

**FLORENCE COPPER INC.  
FLORENCE COPPER PROJECT  
FIRST QUARTER 2007 MONITORING REPORT  
U.I.C. PERMIT AZ396000001  
AND  
A.P.P. PERMIT 101704**

**April 27, 2007**

**MERRILL MINING, LLC**  
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**HUGH NOWELL**  
**CORPORATE COUNSEL**

**April 27, 2007**

Ms. Nancy Rumrill  
U.S. Environmental Protection Agency  
Region 9, Ground Water Office, WTR-9  
75 Hawthorne Street  
San Francisco, California 94105-3901

**RE: MONITORING REPORT FOR UIC PERMIT NUMBER AZ396000001**  
**FIRST QUARTER 2007 REPORT**

Dear Ms. Rumrill,

This report is submitted in accordance with the reporting requirements of Parts II.G.2.(a) through (j) of the referenced permit. It pertains to monitoring activities conducted at the Florence In-Situ Mine Site from January 1 through March 31, 2007. Copies of records required by Part II.G.1 are maintained at the Mine Site along with other information that is summarized below.

Florence Copper is subject to the requirements of UIC Permit No. AZ396000001 issued by the United States Environmental Protection Agency (USEPA) on May 1, 1997, and APP No. 101704 issued by the Arizona Department of Environmental Quality (ADEQ) on June 9, 1997, and last amended on July 16, 2004.

As you are aware, Florence Copper discontinued hydraulic control on September 1, 2004 in order to conduct groundwater quality tests in accordance with Part II.H.2 of the APP and Part II.L.2 of the UIC Permit. A report of the results has been provided to the ADEQ and USEPA for review. The pumping wells remain off during the evaluation process. As a result, no extraction flows are reported under Section (b) below and the water level measurements that are reported in Section (b) reflect natural conditions, not hydraulic control.

**(a) A map showing the current status of the mine.**

Figure 1 shows the current monitoring area including the Point of Compliance (POC) wells and the wellfield. Figure 2 shows the approximate layout of the wellfield and denotes the four well pairs. There are four injection/recovery wells and nine pumping wells. Five observation wells were installed to demonstrate net inward hydraulic gradient for the 90 days required by the permit. Solution injection began on October 31, 1997, and ceased on February 8, 1998.

- (b) A table and graph showing daily cumulative injection flows and extraction flows in each active mine block over the reporting period.**

Hydraulic control was discontinued on September 1, 2004 for purposes of collecting groundwater samples following a 90-day period of no hydraulic control, and remains discontinued for evaluation of results. Accordingly there are no injection or extraction flows to report.

- (c) A table and graph comparing average daily head in the four observation wells.**

Although hydraulic control was not maintained during this reporting period, water level measurements were continued by manual measurements in the four observation wells and their nearest inward neighbors. Figure 1 of Attachment 1 and the supporting data show the groundwater elevations in the four well pairs.

- (d) A table showing POC monitoring wells analytical results and alert levels.**

The attached report *Florence Project Quarterly Compliance Monitoring Report – First Quarter 2007* by Brown and Caldwell and sealed by Ms. Barbara Sylvester, Professional Engineer (Attachment 2), contains the POC monitoring records and results. Brown and Caldwell, along with Project personnel, conducted compliance sampling on January 7 through January 10, 2007.

Quarterly parameters were conducted for 29 of the 31 POC monitoring wells. POC monitoring wells M32-UBF and M33-UBF were dry and could not be sampled. All results were below the Alert Levels (ALs) or Aquifer Quality Limits (AQLs). The results are discussed in the report.

- (e) Results of the monthly analyses of organic in the injectate**

Organic analyses are not required because no solution was injected during the reporting period.

- (f) Results of monitoring required by 40 CFR 146.33 (b)(1)**

No solution was injected.

- (g) Results of the mechanical integrity tests**

No mechanical integrity test was required.

**(h) Results of the annular conductivity monitoring**

Although injection ceased in early 1998, annular conductivity measurements have continued to the present time. A graph showing measurement results for this reporting period is presented in Attachment 1, Figure 2. No unusual conditions were noted.

**(i) Well and core hole plugging and abandonment.**


None of the existing wells and core holes were abandoned during the report period.

**(j) A summary of closure operations during the reporting period.**

There were no closure operations during the reporting period.

