



A Freeport-McMoRan Company

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September 27, 2007

Via UPS #1Z 867 7E4 22 1000 2604

Mr. Robert Casey
Arizona Department of Environmental Quality
Water Quality Enforcement Unit
1110 West Washington Street
Phoenix, Arizona 85007-2935

Re: Groundwater Monitoring Report, Third Quarter 2007
Phelps Dodge Sierrita, Inc. – Mitigation Order on Consent, Docket No. P-50-06

Dear Mr. Casey:

Phelps Dodge Sierrita, Inc. (“PDSI”) submits three copies of the attached Quarterly Groundwater Monitoring Report that provides the results of groundwater monitoring conducted during the third quarter of 2007 in the vicinity of the PDSI Tailing Impoundment. This document was prepared by Hydro Geo Chem, Inc. as described in Section 3.3 of the Work Plan. Also included are the compact discs containing the complete report and the report tables in electronic format.

Please do not hesitate to contact Mr. Stuart Brown at (503) 675-5252 or me at (520) 648-8857 if you have any question regarding this submittal.

Very Truly Yours,

E. L. (Ned) Hall
Chief Environmental Engineer

ELH:ms
Attachments
20070927-001

xc: John Brack, Phelps Dodge Sierrita, Inc.
Chad Fretz, Phelps Dodge Sierrita, Inc.
Ray Lazuk, Phelps Dodge Corporation
Stuart Brown, Bridgewater Group, Inc.

**THIRD QUARTER 2007
GROUNDWATER MONITORING REPORT
TASKS 2.2, 2.3 AND 2.4 OF AQUIFER CHARACTERIZATION PLAN
MITIGATION ORDER ON CONSENT DOCKET NO. P-50-06
PIMA COUNTY, ARIZONA**

Prepared for:

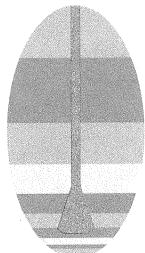
PHELPS DODGE SIERRITA, INC.
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September 26, 2007

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Environmental Science & Technology



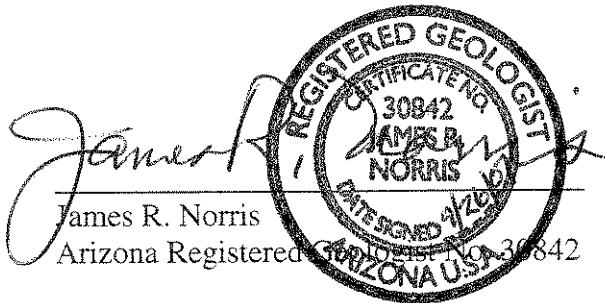
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PIMA COUNTY, ARIZONA**

Prepared for:

PHELPS DODGE SIERRITA, INC.
6200 West Duval Mine Road
Green Valley, Arizona 85614

Approved by:

Prepared by:



Daniel R. Simpson
Senior Hydrogeologist

A handwritten signature of "Daniel R. Simpson" is shown above a horizontal line.

September 26, 2007

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1. INTRODUCTION

This data report provides the results of groundwater monitoring conducted in the third quarter of 2007 in the vicinity of the Phelps Dodge Sierrita, Inc. (PDSI) Tailing Impoundment (PDSTI). Groundwater monitoring was conducted by PDSI pursuant to Tasks 2.2, 2.3, and 2.4 of the Work Plan (Hydro Geo Chem, Inc. (HGC), 2006a) to characterize sulfate in the vicinity of the PDSTI. The Work Plan was submitted to and approved by the Arizona Department of Environmental Quality (ADEQ) pursuant to the Mitigation Order on Consent Docket No. P-50-06. HGC prepared this groundwater monitoring report on behalf of PDSI.

1.1 Scope of Groundwater Monitoring

The scope of the groundwater monitoring program is described in Sections 3.3.2, 3.3.3, 3.3.4 and Appendix G of the Work Plan (HGC, 2006a). Groundwater monitoring for Task 2.2 consists of water elevation measurement and collection of groundwater samples from wells in the vicinity of the PDSTI. Task 2.3 consists of depth-specific groundwater sampling to determine vertical variations of sulfate along the screened interval of selected wells. Task 2.4 addresses the installation and monitoring of additional offsite wells to further define the extent of the sulfate plume.

1.1.1 Groundwater Monitoring for Task 2.2

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 is set on a semiannual basis to characterize regional hydrologic conditions using wells that are outside the area of the sulfate plume. The data collected as part of the groundwater monitoring program will be used to refine the conceptual model of the sulfate

plume and to calibrate a numerical model for the fate and transport of sulfate. This report presents the results of plume and regional monitoring during the third quarter of 2007.

Table 1 lists all wells identified in the Work Plan for quarterly and semiannual monitoring, their availability for sampling in the third quarter of 2007, and their sampling status. As discussed in the Work Plan, Table 1 consists of wells that are under the control of PDSI and others that are not. PDSI agreed to contact owners of private wells and wells owned by water companies identified in the Work Plan for sampling in order to obtain access for sampling. The Work Plan acknowledged that access to some wells may not be permitted by well owners and that some wells may be inappropriate for sampling due to their construction characteristics. Table 1 also includes a list of alternate wells identified by the Work Plan for sampling that have been used in place of wells that were unable to be sampled.

Analytical data for groundwater monitoring during the third quarter of 2007 were obtained from four sources: PDSI, HGC, Twin Buttes Properties, Inc. (TBPI), and Farmers Investment Company (FICO). PDSI collected groundwater samples at wells under its control in July and August 2007. In July and August of 2007, HGC collected groundwater samples at private wells and water companies not under the control of PDSI. TBPI provided data for groundwater samples collected from 11 wells and water level elevations at 21 wells for inclusion in this report. TBPI collected and reported these data pursuant to a Semi Annual Post Closure Monitoring Program (Haley & Aldrich, 2007). FICO allowed groundwater sampling and provided depth to water measurements at nine wells during this monitoring period. Complete analytical results for groundwater samples collected from the FICO wells are held by FICO. FICO provided total sulfate concentrations for inclusion in this report.

Groundwater sampling and analysis methods used by PDSI and HGC are described in the Quality Assurance Project Plan (QAPP) contained in Appendix E of the Work Plan (HGC, 2006a). Groundwater data provided by TBPI were collected using their standard sampling and analysis protocols. Results of groundwater monitoring for Task 2.2 are presented in Section 2.1.

1.1.2 Groundwater Monitoring for Task 2.3

Depth-specific groundwater sampling for Task 2.3 was conducted at well ESP-2 from June 4 to June 6, 2007. The depth-specific sampling was accomplished using the BESST Hydrobooster™ groundwater sampling technique. This technique uses a high-lift gas displacement pump connected to sample tubing that is lowered into a well and through which a depth-discrete sample is retrieved. All samples collected were unfiltered and submitted to an Arizona state certified laboratory for sulfate analysis using the methods described in Appendix E of the QAPP (HGC, 2006a).

Sampling at ESP-2 was conducted under static (non-pumping) and dynamic (pumping) conditions with a pumping rate of approximately 1150 gallons per minute (gpm). Pump discharge was released to a near-by drainage channel under an ADEQ De Minimus Discharge Permit. Results of groundwater monitoring for Task 2.3 are presented in Section 2.2.

1.1.3 Groundwater Monitoring for Task 2.4

Section 2.4 of the Work Plan proposed the installation of additional offsite monitoring wells at six locations to define the extent of the sulfate plume, to provide installations for ongoing monitoring, to characterize aquifer materials and hydraulic properties, and to determine bedrock depth. Well installation was focused in the northern and eastern portions of the plume because these areas have the greater uncertainty in the distribution of sulfate and are of concern with respect to future plume migration. During March 2007 through August 2007 wells MO-2007-1A, MO-2007-1B, MO-2007-1C, MO-2007-2, MO-2007-3C, MO-2007-4C, and MO-2007-5C were installed, developed, pump tested, and water level and water quality samples collected according to Sections 4.2 and 4.3 of the QAPP. Wells installed pursuant to Task 2.4 of the Work Plan are added to the quarterly plume monitoring list for Task 2.2. Results of groundwater monitoring for Task 2.4 are presented in Section 2.1.

2. GROUNDWATER MONITORING RESULTS

2.1 Results of Monitoring for Tasks 2.2 and 2.4

Analytical results and groundwater elevation data for the third quarter of 2007 are tabulated in Table 2 and Table 3, respectively. Figure 1 shows the concentrations of sulfate in the wells sampled. Dissolved sulfate concentrations are depicted on Figure 1 except at the FICO and TBPI wells which are total sulfate. Comparison of dissolved and total sulfate concentrations in Table 2 indicates negligible difference between the two measurements. The highest sulfate concentration measured at co-located wells was used for concentration contouring. Figure 2 shows groundwater elevations in the third quarter 2007. Groundwater elevations were calculated using the depth to water measurements made under static (nonpumping) conditions for all wells shown. Water level data for the IW-series wells and FICO wells were not used to estimate groundwater elevation contours for Figure 2 because the depth to water was measured while the wells were pumping.

2.2 Results of Monitoring for Task 2.3

Analytical results for unfiltered depth-specific samples collected from ESP-2 under static and dynamic conditions are shown in Table 4. Sulfate concentrations for static samples collected between depths of 450 to 1000 feet ranged from 14 milligrams per liter (mg/L) to 34 mg/L, with the highest concentrations around 500 to 550 feet below land surface (bls). Samples collected under dynamic conditions collected between 500 and 1000 ft bls reported sulfate concentrations from 14 mg/L to 27 mg/L, with the highest concentrations centered around 550 ft bls.

