	21.4	2895	
1657	51	10	510	6.42	21.4	2895	
1703	57	10	570	6.42	21.5	2897	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-8B	1706	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-10-09
Well iD:	BMO-2008-8M	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	1210'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	298.57'
Casing Volume (gals):	930
3 Casing Volumes (gals):	2790

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1124							
1137	13	13	169	7.74	22.4	624	
1208	44	13	572	7.70	23.3	621	
1238	74	13	962	7.52	24.0	661	
1308	104	13	1352	7.46	24.2	669	
1338	134	13	1742	7.45	24.5	667	
1409	165	13	2145	7.45	24.7	672	
1439	195	13	2535	7.45	24.8	674	
1459	215	13	2795	7.49	24.8	673	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-8M	1506	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-17-09
Well ID:	BMO-2008-9M	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	775'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	286.09'
Casing Volume (gals):	499
3 Casing Volumes (gals):	1497

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1140							
1152	12	14	168	8.53	24.3	467	
1213	33	14	462	7.94	25.1	539	
1230	50	14	700	7.86	25.3	544	
1250	70	14	980	7.81	25.6	536	
1310	90	14	1260	7.78	26.2	530	
1327	107	14	1498	7.76	25.6	534	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-9M	1331	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-11-09
Well ID:	BMO-2008-10GU	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	449'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	289.09'
Casing Volume (gals):	164
3 Casing Volumes (gals):	492

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1219							
1225	6	6	36	6.17	21.5	3287	
1249	30	6	180	6.17	22.0	3343	
1309	50	6	300	6.33	22.0	3463	
1329	70	6	420	6.27	22.2	3384	
1341	82	6	492	6.28	22.5	3348	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-10GU	1344	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-11-09
Well ID:	BMO-2008-10GL	Weather:	cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	810'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	513.23'
Casing Volume (gals):	303
3 Casing Volumes (gals):	909

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0857							
0913	16	5	80	6.52	25.2	3201	
0943	46	5	230	6.59	26.3	2983	
1017	80	5	400	6.59	27.2	2743	
1047	110	5	550	6.55	27.4	2728	
1117	140	5	700	6.53	27.1	2744	
1147	170	5	850	6.49	27.2	2714	
1159	182	5	910	6.52	27.3	2661	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-10GL	1203	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-12-09
Well ID:	BMO-2008-11G	Weather:	Cloudy, warm, rain
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	760'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	574.84'
Casing Volume (gals):	189
3 Casing Volumes (gals):	567

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1544							
1554	10	8	80	8.06	24.7	379	
1609	25	8	200	8.22	25.1	369	
1624	40	8	320	8.24	25.2	364	
1639	55	8	440	8.25	25.3	367	
1655	71	8	568	8.24	25.3	365	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-11G	1658	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-5-09
Well ID:	BMO-2008-13B	Weather:	cloudy, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	474'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	206.79'
Casing Volume (gals):	273
3 Casing Volumes (gals):	819

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1624							
1629	5	16	80	6.54	22.7	2104	
1641	17	16	272	6.68	21.5	2122	
1656	32	16	512	6.68	21.6	2132	
1706	42	16	672	6.69	21.6	2142	
1716	52	16		6.63	21.5	2137	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BMO-2008-13B	1719	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-5-09
Well ID:	BMO-2008-13M	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	1030'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	208.85'
Casing Volume (gals):	838
3 Casing Volumes (gals):	2514

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0845							
0905	20	6	120	8.49	23.0	1378	
0950	65	6	390	8.63	23.9	1343	
1035	110	6	660	8.78	24.9	1298	
1103	138	6	828	9.02	25.3	1302	
1145	180	6	1080	9.01	25.1	1270	
1235	230	6	1380	8.25	25.6	1371	
1324	279	6	1674	8.08	25.8	1383	
1424	339	6	2034	8.05	25.8	1410	
1524	399	6	2394	8.01	25.8	1390	
1544	419	6	2514	8.04	25.4	1392	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
B13M 0852	1107	plastic	250 ml	1	EPA 300.0	none	filtered
B13M1692	1327	"	"	1	"	"	"
BMO-2008-13M	1547	"	"	1	"	"	"