Florence Copper, Inc., believes that you will find this report complete and in compliance with all permit conditions. Please contact me at (404) 495-9577 should you have any questions regarding this report.

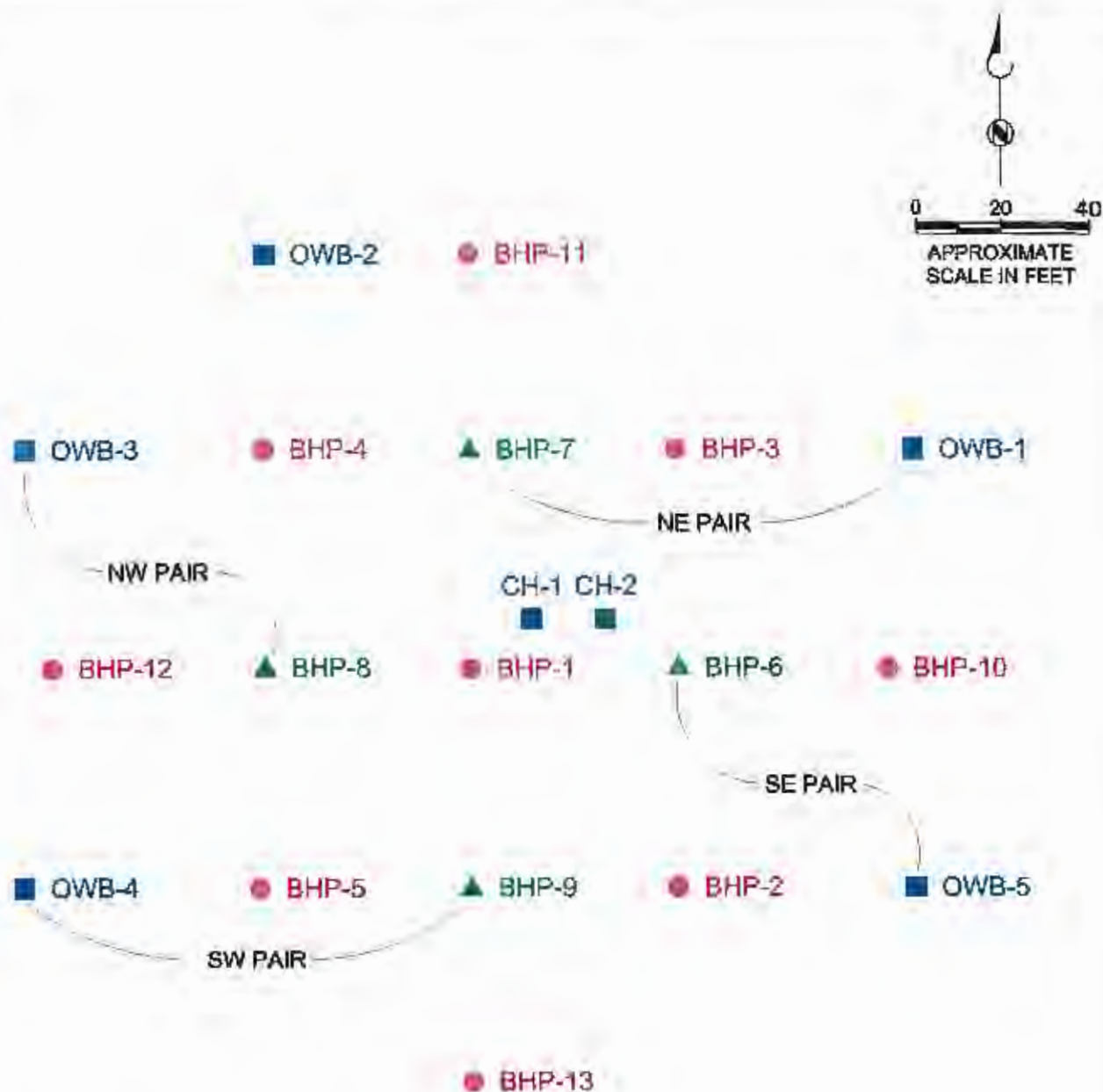
Sincerely,



Hugh Nowell  
Corporate Counsel

BAS:tc  
Attachments

cc: Florence Copper File