2.3 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 reviews groundwater data collected by PDSI and HGC during the third quarter of 2007, and is included in Appendix A.

Analytical laboratory reports for samples collected by PDSI and HGC in the third quarter of 2007 are provided in portable document format in the compact disc in Appendix B. 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 2007 by HGC and PDSI are of acceptable quality for use in the aquifer characterization being conducted pursuant to the Work Plan.

3. DISCUSSION

This data report provides the results of groundwater monitoring conducted in the vicinity of the PDSTI for the third quarter of 2007. The purpose of the groundwater monitoring was twofold: (1) to delineate the location of the sulfate plume and (2) to characterize the sulfate concentrations and groundwater elevations in the regional aquifer.

In the third quarter 2007, groundwater samples were collected from 108 wells over a geographic area of more than 50 square miles and depth to water measurements were collected at 134 wells. This report presents laboratory analytical reports for the 100 well samples collected and analyzed by PDSI and HGC. Data from eight groundwater samples provided from TBPI are documented in Haley and Aldrich, Inc. (2007).

Groundwater samples and water level measurements were not collected from all the wells identified in the Work Plan for a variety of reasons, including owner limitations on access, unsuitable well construction, inability to contact the owner, obstruction in well, inoperable pump status, or a well no longer existing. The specific reason(s) for not sampling these wells are provided in Table 1. In many cases, alternate wells were identified and sampled as described in Table 1. Overall, groundwater monitoring conducted during the third quarter of 2007 is deemed to have met the objectives of the plume monitoring and regional groundwater monitoring programs in that the location of the plume is delineated sufficiently for the purpose of this project and groundwater conditions in the regional aquifer are defined.

3.1 Sulfate Distribution

Figure 1 shows the regional distribution of sulfate concentrations in samples collected from wells in the basin fill aquifer. The concentration contours shown in Figure 1 are inferred assuming that sulfate concentrations in the aquifer are spatially correlated, although a strict linear interpolation was not applied. Sulfate concentration contours of 50, 100, 250, 500, 1000, and 1500 mg/L are shown as requested by ADEQ (2006).

Sulfate concentration data are available this quarter from nine new wells (Table 1). Seven MO-2007-series wells (MO-2007-1A, 1B, 1C, 2, 3C, 4C, and 5C) were installed and sampled by PDSI for Task 2.4 of the Work Plan. PDSI also accessed and installed pumping equipment in well TMM-1 at the Titan Missile Museum for Work Plan Task 2.2. TBPI installed and sampled M-20 north of Duval Mine Road. These wells are along the northern and eastern edge of the sulfate plume (Figure 1) and better constrain the limits of the plume compared to previous data sets.

Samples from wells along the northern edge of the plume indicate that the northern extent of the plume is north of Duval Mine Road and west of La Canada Drive, as indicated on Figure 1 and consistent with the extent of the plume shown in previous reports (HGC, 2006a, 2006b, 2007a, and 2007b). The initial sulfate analyses from newly installed wells MO-2007-4C and MO-2007-5C indicated 78.7 mg/L and 248 mg/L sulfate, respectively, and provide a better definition of the east edge of the plume, although the initial sulfate concentrations need to be confirmed by subsequent monitoring. The data for co-located wells MO-2007-5C (screened at 1,050 to 1,350 feet below surface) and CW-3 (59.5 mg/L sulfate and saturated from 270 to 500 feet below surface) indicate that the southeastern edge of the plume occurs in deep, but not shallow, basin fill. The sulfate concentration data for third quarter 2007 provide the most complete description of the sulfate plume from the PDSTI available to date.

Groundwater samples from wells immediately east of the sulfate plume define a north-south zone approximately 6 miles long and ranging from 1,400 to 6,000 feet wide with concentrations less than 50 mg/L sulfate. This zone of low sulfate groundwater is centered on Green Valley and extends north of Duval Mine Road along Interstate 19. Groundwater samples from wells south of the PDSTI and west of Interstate 19 contained sulfate concentrations less than 10 mg/L. Samples from wells along the channel of the Santa Cruz River east of Interstate 19 had sulfate concentrations ranging between approximately 60 mg/L and 160 mg/L. East of the Santa Cruz River channel, wells on the alluvial fan from the Santa Rita Mountains contained sulfate concentrations generally less than 100 mg/L. Groundwater samples collected from the wells furthest east had sulfate concentrations less than 50 mg/L.

3.2 Groundwater Elevation

Groundwater elevations are shown on Figure 2. Groundwater elevations decrease from west to east in the immediate vicinity of PDSTI, from south to north across the central portion of the study area near Green Valley and from east to west on the alluvial fan east of the Santa Cruz River. Of the 90 wells for which depth to water was measured in both the first and third quarters of 2007 (i.e., winter and summer), approximately 78 percent of the water elevations declined and 22 percent increased. Depth to water declined by as much as 22 feet in one well, but typically ranged from less than a foot to 8 feet. Comparison of the third quarter 2007 water elevations with those shown in the Work Plan for early 2006 and with those in the groundwater monitoring reports for the fourth quarter 2006 (HGC, 2006b), first quarter 2007 (HGC, 2007a), and second quarter 2007 (HGC, 2007b) indicates no substantive difference in groundwater elevations and consequent flow directions. The overall pattern of groundwater flow indicated by groundwater elevations is consistent with expected regional groundwater flow patterns in the southern portion of the Tucson groundwater basin.

3.3 Subsequent Groundwater Monitoring for Task 2.2

Task 2.2 (Sections 3.3.2 and Appendix G of the Work Plan) called for two semiannual groundwater monitoring events: one in the winter and one in the summer to characterize any seasonal influences on water quality and groundwater elevation. The winter semiannual sampling was conducted in the first quarter of 2007 (HGC, 2007a). The third quarter 2007 semiannual sampling constitutes the summer event, and completes the semiannual sampling program. Subsequent groundwater monitoring pursuant to Task 2.2 will be quarterly plume monitoring (Table 1). Wells installed for Task 2.4 will be added to the quarterly plume monitoring list as they become available.

Total and dissolved sulfate have been measured in the four quarters of groundwater sampling completed for Task 2.2 (HGC, 2006b, 2007a, 2007b, and this report). Measurements of total and dissolved sulfate exhibit little difference, indicating there is no value in continuing to

analyze for both total and dissolved sulfate. For this reason, and to simplify monitoring, it is recommended that analysis of total sulfate be eliminated from the plume monitoring program.

4. REFERENCES

Arizona Department of Environmental Quality. 2006. Correspondence from Robert Casey to John Brack, Regarding: Mitigation Order on Consent, Docket P-50-06-Work Plan Response. September 22, 2006.

Haley & Aldrich, Inc. 2007. Semi-Annual Post-Closure Groundwater Monitoring July 2007, Twin Buttes Properties, Inc. Sahuarita, Arizona. September 2007.

Hydro Geo Chem, Inc. (HGC). 2006a. Work Plan to Characterize and Mitigate Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Phelps Dodge Sierrita Tailing Impoundment, Pima County, Arizona. August 11, 2006, revised October 31, 2006.

HGC. 2006b. Groundwater Monitoring Report, Fourth Quarter 2006, Tasks 2.2 and 2.3 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. December 29, 2006.

HGC. 2007a. First Quarter 2007, Groundwater Monitoring Report, Tasks 2.2 and 2.3 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. March 30, 2007.

HGC. 2007b. Second Quarter 2007, Groundwater Monitoring Report, Tasks 2.2 and 2.3 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. June 28, 2007.

TABLES

TABLE 1
Summary of Groundwater Monitoring for Mitigation Order Docket No. P-50-06 for Third Quarter 2007 (Sorted by ADWR Registry Number)