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-19-09
Well ID:	BURKE	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	781'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	602.66'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0830							
1155	205	1.5	307.5	7.36	26.7	486	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
BURKE	1156	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: Well was pumped for 6 hours before pump stopped working on 8-18-09.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-15-09
Well ID:	CHAMBERS	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	245'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1055							
1102	7	13	91	7.67	24.9	420	
1109	14	13	182	7.72	23.5	415	
1116	21	13	273	7.81	23.4	416	
1122	27	13	351	7.83	23.4	414	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
CHAMBERS	1127	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * unable to remove sounding tube cap b/c of well design.

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	COB MW-1	Weather:	Cloudy, warm, rain
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	420'
Casing Diameter (in):	8"
Static Water Level (ft bmp):	234.34'
Casing Volume (gals):	485
3 Casing Volumes (gals):	1455

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1243							
1256	13	12	156	6.84	21.9	1446	
1317	34	12	408	6.81	21.6	1571	
1347	64	12	768	6.81	21.5	1612	
1417	94	12	1128	6.92	21.8	1558	
1437	114	12	1368	6.89	21.6	1566	
1445	122	12	1464	6.94	21.6	1570	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
COB MW-1	1448	Plastic	250ml	1	EPA 300.0	none	filtered
DUP072209	1448	"	"	"	"	"	"

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	COB MW-2	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	170'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	124.91'
Casing Volume (gals):	30
3 Casing Volumes (gals):	90

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08
Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0947							
0950	3	7	21	7.19	22.8	484	
0955	8	7	56	7.32	21.4	488	
0958	11	7	77	7.35	21.4	487	
1000	13	7	91	7.36	21.3	483	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
COB MW-2	1001	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	COB MW-3	Weather:	sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	269'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	124.09'
Casing Volume (gals):	95
3 Casing Volumes (gals):	285

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1027							
1029	2	24	48	7.31	23.1	456	
1034	7	24	168	7.38	21.6	458	
1037	10	24	240	7.33	21.4	458	
1039	12	24	288	7.38	21.5	460	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
COB MW-3	1040	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

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Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	COB WL	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	150'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	61.27'
Casing Volume (gals):	58
3 Casing Volumes (gals):	174

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0842							
0846	4	7	28	6.98	22.2	1013	
0853	11	7	77	7.01	21.5	1029	
0857	15	7	105	7.03	21.7	~~1019~~ 1031	
0902	20	7	140	7.20	22.3	1033	
0907	25	7	175	7.17	22.5	1037	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
COB WL	0909	plastic	250ml	1	EPA 3000	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-20-09
Well ID:	COLLINS	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	320'
Casing Diameter (in):	4.5"
Static Water Level (ft bmp):	290.78"
Casing Volume (gals):	25
3 Casing Volumes (gals):	75

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1409							
1413	4	12	48	6.98	23.7	1415	
1419	10	12	120	7.02	22.6	1414	
1422	13	12	156	7.00	22.4	1413	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
COLLINS	1424	Plastic	250ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-20-09
Well ID:	COOPER	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1448							
1454	6	8	48	8.29	30.2	431	
1459	11	8	88	8.41	29.8	431	
1503	15	8	120	8.44	29.8	430	
1508	20	8	160	8.45	29.8	430	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
COOPER	1511	Plastic	250ml	1	EPA 300.0	none	filtered

Additional Comments: * No access for WL reading.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-14-09
Well ID:	COOPER C	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	220'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	156.50'
Casing Volume (gals):	94
3 Casing Volumes (gals):	282

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (ºC)	Specific Conductance (µS/cm)	Comments
1021							
1030	9	11	99	6.55	23.1	1950	
1037	16	11	176	6.67	22.3	1951	
1042	21	11	231	6.77	22.1	1973	
1048	27	11	297	6.75	22.1	1972	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
COOPER C	1051						

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-8-09
Well ID:	DODSON	Weather:	cloudy, cool
ADWR No:		Sampler:	Travis Tayler

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	86.88'
Casing Volume (gals):	167
3 Casing Volumes (gals):	501