### EXPLANATION

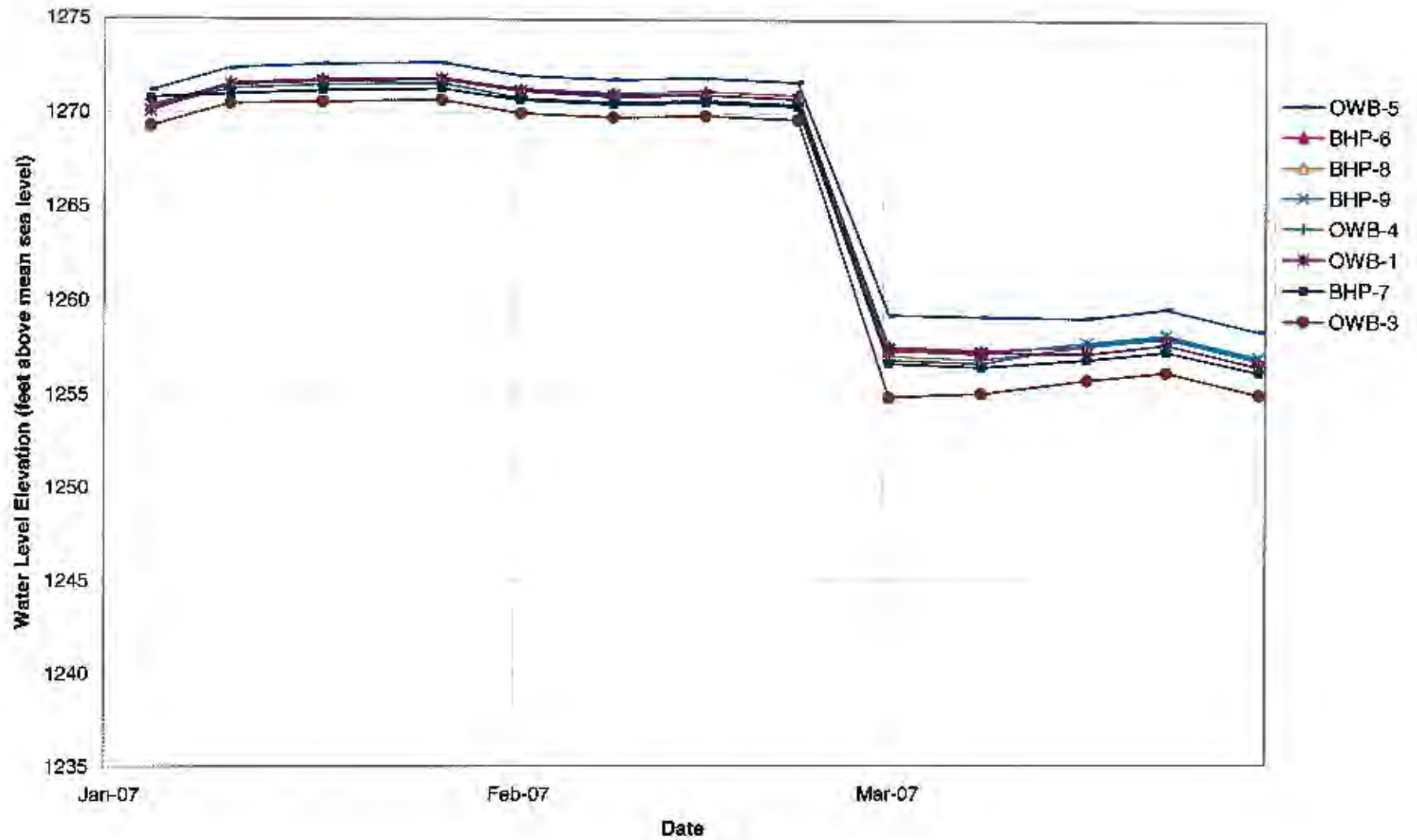
- **BHP-10** PUMPING WELL (CURRENTLY INACTIVE)
- **OWB-2** OBSERVATION WELL
- ▲ **BHP-8** INJECTION / RECOVERY WELL  
(RECOVERY MODE SINCE 1998)

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Figure 2  
**WELLFIELD LAYOUT**  
MERRILL MINING, L.L.C.  
FLORENCE, ARIZONA