Well Name	ADWR 55 Registry Number	Owner	Purpose	Casing or Well Depth (feet)	Work Plan Specification		Q3-2007 Monitoring		Status	Substitute Well
					Water Level Measurement	Water Quality Sampling	Water Level Measured?	Water Quality Sample Collected?		
WELLS FOR QUARTERLY MONITORING CONTROLLED BY PDSI										
IW-22	200554	PDSI	Plume Monitoring	590	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-23	200555	PDSI	Plume Monitoring	964	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-24	200556	PDSI	Plume Monitoring	880	-	Q	NO	YES	Water quality sample collected in July-2007	
MH-26A	201527	PDSI	Plume Monitoring	538	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-25A	201528	PDSI	Plume Monitoring	530	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-25C	208426	PDSI	Plume Monitoring	1101	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-26B	208427	PDSI	Plume Monitoring	735	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-26C	208428	PDSI	Plume Monitoring	900	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-25B	208429	PDSI	Plume Monitoring	680	Q	Q	YES	YES	Water quality sample collected in July-2007	
IW-11	508235	PDSI	Plume Monitoring	605	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-8	508236	PDSI	Plume Monitoring	783	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-10	508237	PDSI	Plume Monitoring	831	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-9	508238	PDSI	Plume Monitoring	853	-	Q	YES	YES	Water quality sample collected in July-2007	
MH-15W	528093	PDSI	Plume Monitoring	466	Q	-	YES	NO	Well identified for water level measurement only	
MH-15E	528094	PDSI	Plume Monitoring	467	Q	-	YES	NO	Well identified for water level measurement only	
MH-14	528098	PDSI	Plume Monitoring	561	Q	-	YES	NO	Well identified for water level measurement only	
MH-16W	528099	PDSI	Plume Monitoring	460	Q	-	YES	NO	Well identified for water level measurement only	
MH-16E	528100	PDSI	Plume Monitoring	460	Q	-	YES	NO	Well identified for water level measurement only	
IW-12	545555	PDSI	Plume Monitoring	625	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-13	545556	PDSI	Plume Monitoring	495	-	Q	YES	YES	Water quality sample collected in July-2006	
IW-14	545557	PDSI	Plume Monitoring	550	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-15	545558	PDSI	Plume Monitoring	548	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-16	545559	PDSI	Plume Monitoring	470	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-17	545560	PDSI	Plume Monitoring	502	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-18	545561	PDSI	Plume Monitoring	508	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-19	545562	PDSI	Plume Monitoring	544	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-20	545563	PDSI	Plume Monitoring	506	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-21	545564	PDSI	Plume Monitoring	620	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-6A	545565	PDSI	Plume Monitoring	492	-	Q	YES	YES	Water quality sample collected in July-2007	
PZ-9	561859	PDSI	Plume Monitoring	230	Q	Q	NO	NO	Piezometer is dry	
PZ-8	561866	PDSI	Plume Monitoring	280	Q	Q	YES	YES	Water quality sample collected in July-2007	
PZ-7	561870	PDSI	Plume Monitoring	155	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-24	563799	PDSI	Plume Monitoring	468	Q	-	YES	NO	Well identified for water level measurement only	
IW-1	623129	PDSI	Plume Monitoring	855	-	Q	NO	YES	Water quality sample collected in July-2007	
IW-2	623130	PDSI	Plume Monitoring	1035	Q	Q	YES	YES	Water quality sample collected in July-2007	
IW-3A	623131	PDSI	Plume Monitoring	1047	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-4	623132	PDSI	Plume Monitoring	946	-	Q	YES	YES	Water quality sample collected in July-2007	
IW-5	623133	PDSI	Plume Monitoring	956	-	Q	NO	YES	Water quality sample collected in July-2007	
MH-1	803629	PDSI	Plume Monitoring	520	Q	-	YES	NO	Well identified for water level measurement only	
MH-3	803630	PDSI	Plume Monitoring	535	Q	-	YES	NO	Well identified for water level measurement only	
MH-4	803631	PDSI	Plume Monitoring	540	Q	-	NO	NO	Obstruction in well prevented water level measurement	
MH-5	803632	PDSI	Plume Monitoring	640	Q	-	YES	NO	Well identified for water level measurement only	
MH-6	803633	PDSI	Plume Monitoring	960	Q	-	YES	NO	Well identified for water level measurement only	
MH-7	803634	PDSI	Plume Monitoring	1100	Q	-	YES	NO	Well identified for water level measurement only	
MH-9	803635	PDSI	Plume Monitoring	1400	Q	-	YES	NO	Well identified for water level measurement only	
MH-10	803636	PDSI	Plume Monitoring	600	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-11	803637	PDSI	Plume Monitoring	820	Q	Q ¹	YES	YES	Water quality sample collected in July-2007	
MH-12	803638	PDSI	Plume Monitoring	800	Q	Q ¹	YES	YES	Water quality sample collected in July-2007	
MH-28	903648	PDSI	Plume Monitoring	490	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-29	903649	PDSI	Plume Monitoring	475	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-30	903884	PDSI	Plume Monitoring	920	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-13A	904071	PDSI	Plume Monitoring	660	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-13B	904072	PDSI	Plume Monitoring	960	Q	Q	YES	YES	Water quality sample collected in July-2007	
MH-13C	904073	PDSI	Plume Monitoring	1360	Q	Q	YES	YES	Water quality sample collected in July-2007	
MITIGATION ORDER WELLS INSTALLED IN 2007 FOR QUARTERLY MONITORING CONTROLLED BY PDSI										
MO-2007-2	906765	PDSI	Plume Monitoring	685	Q	Q	YES	YES	Water quality samples collected in June and August-2007	
MO-2007-3C	906817	PDSI	Plume Monitoring	1330	Q	Q	YES	YES	Water quality sample collected in June 2007 during pump test	
MO-2007-1C	907209	PDSI	Plume Monitoring	1190	Q	Q	YES	YES	Water quality sample collected in July-2007	
MO-2007-1B	907210	PDSI	Plume Monitoring	910	Q	Q	YES	YES	Water quality sample collected in August-2007	
MO-2007-4C	907211	PDSI	Plume Monitoring	1140	Q	Q	YES	YES	Water quality sample collected in August-2007	
MO-2007-1A	907342	PDSI	Plume Monitoring	610	Q	Q	YES	YES	Water quality sample collected in August-2007	
MO-2007-5C	907457	PDSI	Plume Monitoring	1360	Q	Q	YES	YES	Water quality sample collected in August-2007	

TABLE 1
Summary of Groundwater Monitoring for Mitigation Order Docket No. P-50-06 for Third Quarter 2007 (Sorted by ADWR Registry Number)

Well Name	ADWR 55 Registry Number	Owner	Purpose	Casing or Well Depth (feet)	Work Plan Specification		Q3-2007 Monitoring		Status	Substitute Well
					Water Level Measurement	Water Quality Sampling	Water Level Measured?	Water Quality Sample Collected?		
WELLS FOR QUARTERLY MONITORING NOT CONTROLLED BY PDSI										
M-6	87388	TBPI	Plume Monitoring	660	Q	Q	YES	NO	Q3-2007 Data provided by TBPI	M-9, 55-501652
M-8	87390	TBPI	Plume Monitoring	660	Q	Q	YES	YES	Q3-2007 Data provided by TBPI and PDSI	
CW-10	207982	CWC	Plume Monitoring	1140	Q	Q	YES	YES	Water quality sample collected in July-2007	
SI WELL/GV WATER	208825	GVDWID	Plume Monitoring	650	Q	Q	YES	YES	Water quality sample collected in July-2007	
M-10	501653	TBPI	Plume Monitoring	1050	Q	Q	YES	YES	Q3-2007 Data provided by TBPI	
CW-7	502546	CWC	Plume Monitoring	1065	Q	Q	YES	YES	Water quality sample collected in July-2007	
HAVEN GOLF	515867	Haven Golf	Plume Monitoring	500	Q	Q	NO	YES	Water quality sample collected in July-2007; unable to obtain water level due to obstruction	55-623106
CW-8	543600	CWC	Plume Monitoring	1200	Q	Q	YES	YES	Water quality sample collected in July-2007	
CW-9	588121	CWC	Plume Monitoring	1000	Q	Q	YES	YES	Water quality sample collected in July-2007	
GV-1-GVDWID	603428	GVDWID	Plume Monitoring	645	Q	Q	YES	YES	Water quality sample collected in July-2007	
GV-2-GVDWID	603429	GVDWID	Plume Monitoring	560	Q	Q	YES	YES	Water quality sample collected in July-2007	
NP-2	605898	CWC	Plume Monitoring	486	Q	Q	YES	YES	Water quality sample collected in August-2007	
I-10	608525	TBPI	Plume Monitoring	932	Q	Q	YES	YES	Water quality sample collected in July-2007	
I-9	608526	TBPI	Plume Monitoring	900	Q	Q	YES	NO	Q3-2007 Data provided by TBPI	None
SCHNEIKER	611220	Schneiker	Plume Monitoring	495	Q	Q	NO	NO	Owner telephone unlisted and did not respond to a letter requesting access	
TMM-1 ²	616156	Pima County	Plume Monitoring	500	Q	Q	YES	YES	Water quality samples collected in June and August-2007 by HGC and PDSI, respectively	None
ESP-1	623102	PDSI	Plume Monitoring	1020	Q	Q	YES	YES	Water quality sample collected in July-2007	
ESP-2	623103	PDSI	Plume Monitoring	1044	Q	Q	YES	YES	Water quality sample collected in July-2007	
ESP-3	623104	PDSI	Plume Monitoring	1043	Q	Q	YES	YES	Water quality sample collected in July-2007	
ESP-4	623105	PDSI	Plume Monitoring	1045	Q	Q	YES	YES	Water quality sample collected in July-2007	
CW-3	627483	CWC	Plume Monitoring	500	Q	Q	YES	YES	Water quality sample collected in August-2007	
CW-6	627485	CWC	Plume Monitoring	840	Q	Q	YES	YES	Water quality sample collected in July-2007	
M-20	906595	TBPI	Plume Monitoring	780	Q	Q ¹	YES	YES	Water quality samples collected in March and July, 2007; Data provided by TBPI	
1350	NA	TBPI	Plume Monitoring	NA	Q	Q	YES	NO	Q3-2007 Data provided by TBPI	
SUBSTITUTE WELLS FOR QUARTERLY MONITORING FOR WELLS NOT CONTROLLED BY PDSI										
M-9	501652	TBPI	Plume Monitoring	440	Q	Q	YES	YES	Q3-2007 Data provided by TBPI	55-087388
CC OF GV	501760	CC OF GV	Plume Monitoring	955	Q	Q	YES	YES	Water quality sample collected in July-2007	55-640274
ESP-5	623106	PDSI	Plume Monitoring	950	Q	-	YES	NO	Well identified for water level measurement only	55-515867
WELLS FOR SEMIANNUAL MONITORING										
M-2	85304	TBPI	Regional Monitoring	647	S	S	YES	NO	Q3-2007 Data provided by TBPI	
M-11	501654	TBPI	Regional Monitoring	635	S	S	YES	YES	Q3-2007 Data provided by TBPI	
M-12	504722	TBPI	Regional Monitoring	635	S	S	NO	NO	Well unavailable for sampling	None
GV-02-PCWW	509604	Pima County Wastewater	Regional Monitoring	230	S	S	YES	YES	Water quality sample collected in July-2007	
---	524178	Los Arboles Mobile Home Park	Regional Monitoring	603	S	S	NO	NO	Owner refused access to well	55-627439
MW-2	531807	ASARCO	Regional Monitoring	490	S	-	NO	NO	Well unavailable for water level measurement	
GORETCKI / STEINMAN	532595	Private-Goretcki	Regional Monitoring	296	S	S	NO	YES	Water quality sample collected in August-2007; unable to obtain water level-sounder tape broke off in well	
UA	540451	University of Arizona	Regional Monitoring	500	S	S	NO	YES	Water quality sample collected in July-2007; water level measurement not collected due to obstruction	
---	550534	PCWASTE	Regional Monitoring	NA	S	-	NO	NO	Well abandoned by Pima County in 2006	55-905019 55-550533
RANCHO SAHARITA	562962	Rancho Sahuarita Water Co.	Regional Monitoring	500	S	-	YES	NO	Well identified for water level measurement only	
ST-7	566940	Las Quintas Serenas Water	Regional Monitoring	922	S	S	NO	YES	Water quality sample collected in July-2007; well not equipped for water level measurements	
---	574700	Richard Myers	Regional Monitoring	NA	S	S	NO	NO	Unable to contact owner	55-634036
TAYLOR	577707	Marlene Taylor	Regional Monitoring	400	S	-	NO	NO	Well unavailable for water level measurement	
EL TORO	599357	EI Toro	Regional Monitoring	655	S	S	NO	YES	Water quality sample collected in July-2007; unable to obtain water level due to obstruction	
CW-11	608518	CWC	Regional Monitoring	2516	S	S	YES	YES	Water quality sample collected in July-2007	
RRQC-1	608521	Quail Creek Water Co.	Regional Monitoring	2064	S	S	NO	YES	Water quality sample collected in July-2007; water level not collected because pump was running	
RRQC-2	608519	Quail Creek Water Co.	Regional Monitoring	2064	S	S	YES	NO	Well Identified for water level measurement only in Q3-2007; well not equipped for water quality sampling	
ST-6	608530	Las Quintas Serenas Water	Regional Monitoring	837	S	S	YES	YES	Q3-2007 Water quality data provided by TBPI; Water level data collected by PDSI	
ST-5	608531	Las Quintas Serenas Water	Regional Monitoring	533	S	S	NO	YES	Q3-2007 Data provided by TBPI	
RRQC-3	608591	Robson Ranch	Regional Monitoring	253	S	-	YES	NO	Well identified for water level measurement only	
RRQC-4	608597	Robson Ranch	Regional Monitoring	502	S	S	NO	YES	Water quality sample collected in July-2007; water level not collected because pump was running	
EP-1 [AXABCO-04]	608604	PDSI - Eagle Pitcher	Regional Monitoring	217	S	-	YES	NO	Well identified for water level measurement only	55-537958
RRQC-5 [ASLD]	616212	ASLD	Regional Monitoring	350	S	S	YES	NO	Well Identified for water level measurement only in Q3-2007; well not equipped for water quality sampling	
---	621717	Arthur Trewitt	Regional Monitoring	365	S	S	NO	NO	Owner refused access to well	55-529142
S-1	623111	PDSI	Regional Monitoring	783	S	S	NO	YES	Water quality sample collected in July-2007, unable to obtain water level due to access problems	
S-2	623112	PDSI	Regional Monitoring	793	S	S	YES	YES	Water quality sample collected in July-2007	
S-3	623113	PDSI	Regional Monitoring	811	S	S	NO	YES	Water quality sample collected in July-2007, unable to obtain water level- oil interference	
S-4	623114	PDSI	Regional Monitoring	900	S	S	YES	YES	Water quality sample collected in July-2007	
S-5	623115	PDSI	Regional Monitoring	800	S	S	YES	YES	Water quality sample collected in July-2007	
S-6	623116	PDSI	Regional Monitoring	900	S	S	NO	YES	Water quality sample collected in July-2007, unable to obtain water level- oil interference	
S-19A	623982	FICO	Regional Monitoring	2280	S	S	YES	YES	Water quality sample collected in July-2007; water level is for dynamic conditions and not used for contouring	
S-46	623996	FICO	Regional Monitoring	1615	S	S	NO	NO	Well unavailable for sampling	
---	624005	FICO	Regional Monitoring	1504	S	S	NO	NO	Well unavailable for sampling, gas well	55-623991
---	624006	FICO	Regional Monitoring	398	S	S	NO	NO	Well unavailable for sampling	55-623994
C-1	624008	FICO	Regional Monitoring	395	S	S	NO	NO	Well disassembled	55-624026
C-4	624010	FICO	Regional Monitoring	1200	S	S	YES	YES	Water quality sample collected in July-2007; water level is for dynamic conditions and not used for contouring	