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1636							
1645	9	14	126	6.94	21.8	1132	
1652	16	14	224	7.03	21.1	1139	
1659	23	14	322	7.14	21.1	1143	
1705	29	14	406	7.16	21.0	1145	
1711	35	14	490	7.18	21.1	1153	
1715	39	14	546	7.18	21.1	1153	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
DODSON	1719	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-7-09
Well ID:	DOUGLAS 791	Weather:	Cloudy, warm
ADWR No:		Sampler:	Travis Tayler

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	
Static Water Level (ft bmp):	31.04'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * W/L only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-7-09
Well ID:	DOUGLAS 792	Weather:	Cloudy, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	
Static Water Level (ft bmp):	86.16'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * WL only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-15-09
Well ID:	DURAZO	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1425							
1434	9	8	72	7.54	23.8	1095	
1445	20	8	160	7.58	22.8	1102	
1455	30	8	240	7.56	22.8	1107	
1505	40	8	320	7.57	22.8	1102	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
DURAZO	1508	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-13-09
Well ID:	EAST	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	125'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	56.93'
Casing Volume (gals):	100
3 Casing Volumes (gals):	300

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1254							
1300	6	11	66	7.04	23.0	615	
1306	12	11	132	7.18	21.5	611	
1319	25	11	275	7.23	21.8	610	
1323	29	11	319	7.33	21.2	613	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EAST	1327						

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-9-09
Well ID:	EPPELE 641	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Tayler

WELL DATA

Well Depth (ft bls):	265'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	31.51'
Casing Volume (gals):	344
3 Casing Volumes (gals):	1032

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0949							
1002	13	10	130	7.14	22.8	607	
1019	30	10	300	7.36	22.1	605	
1039	50	10	500	7.38	22.5	605	
1050	61	10	610	—	—	—	well dry
1135	—	—	—	—	—	—	Pump on
1137	63	10	630	7.54	23.2	555	
1141	67	10	670	—	—	—	well dry
1246	—	—	—	—	—	—	Pump on
1250	71	10	710	7.43	24.3	550	
1256	77	10	770	—	—	—	well dry

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EPPELE 641	1316	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

~~236 4324~~

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-7-09
Well ID:	FLEMING	Weather:	cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	400'
Casing Diameter (in):	
Static Water Level (ft bmp):	304.60' (mp=surface casing)
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * WL only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-13-09
Well ID:	FRANCO	Weather:	Cloudy, windy, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1640							
1645	5	12	60	7.15	26.7	1533	
1650	10	12	120	7.23	26.8	1524	
1655	15	12	180	7.30	26.8	1527	
1700	20	12	240	7.31	27.1	1531	
1705	25	12	300	7.30	27.3	1532	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
FRANCO	1708						

Additional Comments: * unable to get WL b/c of obstructions
well is used for four houses.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-13-09
Well ID:	FULTZ	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	300'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	54.94'
Casing Volume (gals):	360
3 Casing Volumes (gals):	1080

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08
Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1027							
1053	26	10	260	6.98	22.6	1412	
1113	46	10	460	7.02	22.3	1400	
1135	68	10	680	7.01	22.4	1421	
1155	88	10	880	7.03	22.6	1450	
1215	108	10	1080	7.04	23.4	1452	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
FULTZ	1223						

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-13-09
Well ID:	FULTZ	Weather:	rain, cool
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	54.89'
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (ºC)	Specific Conductance (µS/cm)	Comments

SAMPLE INFORMATION

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

Additional Comments: WL only
2X CHECK ON INITIAL WL R309 (JULY)

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-16-09
Well ID:	GARNER 557	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	300'
Casing Diameter (in):	
Static Water Level (ft bmp):	192.52'
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * WL only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-16-09
Well ID:	GARNER 635	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	680'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	194.88'
Casing Volume (gals):	495
3 Casing Volumes (gals):	1485

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0906							
0925	19	14	266	7.61	24.7	447	
0947	41	14	574	7.66	24.9	444	
1006	60	14	840	7.64	25.0	445	
1026	80	14	1120	7.62	25.2	445	
1046	100	14	1400	7.33	25.3	444	
1053	107	14	1498	7.56	25.1	445	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
GARNER 635	1058	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-19-09
Well ID:	GGOOSE 547	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	800'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	236.01'
Casing Volume (gals):	830
3 Casing Volumes (gals):	2490