**ATTACHMENT 1**  
**MINE OPERATIONS MONITORING**

**Figure 1 - Well Field Water Elevations  
First Quarter 2007**



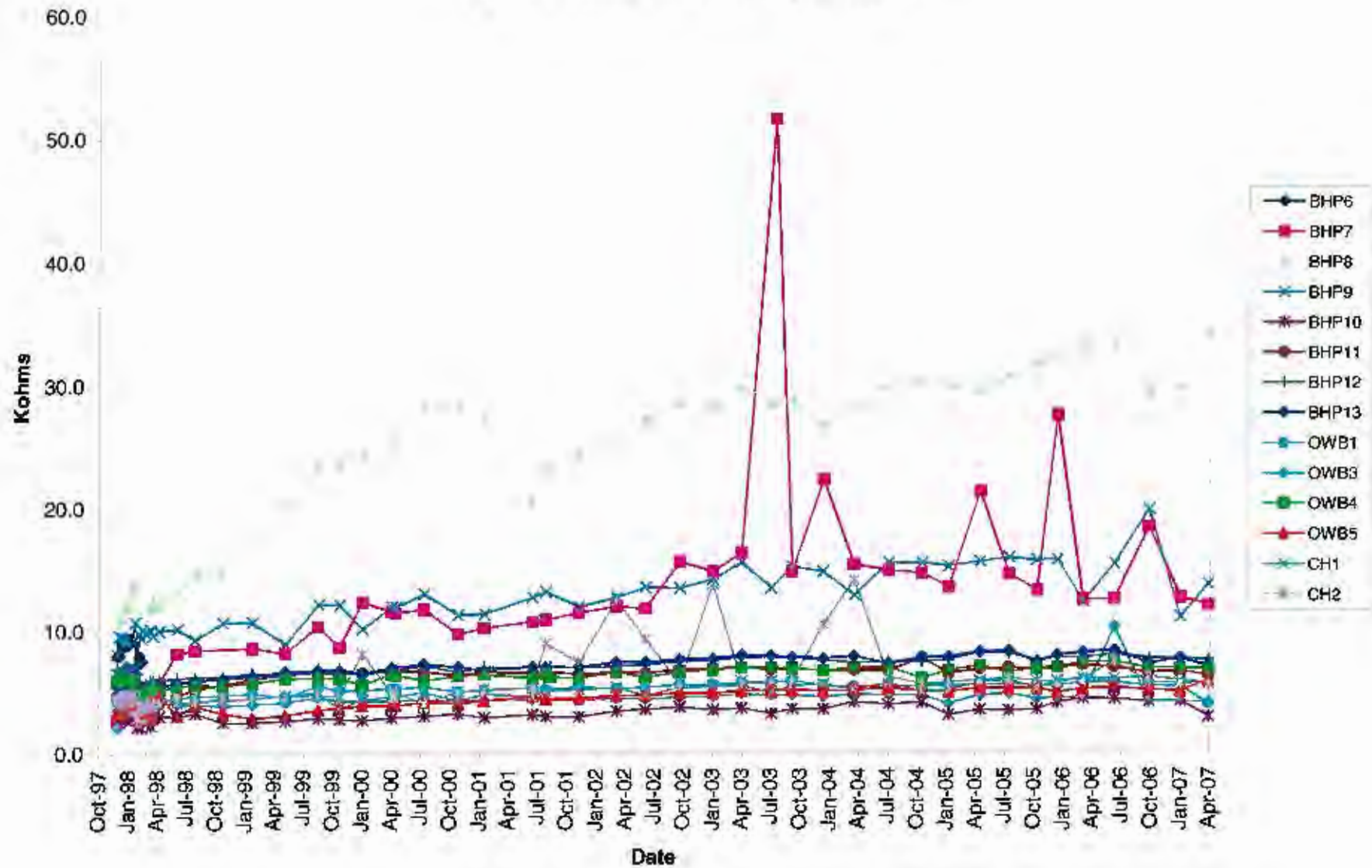


**Well Field Water Elevations  
First Quarter 2007**

Date	BHP-6	BHP-7	BHP-8	BHP-9	OWB-1	OWB-3	OWB-4	OWB-5
1/4/2007	1270.3	1270.8	1270.3	1270.4	1270.1	1269.3	1270.2	1271.2
1/10/2007	1271.5	1271.0	1271.6	1271.5	1271.5	1270.5	1271.3	1272.4
1/17/2007	1271.7	1271.2	1271.8	1271.7	1271.7	1270.6	1271.5	1272.6
1/26/2007	1271.8	1271.3	1271.9	1271.8	1271.8	1270.7	1271.6	1272.7
2/1/2007	1271.2	1270.7	1271.3	1271.2	1271.2	1270.0	1270.8	1272.0
2/8/2007	1271.0	1270.5	1271.1	1271.0	1270.9	1269.8	1270.6	1271.8
2/15/2007	1271.0	1270.6	1271.2	1271.0	1271.0	1269.9	1270.7	1271.9
2/22/2007	1270.8	1270.4	1271.0	1270.8	1270.8	1269.7	1270.5	1271.7
3/1/2007	1257.5	1256.6	1257.0	1257.3	1257.4	1254.8	1256.8	1259.2
3/8/2007	1257.3	1256.4	1256.8	1257.1	1257.2	1255.0	1256.6	1259.1
3/16/2007	1257.5	1256.8	1257.5	1257.7	1257.1	1255.7	1257.6	1259.0
3/22/2007	1257.9	1257.2	1257.9	1258.1	1257.6	1256.1	1258.0	1259.5
3/29/2007	1256.7	1256.1	1256.7	1256.9	1256.4	1254.9	1256.8	1258.3
Water Level Elevations (feet AMSL)								



Figure 2 - Annular Resistivity In Kohms



**ATTACHMENT 2**

**POC QUARTERLY COMPLIANCE MONITORING REPORT**

**FLORENCE COPPER PROJECT  
QUARTERLY COMPLIANCE MONITORING REPORT  
FIRST QUARTER 2007**

***Primary Sampling Activities***

Quarterly compliance monitoring was conducted for the Florence Copper project on January 7 through 10, 2007 (First Quarter 2007). Groundwater sampling and analysis was conducted in accordance with the requirements of Aquifer Protection Permit (APP) Permit Number 101704, Part IIE.3.d (Compliance Monitoring). Quarterly parameters, as listed in Part IV Table IILB of the APP were analyzed from the designated Point of Compliance (POC) wells. The quarterly parameters are magnesium, sulfate, fluoride, and total dissolved solids (TDS).

During the First Quarter 2007 sampling event, 29 POC wells were sampled and a total of 116 constituents were analyzed. Two POC wells, M32-UBF and M33-UBF, were dry and could not be sampled. Of the 116 constituents analyzed, none had reported concentrations exceeding the approved alert levels (ALs).

Analyses of the samples were conducted by Aerotech Environmental Laboratories (Aerotech). Analytical results for the POC wells for the quarterly parameters are provided in Table 1 and field parameters measured during sampling are indicated in Table 2.

***AL Exceedances and Verification Sampling***

Part II.F.4 of the APP (AL, Aquifer Quality Limit [AQL], and Discharge Limit [DL] Contingencies) requires verification sampling for an AL exceedance. There were no AL exceedances during this quarterly sampling. No verification sampling was required.

***Contingency Sampling Plan to be Implemented during Second Quarter 2007***

There were no AL exceedances verified during this quarterly sampling. No contingency sampling plan is required during the Second Quarter of 2007.

***Results of Contingency Sampling Plan Implemented from Fourth Quarter 2006***

There were no AL exceedances during the Fourth Quarter 2006. Therefore, no contingency sampling plan was implemented.

***Issues***

There were no other issues to report during the First Quarter 2007.