TABLE 1
Summary of Groundwater Monitoring for Mitigation Order Docket No. P-50-06 for Third Quarter 2007 (Sorted by ADWR Registry Number)

Well Name	ADWR 55 Registry Number	Owner	Purpose	Casing or Well Depth (feet)	Work Plan Specification		Q3-2007 Monitoring		Status	Substitute Well
					Water Level Measurement	Water Quality Sampling	Water Level Measured?	Water Quality Sample Collected?		
WELLS FOR SEMIANNUAL MONITORING (CONTINUED)										
E-5A	624012	FICO	Regional Monitoring	520	S	S	YES	NO	Water level is for dynamic conditions and not used for contouring; well unavailable for sampling	
E-12	624015	FICO	Regional Monitoring	800	S	S	NO	NO	Well unavailable for sampling	55-624013
---	624020	Madera Highlands	Regional Monitoring	1100	S	S	NO	NO	Well unavailable for sampling	
W-9	624024	FICO	Regional Monitoring	1175	S	S	YES	YES	Water quality sample collected in July-2007; water level is for dynamic conditions and not used for contouring	
W-11	624025	FICO	Regional Monitoring	1186	S	S	NO	YES	Water quality sample collected in July-2007, unable to obtain water level due to access problems	
---	624027	FICO	Regional Monitoring	300	S	S	NO	NO	Well unavailable for sampling	55-624028
CALDERON	634037	Antonio Calderon	Regional Monitoring	380	S	-	NO	NO	Obstruction in well prevented water level measurement	
1759	634393	TBPI	Regional Monitoring	650	S	S	YES	YES	Q3-2007 Data provided by TBPI	
1225	634394	TBPI	Regional Monitoring	650	S	S	YES	YES	Q3-2007 Data provided by TBPI	
SANTA RITA RANCH-2	635387	Santa Rita Ranch	Regional Monitoring	248	S	S	YES	YES	Water quality sample collected in July-2007	
SIMPSON	639055	Ken, Suzanne Simpson	Regional Monitoring	262	S	-	YES	NO	Well identified for water level measurement only	
GIACALONE	640358	Shirley Giacalone	Regional Monitoring	350	S	S	YES	YES	Water quality sample collected in July-2007	
---	800354	Santa Rita Ranch	Regional Monitoring	340	S	S	NO	NO	Owner refused access to well due to a cracked well casing	
---	800925	TBPI	Regional Monitoring	686	S	S	NO	NO	Well no longer exists	
---	802661	Nichols	Regional Monitoring	400	S	S	NO	NO	Rejected by HGC due to construction of private well; could not bypass the home water treatment system for sample collection	55-545349 55-206214
SUBSTITUTE WELLS FOR SEMIANNUAL MONITORING										
GRAFF	206214	Graef	Regional Monitoring	385	S	S	YES	YES	Water quality sample collected in July-2007	55-802661
SIMONS	529142	Simons-Giedzinska	Regional Monitoring	315	S	S	NO	YES	Water quality sample collected in July-2007; unable to obtain water level - Solinst probe would not fit through sampling port	55-621717
AXABCO-03	537958	PDSI	Regional Monitoring	207	S	-	YES	NO	Well identified for water level measurement only	55-608604
SALVATORE	545349	Salvatore	Regional Monitoring	345	S	-	YES	NO	Well identified for water level measurement only	55-802661
SAH-1	550533	PCSW	Regional Monitoring	500	S	S	YES	YES	Water quality sample collected in July-2007	55-550534
ROBERTS	599350	Roberts	Regional Monitoring	358	S	S	YES	YES	Water quality sample collected in July-2007	55-634037
S-40	623991	FICO	Regional Monitoring	1525	S	S	YES	YES	Water quality sample collected in July-2007; water level is for dynamic conditions and not used for contouring	55-624005
S-44	623994	FICO	Regional Monitoring	1200	S	S	YES	YES	Water quality sample collected in July-2007; water level is for dynamic conditions and not used for contouring	55-624006
E-6	624013	FICO	Regional Monitoring	801	S	S	YES	YES	Water quality sample collected in July-2007; water level is for dynamic conditions and not used for contouring	55-624015
W-12	624026	FICO	Regional Monitoring	1300	S	S	YES	YES	Water quality sample collected in July-2007; water level is for dynamic conditions and not used for contouring	55-624008
NP-2 FICO	624028	FICO	Regional Monitoring	375	S	S	YES	YES	Water quality sample collected in July-2007; water level is for dynamic conditions and not used for contouring	55-624027
QUIHUIS	627439	Quihuis	Regional Monitoring	320	S	-	YES	NO	Well identified for water level measurement only	55-524178
JOHNSON	634036	Johnson	Regional Monitoring	Uncertain	S	S	YES	YES	Water quality sample collected in July-2007	55-574700
SANTA RITA RANCH-1	635386	Santa Rita Ranch	Regional Monitoring	500	S	S	YES	YES	Water quality sample collected in July-2007	55-608598 55-608597
SAH-3B	905019	PCSW	Regional Monitoring	497	S	-	YES	NO	Well identified for water level measurement only	55-550534
ADDITIONAL WELLS SAMPLED FOR SEMIANNUAL MONITORING THAT WERE NOT IDENTIFIED IN THE WORK PLAN										
M-1	85228	TBPI	Regional Monitoring	932	None	None	NO	YES	Q3-2007 Data provided by TBPI	
M-3	85305	TBPI	Regional Monitoring	700	None	None	YES	NO	Q3-2007 Data provided by TBPI	
M-4	85306	TBPI	Regional Monitoring	609	None	None	YES	YES	Q3-2007 Data provided by TBPI	
M-5	87387	TBPI	Regional Monitoring	640	None	None	YES	NO	Q3-2007 Data provided by TBPI	
M-7	87389	TBPI	Regional Monitoring	1100	None	None	YES	NO	Q3-2007 Data provided by TBPI	
RT-1	504946	TBPI	Regional Monitoring	985	None	None	YES	NO	Q3-2007 Data provided by TBPI	
M-13	508428	TBPI	Regional Monitoring	753	None	None	YES	NO	Q3-2007 Data provided by TBPI	
GV-01-PCWW	509603	Pima County Wastewater	Regional Monitoring	ND	None	None	YES	NO	Well identified for water level measurement only	
2125	514015	TBPI	Regional Monitoring	1225	None	None	YES	NO	Q3-2007 Data provided by TBPI	
AXABCO-02	532628	PDSI	Regional Monitoring	230	None	None	YES	NO	Well identified for water level measurement only	
CANOA RANCH	586729	GVDWID	Regional Monitoring	500	None	None	YES	YES	Water quality sample collected in August-2007	
KULESZA	599769	Kulesza	Regional Monitoring	500	None	None	YES	NO	Well identified for water level measurement only	
GV-06-GVDWID	603430	GVDWID	Regional Monitoring	464	None	None	YES	NO	Well identified for water level measurement only	
GV-07-GVDWID	603504	GVDWID	Regional Monitoring	350	None	None	YES	NO	Well identified for water level measurement only	
I-12	608523	TBPI	Regional Monitoring	1018	None	None	YES	NO	Q3-2007 Data provided by TBPI	
I-11	608524	TBPI	Regional Monitoring	1045	None	None	YES	NO	Q3-2007 Data provided by TBPI	
1758	634392	TBPI	Regional Monitoring	650	None	None	YES	NO	Q3-2007 Data provided by TBPI	
A-955	ND	TBPI	Regional Monitoring	1116	None	None	YES	NO	Q3-2007 Data provided by TBPI	