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1325							
1335	10	20	200	7.12	24.4	863	
1355	30	20	600	7.16	23.8	875	
1415	50	20	1000	7.17	23.7	904	
1435	70	20	1400	7.20	23.7	894	
1455	90	20	1800	7.22	23.5	889	
1515	110	20	2200	7.21	23.6	901	
1530	125	20	2500	7.20	23.8	887	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
GGOOSE 547	1534	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-12-09
Well ID:	GL-03	Weather:	Cloudy, rain, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	820'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	656.56'
Casing Volume (gals):	107
3 Casing Volumes (gals):	321

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1352							
1355	3	10	30	7.14	23.6	814	
1404	12	10	120	7.26	25.8	680	
1409	17	10	170	7.21	26.3	716	
1412	20	10	200	—	—	—	Flowrate dropped to 3gpm
1417	25	3	215	7.25	26.4	697	
1427	35	3	245	7.12	26.4	772	
1437	45	3	275	7.12	26.8	763	
1447	55	3	305	7.10	27.4	770	
1453	61	3	323	7.12	27.4	768	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
GL-03	1457	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-7-09
Well ID:	GOAR RANCH	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	250'
Casing Diameter (in):	
Static Water Level (ft bmp):	185.36'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * WL only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-14-09
Well ID:	HOBAN	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	316'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	164.59'
Casing Volume (gals):	223
3 Casing Volumes (gals):	669

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0844							
0857	13	12	156	6.94	22.7	1483	
0909	25	12	300	6.90	22.7	1611	
0919	35	12	420	6.86	22.6	1619	
0929	45	12	540	6.86	22.8	1633	
0940	56	12	672	6.78	22.6	1551	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
HOBAN	0946						

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-15-09
Well ID:	HOWARD	Weather:	Cloudy, cool
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	151.76'
Casing Volume (gals):	71
3 Casing Volumes (gals):	213

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0857							
0905	8	15	120	7.12	22.6	1521	
0911	14	15	210	7.12	21.6	1529	
0915	18	15	270	7.16	21.5	1539	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
HOWARD	0919	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-14-09
Well ID:	KEEFER	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	245'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	136.07'
Casing Volume (gals):	161
3 Casing Volumes (gals):	483

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08
Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1307							
1314	7	11	77	7.32	25.4	476	
1324	17	11	187	7.34	23.2	494	
1334	27	11	297	7.20	23.3	513	
1345	38	11	418	7.20	22.5	530	
1351	44	11	484	7.35	22.1	533	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
KEEFER	1354	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-15-09
Well ID:	MCCONNELL 265	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	216'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	157.59'
Casing Volume (gals):	86
3 Casing Volumes (gals):	258

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1338							
1343	5	12	60	6.93	23.5	1580	
1350	12	12	144	6.92	22.5	1626	
1355	17	12	204	6.96	22.1	1622	
1400	22	12	264	7.01	22.2	1607	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
MCCONNELL 265	1404	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-15-09
Well ID:	METZLER	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	351'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	287.58'
Casing Volume (gals):	94
3 Casing Volumes (gals):	282

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1530							
1540	10	6	60	7.47	23.9	1013	
1550	20	6	120	7.45	22.8	1021	
1600	30	6	180	7.42	22.7	1033	
1610	40	6	240	7.39	22.7	1027	
1617	47	6	282	7.41	22.9	1031	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
METZLER	1622	Plastic	250 ml	1	EPA 300.0	None	Filtered
DUP 071509	1622						

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-15-09
Well ID:	MOORE	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0955							
1000	5	10	50	7.43	23.2	431	
1006	11	10	110	7.45	23.1	433	
1013	18	10	180	7.44	23.3	440	
1020	25	10	250	7.44	23.3	439	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
MOORE	1024	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * No well access (well covered w/ dirt).