TABLE 1. SUMMARY OF ANALYTICAL RESULTS, QUARTERLY PARAMETERS

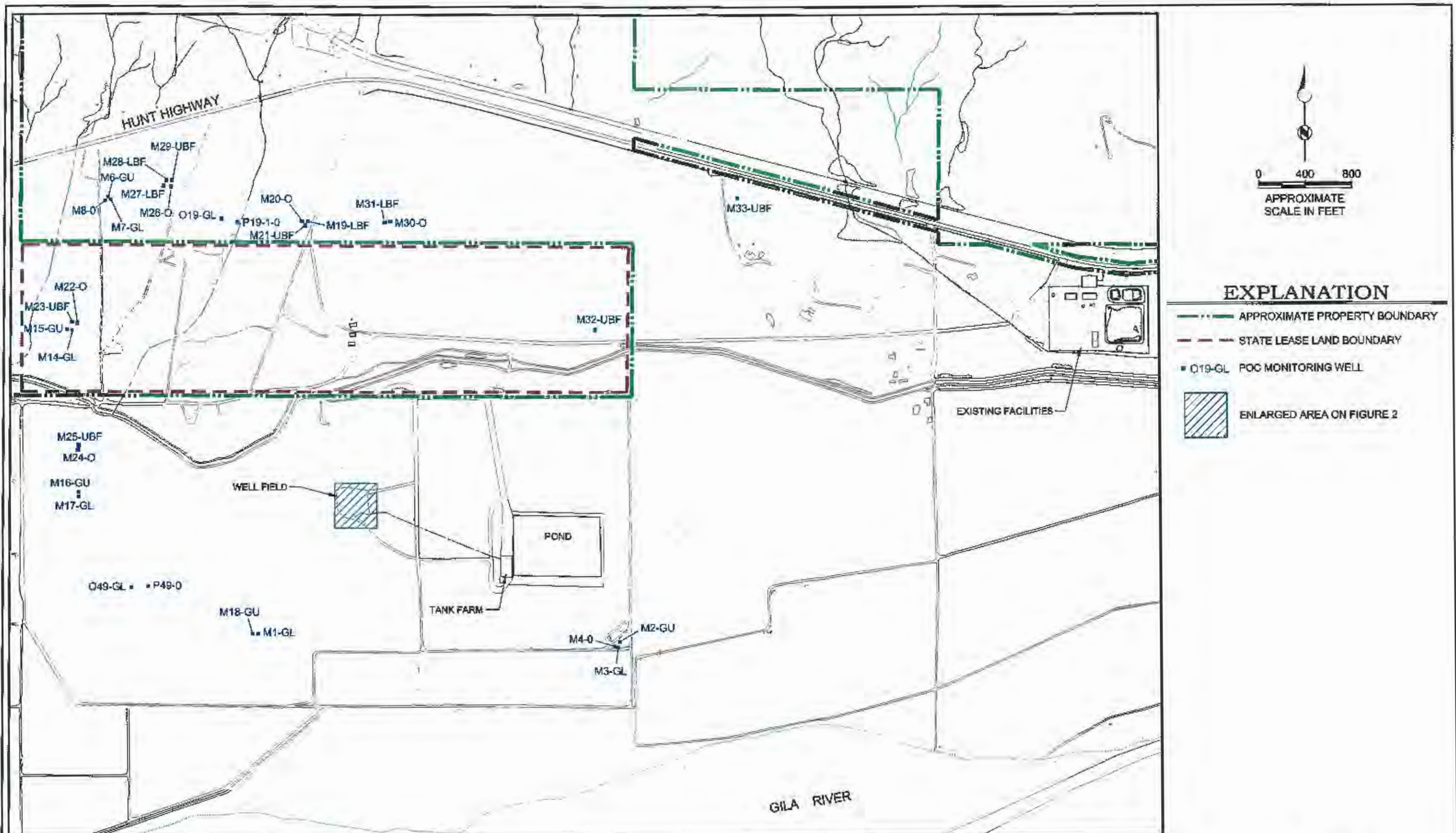
Well ID	Sample Date	Magnesium		Sulfate		Fluoride		Total Dissolved Solids	
		Concentration	Alert Level	Concentration	Alert Level	Concentration	Alert Level	Concentration	Alert Level
M1-GL	Jan 10 2007	22.0	31	99	109	0.78	1.3	640	1028
M2-GU	Jan 10 2007	27.0	39	140	275	0.85	1.4	900	1496
M3-GL	Jan 10 2007	18.0	36	99	187	0.75	1.3	580	1157
M4-O	Jan 10 2007	4.8	15	55	405	2.4	5.1	440	1072
M6-GU	Jan 09 2007	3.0	5.1	47	86	0.76	1.3	370	620
M6-GU (Dup)	Jan 09 2007	3.0	5.1	47	86	0.75	1.3	360	620
M7-GL	Jan 09 2007	<0.25	1	33	82	0.95	1.7	270	464
M8-O	Jan 09 2007	<0.25	1	69	122	2.0	3.6	370	609
M14-GL	Jan 09 2007	2.3	23	53	144	0.69	1.4	420	874
M15-GU	Jan 09 2007	26.0	44	75	126	0.59	1.2	770	1359
M16-GU	Jan 10 2007	30.0	52	160	248	0.66	1.1	960	1635
M16-GU (Dup)	Jan 10 2007	33.0	52	170	248	0.66	1.1	930	1635
M17-GL	Jan 10 2007	5.7	9.3	100	209	0.8	1.6	460	831
M18-GU	Jan 10 2007	21.0	36	160	288	0.94	1.6	790	1323
M19-LBF	Jan 08 2007	12.0	21	51	89	0.6	1	450	794
M20-O	Jan 08 2007	8.8	14	64	112	0.83	1.7	460	809
M21-UBF	Jan 08 2007	18.0	87	140	487	0.93	1.1	640	2867
M22-O	Jan 09 2007	6.1	8.6	49	86	0.78	1.3	410	1094
M23-UBF	Jan 09 2007	37.0	69	270	411	0.77	1.3	1200	2392
M24-O	Jan 10 2007	11.0	19	700	1364	1.1	2.5	1200	2363
M25-UBF	Jan 10 2007	21.0	76	150	387	0.92	1.6	770	2683
M26-O	Jan 08 2007	<0.25	1	59	105	1.6	3.4	320	556
M27-LBF	Jan 08 2007	33.0	51	140	179	0.5	1	960	1745
M27-LBF (Dup)	Jan 08 2007	33.0	51	130	179	0.5	1	970	1745
M28-LBF	Jan 08 2007	1.8	2.6	45	81	0.84	1.6	340	610
M29-UBF	Jan 08 2007	37.0	84	260	465	0.73	1.3	1200	2751
M30-O	Jan 08 2007	11.0	18	56	102	0.8	1.6	470	824
M31-LBF	Jan 08 2007	18.0	46	150	330	0.92	1.3	660	1665
O19-GL	Jan 09 2007	10.0	17	53	99	0.68	1.4	450	770
O49-GL	Jan 08 2007	9.8	18	64	159	0.64	1	490	849
P19-L-O	Jan 09 2007	6.7	12	62	107	1.3	2.8	440	767
P49-O	Jan 08 2007	3.6	6.2	100	181	0.99	2	450	801
<b>Arizona Aquifer Water Quality Standard</b>		-	-	-	-	-	-	-	-