Notes:

- 1 = M-20, MH-11 and MH-12 added to sampling list after Work Plan approved
- 2 = Formally listed as Davis-Monthan (55-804995) and PC Parks (55-616156) wells; determined to be the same well located at the Titan Missile Museum (TMM)
- ND = No Data
- NA = Not Available
- Q = Quarterly
- S = Semiannual
- PDSI = Phelps Dodge Sierrita, Inc.
- TBPI = Twin Buttes Properties, Inc.
- CWC = Community Water Company
- GVDWID = Green Valley Domestic Water Improvement District
- WQ = water quality
- PCWW = Pima County Waste Water
- UA = University of Arizona
- ASLD = Arizona State Land Department
- FICO = Farmers Investment Company
- PCSW = Pima County Solid Waste

TABLE 2
Analytical Results for Third Quarter 2007 Groundwater Monitoring

ADWR Well Registry Number	Well Name	Sample Date	Field pH (SU)	Field EC (µS/cm)	Field Temp (deg C)	Sulfate, total	Sulfate, dissolved	Chloride, dissolved	Fluoride, dissolved	Nitrate as N, dissolved	Nitrite/Nitrite as N, dissolved	Calcium, dissolved	Magnesium, dissolved	Potassium, dissolved	Sodium, dissolved	Total Alkalinity	Bicarbonate as CaCO ₃	Carbonate as CaCO ₃	Hydroxide as CaCO ₃	Residue, Filterable (TDS) @ 180°C	TDS (calculated)	TDS Ratio (measured/calculated)	Sum of Anions (meq/L)	Sum of Cations (meq/L)	Cation-Anion Balance (%)	
WELLS FOR QUARTERLY [PLUME] MONITORING CONTROLLED BY PDSI																										
200554	IW-22	07/18/07	6.99	1683	28.1	NA	1790	135.0	0.2	NA	NA	0.86	532.0	87.8	11.0	195.0	137	137	< 2	< 2	3040	2830	1.07	44.1	42.7	-1.6
200555	IW-23	07/25/07	6.49	1541	24.7	NA	1670	150.0	0.2	NA	NA	1.07	525.0	98.7	9.3	169.0	151	151	< 2	< 2	3070	2710	1.13	42.3	42.0	-0.4
200556	IW-24	07/18/07	6.78	1739	29.0	NA	1790	144.0	0.2	NA	NA	0.62	554.0	93.8	7.0	171.0	147	147	< 2	< 2	3040	2850	1.07	44.6	43.1	-1.7
201527	MH-26A	07/19/07	7.80	428	26.9	NA	20	8.0	0.5	NA	NA	1.18	33.8	8.1	3.6	34.0	160	160	< 2	< 2	260	204	1.27	3.8	3.9	1.3
201528	MH-25A	07/20/07	7.63	431	28.6	NA	< 10	9.0	0.4	NA	NA	1.28	34.0	8.8	2.4	37.0	161	161	< 2	< 2	230	188	1.22	3.4	4.1	9.3
208426	MH-25C	07/20/07	7.13	1599	30.2	NA	1240	117.0	0.2	NA	NA	1.87	420.0	97.4	11.9	103.0	99	99	< 2	< 2	2300	2050	1.12	31.3	33.8	3.8
208427	MH-26B	07/19/07	7.10	1652	29.0	NA	1570	119.0	0.2	NA	NA	3.27	508.0	114.0	11.0	95.5	99	99	< 2	< 2	2800	2480	1.13	38.1	39.4	1.7
208428	MH-26C	07/19/07	7.55	1267	30.5	NA	730	70.0	0.3	NA	NA	2.21	227.0	51.0	10.8	99.7	90	90	< 2	< 2	1390	1240	1.12	19.1	20.2	2.8
208428	MH-26C (DUP)	07/19/07	7.55	1267	30.5	NA	740	71.0	0.3	NA	NA	2.10	223.0	49.7	10.6	99.2	88	88	< 2	< 2	1410	1250	1.13	19.3	19.9	1.5
208429	MH-25B	07/20/07	7.16	1649	28.4	NA	1760	121.0	0.2	NA	NA	2.07	551.0	125.0	11.3	107.0	93	93	< 2	< 2	2910	2730	1.07	42.2	42.8	0.7
508235	IW-11	07/18/07	6.84	1788	26.8	NA	1770	114.0	0.3	NA	NA	0.88	501.0	99.1	9.0	199.0	125	125	< 2	< 2	3010	2770	1.09	42.9	42.2	-0.8
508236	IW-8	07/18/07	6.82	1328	29.5	NA	1870	113.0	0.3	NA	NA	0.83	522.0	120.0	12.0	180.0	122	122	< 2	< 2	3130	2890	1.08	44.9	44.2	-0.8
508237	IW-10	07/18/07	6.78	1734	28.3	NA	1770	139.0	0.2	NA	NA	1.01	541.0	99.8	11.0	170.0	151	151	< 2	< 2	3060	2820	1.09	44.1	43.0	-1.3
508238	IW-9	07/18/07	6.78	1547	29.4	NA	1810	115.0	0.3	NA	NA	0.89	515.0	103.0	12.0	185.0	122	122	< 2	< 2	3050	2810	1.09	43.7	42.6	-1.3
545555	IW-12	07/25/07	6.55	1483	25.2	NA	1700	110.0	0.2	NA	NA	1.19	474.0	95.7	7.8	174.0	112	112	< 2	< 2	2900	2630	1.10	41.0	39.4	-2.0
545556	IW-13	07/25/07	6.61	1560	25.1	NA	1780	110.0	0.2	NA	NA	1.47	501.0	98.0	7.0	216.0	115	115	< 2	< 2	3180	2780	1.14	42.8	42.8	0.0
545557	IW-14	07/25/07	6.51	1462	24.7	NA	1910	120.0	0.2	NA	NA	1.42	532.0	115.0	7.9	158.0	125	125	< 2	< 2	3170	2920	1.09	46.0	43.2	-3.1
545558	IW-15	07/25/07	6.32	1388	26.6	NA	1760	120.0	0.2	NA	NA	2.05	542.0	105.0	7.1	132.0	127	127	< 2	< 2	3100	2740	1.13	42.9	41.7	-1.4
545559	IW-16	07/25/07	6.63	1368	26.5	NA	1800	140.0	0.2	NA	NA	2.22	542.0	127.0	7.0	116.0	125	125	< 2	< 2	3190	2810	1.14	44.2	42.8	-1.6
545560	IW-17 ¹	07/25/07	6.61	1348	27.2	NA	1730	130.0	0.2	NA	NA	2.30	504.0	124.0	7.6	122.0	128	128	< 2	< 2	3050	2690	1.13	42.5	40.9	-1.9
545561	IW-18	07/25/07	6.45	1293	28.1	NA	1760	130.0	0.2	NA	NA	2.09	524.0	112.0	7.2	106.0	129	129	< 2	< 2	3030	2720	1.11	43.2	40.2	-3.6
545562	IW-19	07/25/07	6.91	1310	26.3	NA	1650	130.0	0.2	NA	NA	2.04	486.0	121.0	7.8	122.0	145	145	< 2	< 2	2930	2600	1.13	41.2	39.8	-1.7
545563	IW-20	07/24/07	6.69	1822	30.8	NA	1580	130.0	0.2	NA	NA	3.69	500.0	126.0	8.6	144.0	138	138	< 2	< 2	2760	2570	1.07	39.6	41.9	2.8
545564	IW-21	07/24/07	6.68	1828	30.6	NA	1630	130.0	0.2	NA	NA	2.75	502.0	125.0	10.6	150.0	136	136	< 2	< 2	2810	2630	1.07	40.6	42.2	1.9
545565	IW-6A	07/25/07	6.67	1609	24.5	NA	1930	110.0	0.2	NA	NA	0.76	512.0	89.7	8.0	231.0	108	108	< 2	< 2	3180	2950	1.08	45.8	43.3	-2.8
561866	PZ-8	07/12/07	7.27	935	27.3	NA	450	59.0	0.9	NA	NA	2.14	144.0	44.2	7.6	104.0	176	176	< 2	< 2	1010	915	1.10	14.7	15.6	3.0
561870	PZ-7	07/24/07	7.31	979	28.2	NA	360	76.0	0.2	NA	NA	1.59	161.0	43.6	4.1	33.6	106	106	< 2	< 2	840	742	1.13	11.8	13.2	5.6
623129	IW-1	07/16/07	6.86	884	32.7	NA	510	58.0	0.3	NA	NA	1.74	185.													