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-11-09
Well ID:	NESS	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	812'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	566.87'
Casing Volume (gals):	250
3 Casing Volumes (gals):	750

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1622							
1628	6	15	90	7.36	28.3	528	
1638	16	15	240	7.50	28.3	527	
1648	26	15	390	7.53	28.4	524	
1658	36	15	540	7.52	28.5	526	
1708	46	15	690	7.54	28.8	524	
1712	50	15	750	7.56	28.7	525	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NESS	1717	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-8-09
Well ID:	NOTEMAN	Weather:	Sunny, warm
ADWR No:		Sampler:	

WELL DATA

Well Depth (ft bls):	400'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1008							
1012	4	12	48	6.46	25.8	1444	
1020	12	12	144	6.50	24.8	1401	
1026	18	12	216	6.55	24.5	1409	
1035	27	12	324	6.55	24.6	1405	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NOTEMAN	1039	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: *unable to get water level b/c of obstruction in well.

Sulfate Only

*Will purge well til parameters are stable.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-21-09
Well ID:	NWC-02	Weather:	Sunny, hot, windy
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	312'
Casing Diameter (in):	
Static Water Level (ft bmp):	
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08
Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1018	—	—	—	7.62	23.9	408	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-02	1024	Plastic	250ml	1	EPA 300.0	none	filtered

Additional Comments:

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Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-21-09
Well ID:	NWC-03	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0933	—	—	—	7.21	22.9	1194	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-03	0939	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

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Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-21-09
Well ID:	NWC-03 CAP	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	179'
Casing Diameter (in):	
Static Water Level (ft bmp):	131.26'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

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

Additional Comments: * WL only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-21-09
Well ID:	NWC-04	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	795'
Casing Diameter (in):	
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0906	—	—	—	7.48	24.3	859	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-04	0911	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	~~2.2~~ 5.0	Date:	8-19-09
Well ID:	NWC-04	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity	
Nominal Size (inches)	Gallons per Linear Foot
2	0.16
4	0.65
5	1.02
6	1.47
8	2.61
10	4.08
Casing Volume = gallons/foot * water column (feet)	

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (ºC)	Specific Conductance (µS/cm)	Comments
0933	—	—	—	7.12	24.5	906	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-04	0936	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: Monthly sulfate trend sampling.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-21-09
Well ID:	NWC-06	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	410'
Casing Diameter (in):	
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0955	—	—	—	7.63	23.5	388	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
NWC-06	1003	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

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Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-8-09
Well ID:	OSBORN	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	258'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	* 253.98'
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1201							
1202	1	—	—	—	—	—	well dry
1225	—	—	—	6.94	28.7	579	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
OSBORN	1225	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * will let well recharge and get sample, Sulfate Only

*=mud on sounder tip @ 253.98'

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-18-09
Well ID:	OSBORN	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	258'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	96.61'
Casing Volume (gals):	238
3 Casing Volumes (gals):	714

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1130							
1135	5	7	35	7.09	24.7	644	
1145	15	7	105	7.18	23.9	636	
1205	~~20~~ 35	7	245	7.17	24.1	640	
1225	55	7	385	7.18	24.2	649	
1245	75	7	525	7.16	24.6	643	
1256	86	7	602	—	—	—	well dry

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
OSBORN	1307	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-19-09
Well ID:	OSBORN	Weather:	sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	258'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	242.31'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

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

Additional Comments: * WL only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-8-09
Well ID:	PALMER	Weather:	rain, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1405	—	—	—	7.47	~~28.0~~ 27.2	521	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
PALMER	1408	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: *Sample taken from tank.

Sulfate Only

*No access to well.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-9-09
Well ID:	PANAGAKOS	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	161.61'
Casing Volume (gals):	57
3 Casing Volumes (gals):	171

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0851							
0853	2	7	14	6.79	22.3	1412	
0905	14	7	98	6.85	22.0	1418	
0911	20	7	140	6.88	22.0	1446	
0916	26	7	182	6.89	22.3	1469	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
PANAGAKOS	0921	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-20-09
Well ID:	PARRA	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	355'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	280.99'
Casing Volume (gals):	109
3 Casing Volumes (gals):	327