All results in milligrams per liter (mg/l)  
< = less than the laboratory practical quantitation limit

**TABLE 2. SUMMARY OF QUARTERLY FIELD PARAMETERS**

Well ID	Sample Date	Temperature (°C)	Temperature (°F)	pH	Conductivity (µmhos/cm)
M1-GL	Jan 10 2007	21.8	71.2	7.70	1046
M2-GU	Jan 10 2007	19.3	66.7	7.48	1342
M3-GL	Jan 10 2007	21.6	70.9	7.72	950
M4-O	Jan 10 2007	26.6	79.9	7.60	660
M6-GU	Jan 09 2007	24.4	75.9	8.78	667
M7-GL	Jan 09 2007	24.0	75.2	9.66	488
M8-O	Jan 09 2007	28.4	83.1	9.08	648
M14-GL	Jan 09 2007	26.8	80.2	8.78	789
M15-GU	Jan 09 2007	24.5	76.1	7.68	1302
M16-GU	Jan 10 2007	23.3	73.9	7.62	1534
M17-GL	Jan 10 2007	27.3	81.1	8.45	821
M18-GU	Jan 10 2007	19.9	67.8	7.58	1183
M19-LBF	Jan 08 2007	22.7	72.9	7.94	761
M20-O	Jan 08 2007	23.6	74.5	7.77	748
M21-UBF	Jan 08 2007	21.8	71.2	7.64	1003
M22-O	Jan 09 2007	28.4	83.1	8.24	777
M23-UBF	Jan 09 2007	21.7	71.1	7.30	1876
M24-O	Jan 10 2007	29.6	85.3	7.95	1912
M25-UBF	Jan 10 2007	20.5	68.9	7.51	1161
M26-O	Jan 08 2007	28.0	82.4	8.91	576
M27-LBF	Jan 08 2007	22.8	73.0	7.74	1563
M28-LBF	Jan 08 2007	25.8	78.4	8.60	656
M29-UBF	Jan 08 2007	22.1	71.8	7.35	1770
M30-O	Jan 08 2007	24.1	75.4	7.67	778
M31-LBF	Jan 08 2007	22.2	72.0	7.68	1036
O19-GL	Jan 09 2007	23.4	74.1	7.94	745
O49-GL	Jan 07 2007	25.6	78.1	7.73	875
P19-I-O	Jan 09 2007	24.2	75.6	7.81	731
P49-O	Jan 07 2007	27.6	81.7	7.64	784





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