TABLE 3
Q3-2007 Groundwater Elevation Data (Sorted by ADWR Well Registry Number)

ADWR WELL REGISTRY NUMBER	WELL NAME	SURVEY SOURCE	UTM NORTH (NAD27, Meters)	UTM EAST (NAD27, Meters)	GROUND SURFACE ELEVATION (ft amsl)	HEIGHT OF MEASURING POINT ABOVE GROUND (ft)	MEASURING POINT ELEVATION (ft amsl)	DATE	DEPTH TO WATER FROM MEASURING POINT (feet)	GROUNDWATER ELEVATION (ft amsl)
WELLS FOR QUARTERLY [PLUME] MONITORING CONTROLLED BY PDSI										
200554	IW-22	PDSI	3523077.138	497430.770	3124.84	3.41	3128.25	07/31/07 ¹	430.00	2698.25
200555	IW-23	PDSI	3522774.335	497430.417	3125.03	3.50	3128.53	07/31/07 ¹	500.00	2628.53
201527	MH-26A	PDSI	3527621.755	498913.871	3069.54	1.35	3070.89	07/19/07	495.02	2575.87
201528	MH-25A	PDSI	3526313.706	498941.526	3055.81	0.76	3056.57	07/20/07	454.02	2602.55
208426	MH-25C	PDSI	3526294.663	498935.843	3056.71	0.53	3057.24	07/20/07	454.42	2602.82
208427	MH-26B	PDSI	3527617.539	498901.079	3068.68	1.82	3070.50	07/19/07	492.01	2578.49
208428	MH-26C	PDSI	3527610.293	498926.419	3067.27	1.84	3069.11	07/19/07	493.62	2575.49
208429	MH-25B	PDSI	3526318.775	498931.519	3056.21	2.01	3058.22	07/20/07	455.32	2602.90
508235	IW-11	PDSI	3523232.498	497432.594	3125.00	-0.79	3124.21	07/31/07 ¹	428.50	2695.71
508236	IW-8	PDSI	3521824.074	497429.430	3115.00	4.20	3119.20	07/31/07 ¹	438.75	2680.45
508237	IW-10	PDSI	3522925.746	497431.547	3125.00	1.65	3126.65	07/21/07	464.22	2662.43
508238	IW-9	PDSI	3522011.192	497430.969	3100.00	-0.02	3099.98	07/21/07	405.68	2694.30
528093	MH-15W	PDSI	3523078.550	497585.246	3116.12	0.00	3116.12	07/11/07	390.85	2725.27
528094	MH-15E	PDSI	3523077.874	497645.979	3110.12	0.00	3110.12	07/21/07	385.80	2724.32
528098	MH-14	PDSI	3525072.873	497578.809	3150.74	0.00	3150.74	07/10/07	424.20	2726.54
528099	MH-16W	PDSI	3521674.374	497577.250	3098.37	0.00	3098.37	07/11/07	357.47	2740.90
528100	MH-16E	PDSI	3521673.788	497637.848	3096.66	0.00	3096.66	07/21/07	355.00	2741.66
545555	IW-12	PDSI	3523773.410	497426.092	3131.53	1.42	3132.95	07/21/07 ¹	428.78	2704.17
545556	IW-13	PDSI	3523970.213	497425.001	3137.02	1.50	3138.520	07/31/07 ¹	412.13	2726.39
545557	IW-14	PDSI	3524176.661	497428.308	3139.35	2.20	3141.55	07/31/07 ¹	474.00	2667.55
545558	IW-15	PDSI	3524370.798	497434.056	3145.27	1.40	3146.67	07/31/07 ¹	430.55	2716.12
545559	IW-16	PDSI	3524586.404	497431.834	3156.54	1.73	3158.27	07/31/07 ¹	409.50	2748.77
545560	IW-17	PDSI	3524806.403	497434.901	3154.71	1.80	3156.51	07/26/07 ¹	427.97	2728.54
545561	IW-18	PDSI	3524973.304	497435.240	3165.79	1.50	3167.29	07/21/07 ¹	446.35	2720.94
545562	IW-19	PDSI	3525146.924	497434.814	3148.92	1.80	3150.72	07/26/07 ¹	435.85	2714.87
545563	IW-20	PDSI	3525372.301	497425.924	3158.90	1.80	3160.70	07/26/07 ¹	426.21	2734.49
545564	IW-21	PDSI	3525576.796	497435.770	3166.07	1.33	3167.40	07/26/07 ¹	454.04	2713.36
545565	IW-6A	PDSI	3523512.299	497442.407	3125.86	1.65	3127.51	07/31/07 ¹	432.28	2695.23
561859	PZ-9	PDSI	3525372.230	493241.716	3504.18	0.48	3504.66	08/03/07	228.50	Dry (<3276)
561866	PZ-8	PDSI	3523999.763	493033.889	3476.64	0.50	3477.14	07/12/07	209.46	3267.68
561870	PZ-7	PDSI	3526160.990	492594.390	3545.30	0.92	3546.22	07/24/07	139.76	3406.46
563799	MH-24	PDSI	3523512.589	497451.696	3128.17	0.00	3128.17	08/03/07	399.33	2728.84
623130	IW-2	PDSI	352164.111	497546.637	3098.00	0.29	3098.29	07/31/07 ¹	381.00	2717.29
623131	IW-3A	PDSI	3521526.165	497427.371	3117.00	0.13	3117.13	07/31/07 ¹	381.50	2735.63
623132	IW-4	PDSI	3522269.430	497432.878	3134.00	0.07	3134.07	07/21/07 ¹	425.30	2708.77
803629	MH-1	PDSI	3525676.440	497433.577	3176.00	1.80	3177.80	07/03/07	441.33	2736.47
803630	MH-3	PDSI	3525073.714	497533.614	3151.91	0.47	3152.38	07/21/07	424.22	2728.16
803632	MH-5	PDSI	3523528.883	497538.532	3122.80	0.00	3122.80	07/03/07	391.66	2731.14
803633	MH-6	PDSI	3522574.001	497497.825	3133.00	-2.02	3130.98	07/03/07	379.00	2751.98
803634	MH-7	PDSI	3521820.025	497563.652	3109.00	-0.34	3108.66	07/03/07	370.20	2738.46
803635	MH-9	PDSI	3521056.161	496499.361	3158.00	1.50	3159.50	07/03/07	365.25	2794.25
803636	MH-10	PDSI	3521040.412	495778.954	3184.00	0.95	3184.95	07/16/07	356.75	2828.20
803637	MH-11	PDSI	3524267.192	498810.555	3039.00	1.30	3040.30	07/17/07	372.75	2667.55
803638	MH-12	PDSI	3525010.541	498833.336	3052.00	2.07	3054.07	07/20/07	422.10	2631.97
903548	MH-28	PDSI	3524413.518	497532.609	3141.51	0.67	3142.18	07/16/07	403.12	2739.06
903649	MH-29	PDSI	3522609.068	497665.504	3122.24	0.91	3123.15	07/16/07	379.07	2744.08
903884	MH-30	PDSI	3525730.338	496743.497	3231.92	0.53	3232.45	07/11/07	416.85	2815.60
904071	MH-13A	PDSI	3523596.992	498885.030	3025.18	1.05	3026.23	07/17/07	330.98	2695.25
904072	MH-13B	PDSI	3523590.907	498891.053	3023.93	1.70	3025.63	07/17/07	335.47	2690.16
904073	MH-13C	PDSI	3523596.580	498858.634	3026.81	1.65	3028.46	07/17/07	339.82	2688.64
MITIGATION ORDER WELLS INSTALLED IN 2007 FOR QUARTERLY [PLUME] MONITORING CONTROLLED BY PDSI										
906765	MO-2007-2	PDSI	3527424.622	497973.595	3153.12	0.49	3153.61	08/09/07	575.30	2578.31
906817	MO-2007-3C	PDSI	3528312.268	500590.880	2910.09	1.10	291			

TABLE 3
Q3-2007 Groundwater Elevation Data (Sorted by ADWR Well Registry Number)