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1220							
1230	10	8	80	6.95	24.9	1164	
1240	20	8	160	7.11	23.7	1184	
1250	30	8	240	7.14	24.1	1193	
1301	41	8	328	7.17	23.9	1174	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
PARRA	1305	Plastic	250ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-13-09
Well ID:	PIONKE	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	300'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	150.47
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1416							
1421	5	—	—	7.30	23.7	1023	
1431	15	—	—	6.99	22.3	1148	
1436	20	—	—	7.12	22.5	1170	
1445	29	—	—	7.42	21.3	1165	
1452	36	—	—	7.44	21.3	1157	
1459	43	—	—	7.35	21.5	1165	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
PIONKE	1501						

Additional Comments: * unable to get flowrate b/c proper fitting for discharge not available.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-20-09
Well ID:	POOL	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	313'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	205.69'
Casing Volume (gals):	156
3 Casing Volumes (gals):	474

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1044							
1056	12	11	132	7.68	23.0°	570	
1109	25	11	275	7.77	22.8	574	
1121	37	11	407	7.68	22.8	567	
1128	44	11	484	7.76	22.9	579	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
POOL	1132	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	5.0	Date:	7-10-09
Well ID:	RAMIREZ	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	300'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	159.64'
Casing Volume (gals):	207
3 Casing Volumes (gals):	621

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1034							
1045	11	13	143	7.43	24.6	406	
1056	22	13	286	7.49	23.9	406	
1106	32	13	416	7.52	23.8	411	
1116	42	13	546	7.49	24.5	410	
1122	48	13	624	7.52	23.9	411	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
RAMIREZ	1125	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-9-09
Well ID:	RAY	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	100'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	48.99'
Casing Volume (gals):	75
3 Casing Volumes (gals):	225

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1202							
1208	6	9	54	6.78	23.7	1426	
1213	11	9	99	6.81	24.3	1431	
1227	25	9	225	6.93	22.3	1434	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
RAY	1232	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-13-09
Well ID:	ROGERS E	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	290'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	150.31'
Casing Volume (gals):	206
3 Casing Volumes (gals):	618

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1527							
1531	4	12	48	7.11	23.8	425	
1541	14	12	168	7.25	22.9	425	
1552	25	12	300	7.33	23.1	425	
1604	37	12	444	7.35	23.1	424	
1614	47	12	564	7.36	22.9	430	
1619	52	12	624	7.34	22.6	420	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
ROGERS E	1622						

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-3-09
Well ID:	ROGERS 803	Weather:	Sunny, hot
ADWR No:		Sampler:	

WELL DATA

Well Depth (ft bls):	300'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	135.07'
Casing Volume (gals):	243
3 Casing Volumes (gals):	729

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1424							
1429	5	9	45	7.25	25.2	676	
1444	20	9	180	7.37	24.6	690	
1504	40	9	360	7.39	25.0	676	
1524	60	9	540	7.36	24.3	673	
1547	83	9	747	7.39	24.2	674	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
ROGERS 803	1550	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-3-09
Well ID:	RUIZ	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	312'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	294.98'
Casing Volume (gals):	25
3 Casing Volumes (gals):	75

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1312							
1327	15	5	75	6.97	24.6	912	
1334	22	5	110	7.04	22.4	1022	
1347	35	5	175	7.05	22.9	1029	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
RUIZ	1352	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: * unable to get accurate gpm b/c well is also pumping into tank.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-10-09
Well ID:	SCHWARTZ	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	305'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	124.15'
Casing Volume (gals):	266
3 Casing Volumes (gals):	798

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0829							
0845	16	9	144	7.36	22.7	645	
0859	30	9	270	7.47	22.3	649	
0915	46	9	414	7.50	22.9	648	
0929	60	9	540	7.50	22.4	648	
0949	80	9	720	7.50	22.8	645	
0958	89	9	801	7.52	22.8	651	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
SCHWARTZ	1002	Plastic	250 ml	1	EPA 300.0	None	Filtered
DUPD71009	1002	"	"	"	"	"	"

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-7-09
Well ID:	STEPHENS	Weather:	Cloudy, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	
Casing Diameter (in):	
Static Water Level (ft bmp):	49.41'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: *WL only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-8-09
Well ID:	SUNBELT	Weather:	~~Cloudy, hot~~, Sunny, Warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	380'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	356.99'
Casing Volume (gals):	
3 Casing Volumes (gals):	

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
		Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments: * WL only

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-8-09
Well ID:	SWAN	Weather:	sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	98'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	33.61'
Casing Volume (gals):	42
3 Casing Volumes (gals):	126

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1307							
1310	3	9	27	6.98	28.0	477	
1314	7	9	63	7.04	26.5	479	
1318	11	9	99	7.14	23.1	468	
1321	14	9	126	7.18	23.1	473	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
SWAN	1325	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-12-09
Well ID:	TM-02A	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	925'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	349.13'
Casing Volume (gals):	375
3 Casing Volumes (gals):	1125

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0821							
0838	17	9	153	8.11	23.9	415	
0901	40	9	360	8.21	25.2	398	
0921	60	9	540	8.28	25.4	400	
0941	80	9	720	8.33	25.9	389	
1001	100	9	900	8.35	26.8	391	
1026	125	9	1125	8.34	26.9	398	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-02A	1030	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-18-09
Well ID:	TM-03	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	128.80'
Casing Volume (gals):	47
3 Casing Volumes (gals):	141

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1432							
1435	3	12	36	7.46	24.1	806	
1440	8	12	96	7.42	22.6	819	
1444	12	12	144	7.48	22.4	822	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-03	1447	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-18-09
Well ID:	TM-06 MILLER	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	158.91'
Casing Volume (gals):	27
3 Casing Volumes (gals):	81

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1011							
1015	4	12	48	7.35	21.9	570	
1018	7	12	84	7.44	21.1	558	
1020	9	12	108	7.50	20.9	560	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-06 MILLER	1024	plastic	250 ml	1	EPA 300.0	none	filtered
DUP081809	1024						

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-17-09
Well ID:	TM-07	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1620							
1622	2	10	20	7.51	23.9	426	well dry
1637	—	—	—	—	—	—	pump on
1639	4	10	40	7.50	22.7	542	well dry
1654	—	—	—	—	—	—	pump on
1656	6	10	60	7.60	22.6	442	well dry

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-07	1706	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments: obstruction in well.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-17-09
Well ID:	TM-15 MILLER	Weather:	Cloudy, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	325'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1740							
1744	4	7	28	7.85	23.4	406	
1749	9	7	63	7.74	23.2	397	
1753	13	7	91	7.74	23.2	399	
1756	16	7	112	7.73	23.2	398	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-15 MILLER	1758	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-19-09
Well ID:	TM-16	Weather:	sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	115'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	82.37'
Casing Volume (gals):	22
3 Casing Volumes (gals):	66

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0843							
0846	3	17	51	7.02	21.5	1328	
0849	6	17	102	7.05	21.3	1348	
0851	8	17	136	7.09	21.4	1367	
0854	11	17	187	7.08	21.2	1354	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-16	0858	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-12-09
Well ID:	TM-19A	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	700'
Casing Diameter (in):	4"
Static Water Level (ft bmp):	201.46'
Casing Volume (gals):	325
3 Casing Volumes (gals):	975

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1216							
1226	10	34	340	7.89	23.9	500	
1231	15	34	510	7.61	24.2	562	
1236	20	34	680	7.60	24.3	572	
1241	25	34	850	7.63	24.2	560	
1245	29	34	986	7.61	24.4	554	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-19A	1246	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-18-09
Well ID:	TM-42	Weather:	sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	250'
Casing Diameter (in):	5"
Static Water Level (ft bmp):	212.77'
Casing Volume (gals):	38
3 Casing Volumes (gals):	114

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
0851							
0857	6	4	24	6.92	22.7	1368	
0903	12	4	48	7.00	23.0	1348	
0908	17	4	68	7.04	23.4	1333	
0915	24	4	96	7.05	24.3	1339	
0920	29	4	116	7.04	24.4	1336	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TM-42	0923	plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-21-09
Well ID:	TVI 236	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	222'
Casing Diameter (in):	12"
Static Water Level (ft bmp):	123.96'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1138	—	—	—	7.59	22.9	484	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TVI 236	1153	Plastic	250ml	1	EPA 300.0	none	filtered