ADWR WELL REGISTRY NUMBER	WELL NAME	SURVEY SOURCE	UTM NORTH (NAD27, Meters)	UTM EAST (NAD27, Meters)	GROUND SURFACE ELEVATION (ft amsl)	HEIGHT OF MEASURING POINT ABOVE GROUND (ft)	MEASURING POINT ELEVATION (ft amsl)	DATE	DEPTH TO WATER FROM MEASURING POINT (feet)	GROUNDWATER ELEVATION (ft amsl)
WELLS FOR SEMI-ANNUAL [REGIONAL] MONITORING										
85304	M-2	TBPI	3532755.643	499583.211	n/a	n/a	2995.02	07/10/07	486.70	2508.32
501654	M-11	TBPI	3530561.357	500328.605	n/a	n/a	2938.53	07/10/07	422.46	2516.07
206214	GRAFF	HGC	3517841.357	495895.947	3149.64	2.10	3151.74	07/16/07	284.60	2867.14
509604	GV-02-PCWW ³	PIMA COUNTY	3530023.290	502739.743	2770.76	2.38	2773.13	07/09/07	162.48	2610.65
537958	AXABCO-03	HGC	3534764.927	502643.298	2743.15	2.10	2745.25	08/03/07	180.30	2564.95
545349	SALVATORE	HGC	3517166.926	495744.844	3145.27	1.80	3147.07	07/15/07	269.65	2877.42
550533	SAH-1	PIMA COUNTY	3534342.394	500530.888	2908.10	0.00	2908.10	07/25/07	411.38	2496.72
562962	RANCHO SAHARITA	HGC	3535692.169	501618.877	2817.21	2.00	2819.21	07/16/07	350.35	2468.86
599350	ROBERTS	HGC	3514580.742	601657.550	3142.13	1.40	3143.53	08/06/07	252.91	2890.62
608518	CW-11	HGC	3531003.354	502440.773	2777.21	1.40	2778.61	07/10/07	278.50	2500.11
608519	RRQC-2	HGC	3529053.253	503518.429	2801.67	0.80	2802.47	08/06/07	100.95	2701.52
608530	ST-6	HGC	3531156.231	501309.476	2854.47	1.40	2855.87	08/03/07	346.89	2508.98
608591	RRQC-3	HGC	3527654.766	503018.256	2801.22	2.40	2803.62	08/06/07	124.63	2678.99
616212	RRQC-5	HGC	3524537.525	505430.466	3002.86	0.70	3003.56	07/13/07	296.05	2707.51
623112	S-2	PDSI	3517379.377	499023.660	2935.87	n/a	2936.16	08/01/07	124.35	2811.81
623114	S-4	PDSI	3514876.027	497313.042	2979.44	n/a	2979.76	08/01/07	97.70	2882.06
623115	S-5	PDSI	3513422.954	496747.939	2990.82	n/a	2991.05	08/08/07	84.20	2906.85
623982	S-19A	HGC	3532046.000	504852.000	2762.68	0.50	2763.18	08/2007 ²	319.00	2444.18
623991	S-40	HGC	3534955.000	504854.000	2714.90	1.34	2716.24	08/2007 ²	335.00	2381.24
623994	S-44	HGC	3530990.000	503879.000	2761.57	1.08	2762.65	08/2007 ²	312.00	2450.65
624010	C-4	HGC	3525187.298	501820.790	2835.09	1.10	2836.19	08/2007 ²	256.00	2580.19
624012	E-5A	HGC	3524383.000	502176.000	2851.34	0.00	2851.34	08/2007 ²	236.00	2615.34
624013	E-6	HGC	3525167.000	502420.000	2841.15	0.00	2841.15	08/2007 ²	236.00	2605.15
624024	W-9	HGC	3524125.000	501284.000	2852.91	0.00	2852.91	08/2007 ²	200.00	2652.91
624026	W-12	HGC	3521103.056	500217.248	2892.70	1.90	2894.60	08/2007 ²	197.00	2697.60
624028	NP-2 FICO	HGC	3520046.000	500906.000	2910.71	1.00	2911.71	08/2007 ²	156.00	2755.71
627439	QUIHUIS	HGC	3533503.205	502817.797	2747.25	2.00	2749.25	07/09/07	195.50	2553.75
634036	JOHNSON	HGC	3513323.566	499997.971	3125.49	1.40	3126.89	07/12/07	230.74	2896.15
634393	1759	TBPI	3531309.952	499727.703	n/a	n/a	2989.39	07/10/07	475.41	2513.98
634394	1225	TBPI	3530408.470	499727.068	n/a	n/a	3000.57	07/10/07	479.69	2520.88
635386	SANTA RITA RANCH-1	HGC	3526412.601	506817.364	2994.77	0.50	2995.27	07/17/07	316.25	2679.02
635387	SANTA RITA RANCH-2	HGC	3517793.492	501327.055	2982.86	1.40	2984.26	08/06/07	183.30	2800.96
639055	SIMPSON	HGC	3516527.357	495515.199	3095.93	1.60	3097.53	07/16/07	205.91	2891.62
640358	GIACALONE	HGC	3519058.087	495830.481	3123.82	1.80	3125.62	08/10/07	289.15	2836.47
608604	EP-1 [AXABCO-04]	PDSI-Eagle Pitcher	3534915.102	502194.115	2771.01	0.70	2771.71	08/06/07	237.00	2534.71
905019	SAH-3B	PIMA COUNTY	3534809.053	500824.776	2886.47	0.50	2886.97	07/25/07	405.56	2481.41
ADDITIONAL WELLS SAMPLED FOR SEMIANNUAL MONITORING THAT WERE NOT IDENTIFIED IN THE WORK PLAN										
85305	M-3	TBPI	3532390.590	496970.351	n/a	n/a	3213.38	07/10/07	618.70	2594.68
85306	M-4	TBPI	3532390.449	496369.184	n/a	n/a	3259.75	07/10/07	291.92	2967.83
87387	M-5	TBPI	3530602.661	499701.662	n/a	n/a	2996.87	07/10/07	477.02	2519.85
87388	M-6	TBPI	3530105.362	499720.528	n/a	n/a	3002.45	07/10/07	476.95	2525.50
87389	M-7	TBPI	3529800.414	499720.567	n/a	n/a	3008.18	07/10/07	477.61	2530.57
504946	RT-1	TBPI	3530775.180	499872.252	n/a	n/a	2980.91	07/10/07	464.79	2516.12
508428	M-13	TBPI	3530710.569	498800.545	n/a	n/a	3078.12	07/10/07	556.04	2522.08
509603	GV-01-PCWW ³	PIMA COUNTY	3529728.507	502928.924	2786.06	1.10	2787.16	07/09/07	173.96	2613.20
514015	2125	TBPI	3529314.906	497874.280	n/a	n/a	3253.98	07/10/07	705.26	2548.72
532628	AXABCO-02	HGC	3535161.590	502485.179	2759.13	1.85	2760.98	08/03/07	204.80	2556.18
586729	CANOA RANCH	HGC	3516220.094	497453.001	3014.03	1.60	3015.63	08/06/07	148.83	2866.80
599769	KULESZA	HGC	3528880.273	502025.215	2800.04	1.09	2801.13	08/10/07	245.95	2555.18
603430	GV-06-GVDWID	HGC	3518637.527	498433.381	2979.05	0.50	2979.55	08/06/07	162.20	2817.35
603504	GV-07-GVDWID	HGC	3518513.712	496938.934	3088.82	1.10	3089.92	08/06/07	250.34	2839.58
608523	I-12	TBPI	3528382.135	498171.784	n/a	n/a	3328.24	07/10/07	770.77	2557.47
608524	I-11	TBPI	3528289.002	497980.468	n/a	n/a	3326.06	07/10/07	768.24	2557.82
634392	1758	TBPI	3532220.217	499727.710	n/a	n/a	2987.54	07/10/07	473.86	2513.68
ND	A-955	TBPI	3528579.097	499260.926	n/a	n/a	3042.65			

TABLE 4
Results of Depth-Specific Sampling at ESP-2

Static Sampling

Sample	Depth	Date	Time	Temperature (°C)	Conductivity (µS/cm)	pH (SU)	Total Sulfate (mg/L)
ESP-2-450	450	06/04/07	12:20	--	363	7.45	31
ESP-2-500	500	06/05/07	15:00	37.2	340	7.69	34
ESP-2-550	550	06/05/07	14:35	37.4	338	7.76	34
ESP-2-600	600	06/05/07	14:10	38.3	339	7.70	33
ESP-2-650	650	06/05/07	13:40	38.6	337	7.70	33
ESP-2-700	700	06/05/07	13:10	37.8	337	7.77	32
ESP-2-750	750	06/05/07	12:35	38.1	315	7.75	24
ESP-2-800	800	06/05/07	11:45	36.2	299	7.73	14
ESP-2-850	850	06/05/07	11:10	35.6	308	7.61	14
ESP-2-900	900	06/05/07	10:30	34.8	306	7.72	14
ESP-2-950	950	06/05/07	9:48	33.8	350	7.69	14
ESP-2-1000	1000	06/04/07	15:35	30.4	338	7.77	15

Dynamic Sampling

Sample	Depth	Date	Time	Temperature (°C)	Conductivity (µS/cm)	pH (SU)	Total Sulfate (mg/L)
ESP-2-500P	500	06/06/07	12:15	--	--	--	27
ESP-2-550P	550	06/06/07	11:45	--	--	--	27
ESP-2-600P	600	06/06/07	11:20	87.1	376	7.87	27
ESP-2-650P	650	06/06/07	10:50	87.2	376	7.63	26
ESP-2-700P	700	06/06/07	10:25	85.8	377	7.63	25
ESP-2-750P	750	06/06/07	9:55	84.4	351	7.87	17
ESP-2-800P	800	06/06/07	9:20	83.2	344	7.89	14
ESP-2-850P	850	06/06/07	8:45	82.5	347	7.13	14
ESP-2-900P	900	06/05/07	18:00	92	303	7.78	15
ESP-2-950P	950	06/05/07	17:25	95	298	7.80	15
ESP-2-1000P	1000	06/05/07	16:45	96.3	303	7.99	15

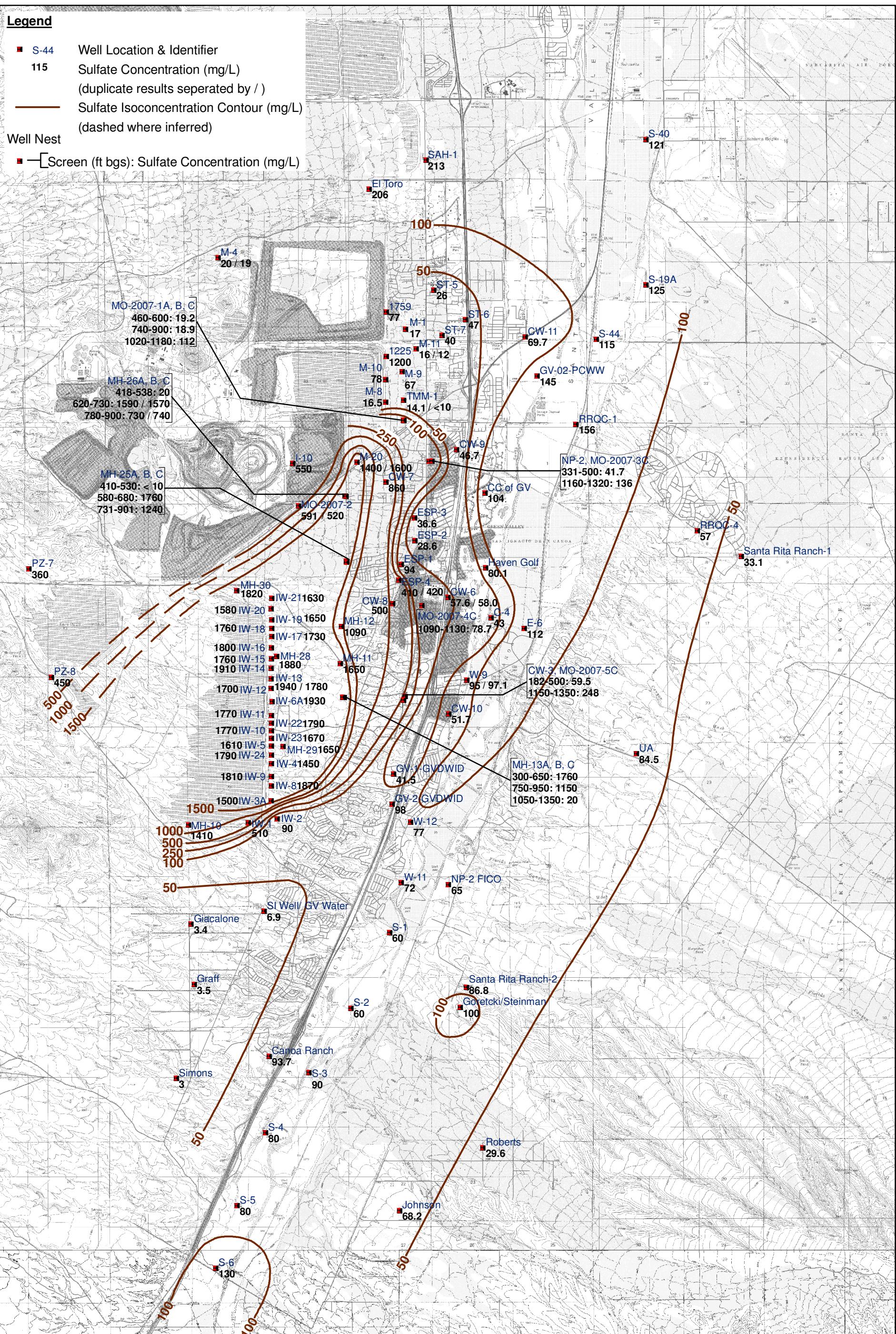
Notes:

°C = degrees Celsius
 µS/cm = microsiemens per centimeter
 SU = Standard Units
 mg/L = milligrams per liter

FIGURES

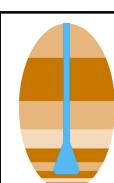
Legend

- S-44 Well Location & Identifier
- 115 Sulfate Concentration (mg/L)
- (duplicate results separated by /)
- Sulfate Isoconcentration Contour (mg/L)
- (dashed where inferred)
- Well Nest
- Screen (ft bgs): Sulfate Concentration (mg/L)



1 inch equals 6,000 feet

0 3,000 6,000 Feet

PROJECTION:
UTM Zone 12N NAD83
**HYDRO
GEO
CHEM, INC.**
**SULFATE CONCENTRATIONS IN
GROUNDWATER SAMPLES COLLECTED IN
JULY THROUGH AUGUST 2007**

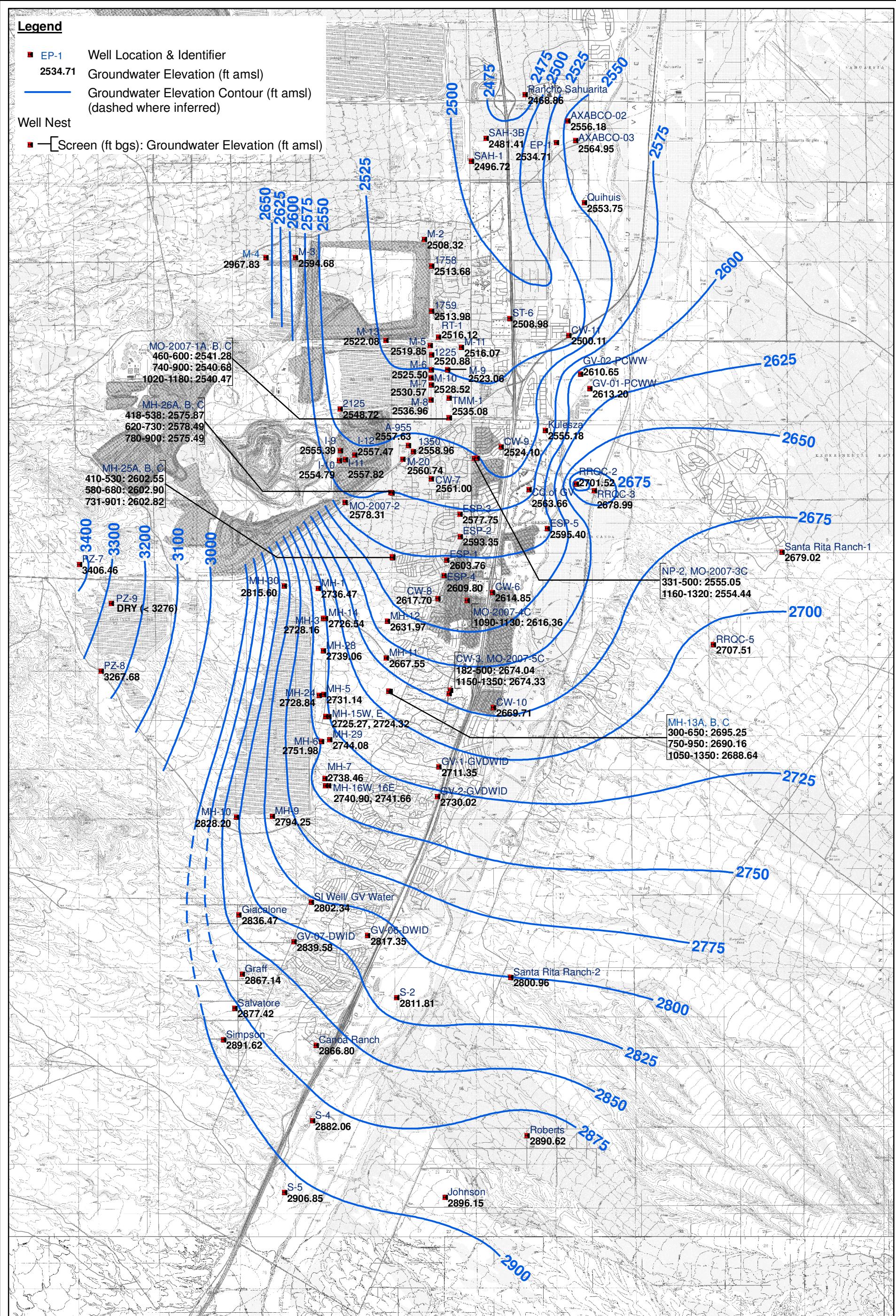
Approved DRS	Date 09/26/07	Author RAM	Date 09/26/07	File Name 7830133G	Figure 1
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Legend

- EP-1 Well Location & Identifier
- 2534.71 Groundwater Elevation (ft amsl)
- Groundwater Elevation Contour (ft amsl) (dashed where inferred)

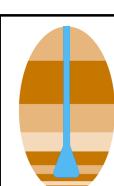
Well Nest

- Screen (ft bgs): Groundwater Elevation (ft amsl)



1 inch equals 6,000 feet

0 3,000 6,000 Feet

PROJECTION:
UTM Zone 12N NAD83
**HYDRO
GEO
CHEM, INC.**
**GROUNDWATER ELEVATIONS FOR
JULY THROUGH AUGUST 2007**

Approved	Date	Author	Date	File Name	Figure
JRN	09/26/07	RAM	09/26/07	7830103G	2