Additional Comments: * pump has been on all morning.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-21-09
Well ID:	TVI 713	Weather:	Sunny, hot, windy
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	
Static Water Level (ft bmp):	127.36'
Casing Volume (gals):	
3 Casing Volumes (gals):	

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

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

Additional Comments: *WL only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-21-09
Well ID:	TVI 875	Weather:	Sunny, hot, windy
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	330'
Casing Diameter (in):	8"
Static Water Level (ft bmp):	N/A
Casing Volume (gals):	N/A
3 Casing Volumes (gals):	N/A

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1227							
1235	8	500	4000	7.45	23.5	807	
1241	14	500	7000	7.37	22.4	821	
1246	19	500	9500	7.47	22.2	812	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
TVI 875	1252	Plastic	250 ml	1	EPA 300.0	none	filtered

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-16-09
Well ID:	WEED	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1125							
1127	2	15	30	6.84	22.5	375	
1130	5	15	75	7.37	22.3	368	
1134	9	15	135	7.49	21.9	368	
1137	12	15	180	7.50	21.9	365	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
WEED	1143	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-15-09
Well ID:	WEISKOPF	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	200'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	144.99'
Casing Volume (gals):	81
3 Casing Volumes (gals):	243

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1157							
1207	18	8	80	7.22	23.6	1241	
1216	19	8	152	7.83	21.8	1310	
1222	25	8	200	7.90	21.8	1302	
1231	34	8	272	7.84	22.1	1317	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
WEISKOPF	1236	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-14-09
Well ID:	ZANDER	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):	280'
Casing Diameter (in):	6"
Static Water Level (ft bmp):	146.14'
Casing Volume (gals):	197
3 Casing Volumes (gals):	591

Casing Capacity

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

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

FIELD SAMPLING DATA

Time	Elapsed Time (min)	Discharge Rate (gpm)	Total Discharge (gallons)	pH (SU)	Temp (°C)	Specific Conductance (µS/cm)	Comments
1424							
1434	10	13	130	7.13	24.8	416	
1444	20	13	260	7.38	22.7	420	
1454	30	13	390	7.25	23.1	427	
1503	39	13	507	7.35	23.0	417	
1508	44	13	572	7.36	22.9	418	

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
ZANDER	1511	Plastic	250 ml	1	EPA 300.0	None	Filtered

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	5.0	Date:	7-10-09
Well ID:	EQB071009/FB071009	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EQB071009	0914	Plastic	250 ml	1	EPA 300.0	None	Filtered
FB071009	0919	"	"	"	"	"	"

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-15-09
Well ID:	EQB071509/FB071509	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp):

Casing Volume (gals):

3 Casing Volumes (gals):

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EQB071509	1642	Plastic	250 ml	1	EPA 300.0	None	Filtered
FB071509	1646						

Additional Comments:

Sulfate Only

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	7-22-09
Well ID:	EQB072209/FB072209	Weather:	Cloudy, warm, rain
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

Casing Capacity

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EQB072209	1311						
FB072209	1312						

Additional Comments: * taken @ COB MW-1 site.

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-6-09
Well ID:	FB080609/EQB080609	Weather:	Cloudy, warm
ADWR No:		Sampler:	Travis Taylor

WELL DATA

Well Depth (ft bls):

Casing Diameter (in):

Static Water Level (ft bmp):

Casing Volume (gals):

3 Casing Volumes (gals):

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
FB080609	0758	plastic	250 ml	1	EPA 300.0	none	filtered
EQB080609	0807	"	"	1	"	"	"

Additional Comments:

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project No:	8720000	Client:	Freeport Copper Queen Branch
Task No:	2.2	Date:	8-18-09
Well ID:	EQB081809/FB081809	Weather:	Sunny, hot
ADWR No:		Sampler:	Travis Taylor

WELL DATA

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

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

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

FIELD SAMPLING DATA

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

SAMPLE INFORMATION

Sample ID	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Comments
EQB081809	1039	plastic	250 ml	1	EPA 300.0	none	filtered
FB081809	1040						

Additional Comments: