

**FLORENCE COPPER INC.  
FLORENCE COPPER PROJECT  
SECOND QUARTER 2002 MONITORING REPORT  
U.I.C. PERMIT AZ396000001  
AND  
A.P.P. PERMIT 101704**

**JULY 26, 2002**

MERRILL MINING, LLC  
PMB 315  
3232 Cobb Parkway  
Atlanta, Georgia 30339  
404-495-9577 Fax: 404-495-9578

**ADRIN TAYLOR**  
**SENIOR VICE PRESIDENT**

July 26, 2002

Mr. Martin Zeleznik  
Ground Water Office WTR-0  
US Environmental Protection Agency Region IX  
Water Management Division (WTR-9)  
75 Hawthorne Street  
San Francisco, California 94105-3901

RE: MONITORING REPORT FOR UIC PERMIT NUMBER AZ396000001-SECOND  
QUARTER 2002

Dear Mr. Zeleznik,

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 April 1 through June 30, 2002. Copies of records required by Part II.G.1 are maintained at the Mine Site along with other information that is summarized in the following:

**(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.**

Daily flowrates for each well have been recorded to show the relationship of flow into and out of the wellfield. The flow rates have been combined and are shown in Figure 1 of Attachment 1. Note that injection last occurred in early 1998 and that water has been continuously withdrawn since that time.

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

Figures 2 through 5 of Attachment 1 and the supporting data compare the average daily water levels in the five observation wells with their nearest inward neighbor. Readings are either taken by continuous down-hole measurements recorded on the system computer or done manually. The figures show the hydraulic gradients were maintained throughout the quarter meeting the permit conditions.

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

The attached report, *Florence Project Quarterly Compliance Monitoring Report – Second Quarter 2002*, by Brown and Caldwell and sealed by Ms. Tekla King, Registered Professional Geologist (Attachment 2), contains the POC monitoring records and results. Brown and Caldwell, along with Project personnel, conducted compliance sampling during the period April 8 through April 11, 2002. 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. Wells M20-O and M22-O had reported exceedances of sulfate. Verification sampling was performed on these wells on June 12, 2002, and neither sulfate exceedance was verified. 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 6. 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.

Mr. Martin Zeleznik

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**(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,

A handwritten signature in cursive script that reads "Adrain Taylor". The signature is written in black ink and is positioned above the typed name and title.

Adrain Taylor  
Senior Vice President

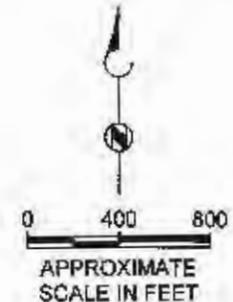
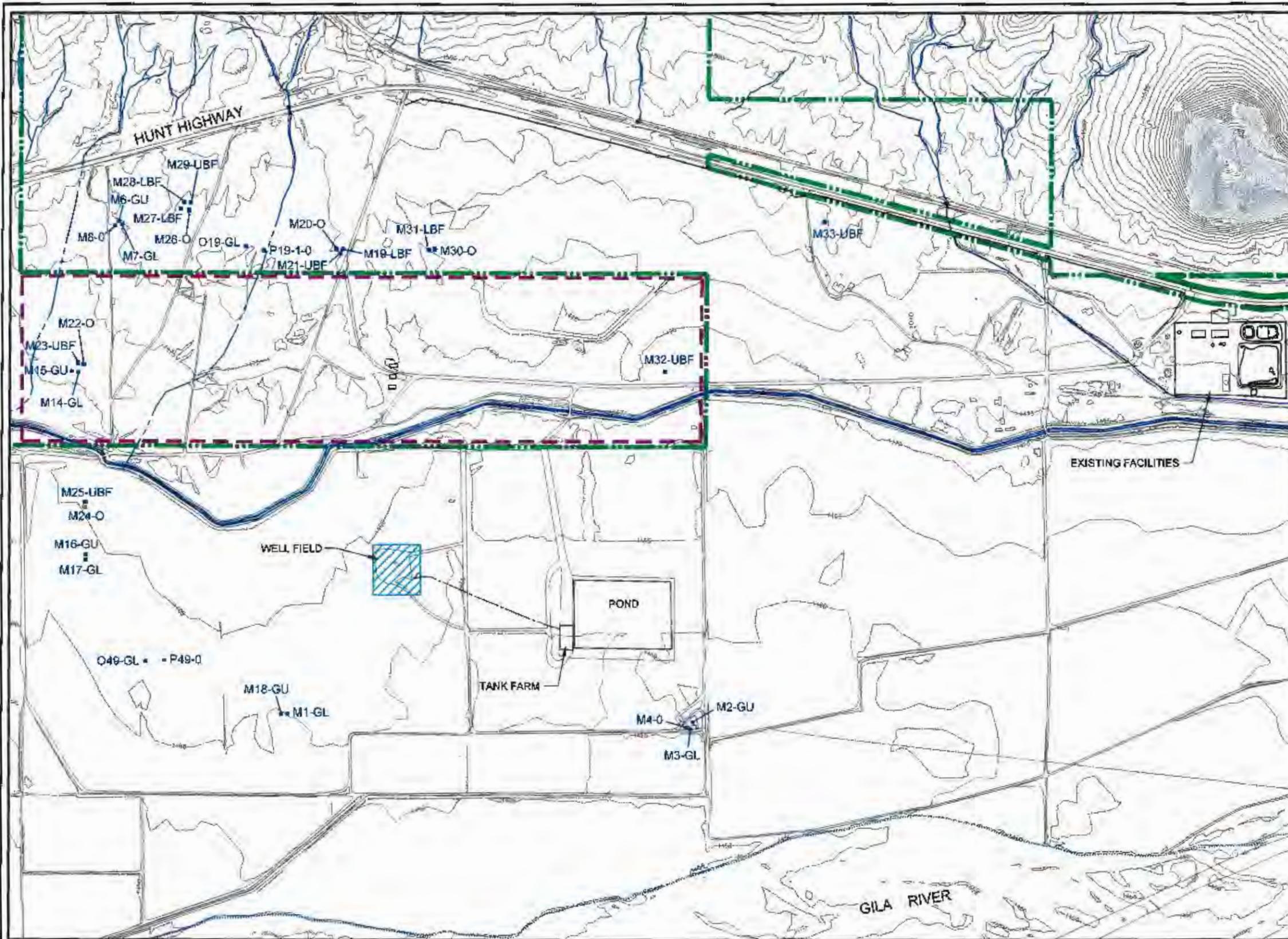
AT:sdw  
Attachments

**ATTACHMENT 1**

**MINE OPERATIONS MONITORING**

**ATTACHMENT 2**

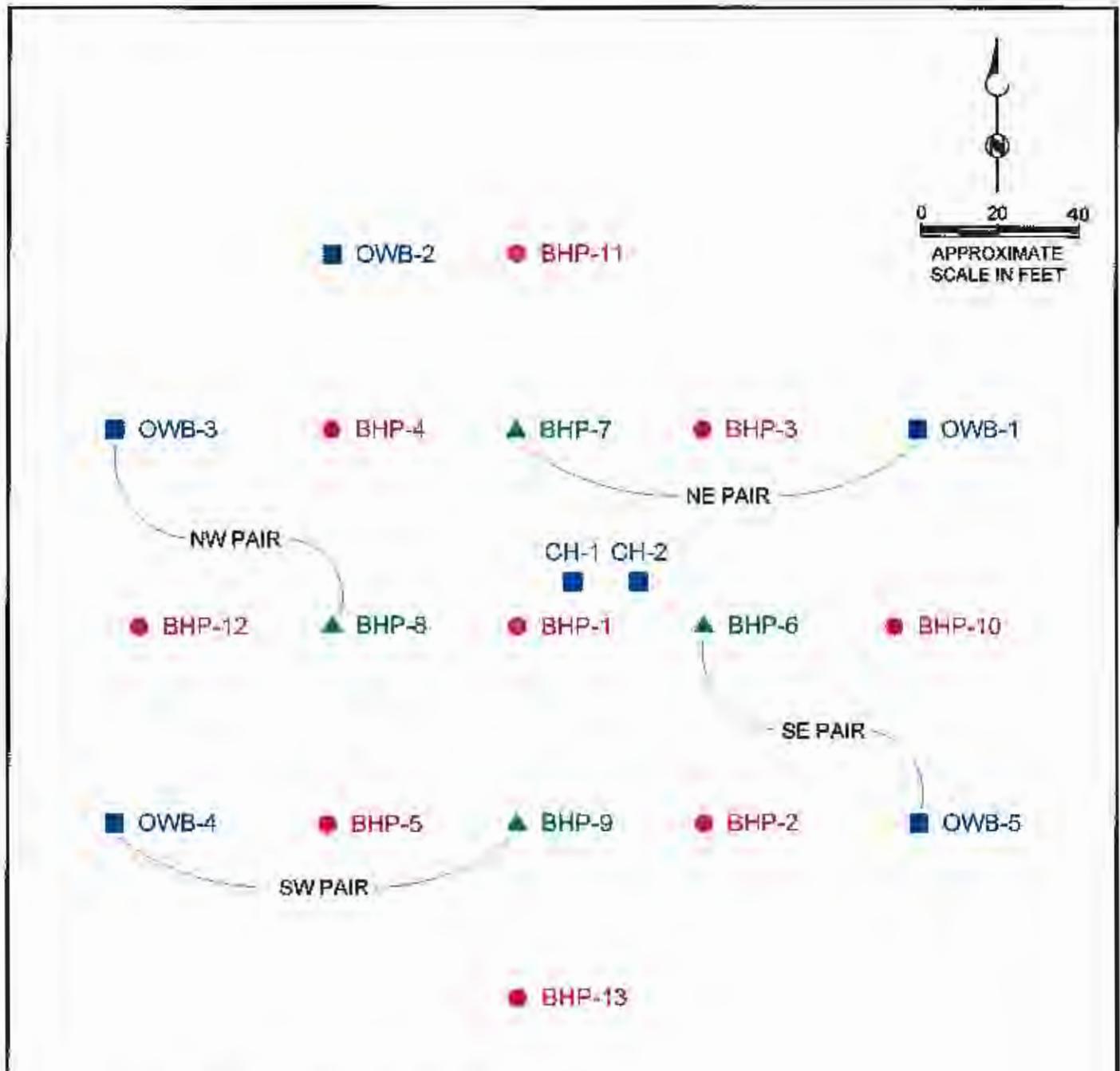
**POC QUARTERLY COMPLIANCE MONITORING REPORT**



- EXPLANATION**
- APPROXIMATE PROPERTY BOUNDARY
  - STATE LEASE LAND BOUNDARY
  - O19-GL POC MONITORING WELL
  - ENLARGED AREA ON FIGURE 2

Figure 1  
**MONITORING AREA**  
 MERRILL MINING, L.L.C.  
 FLORENCE, ARIZONA

**BROWN AND CALDWELL**



**EXPLANATION**

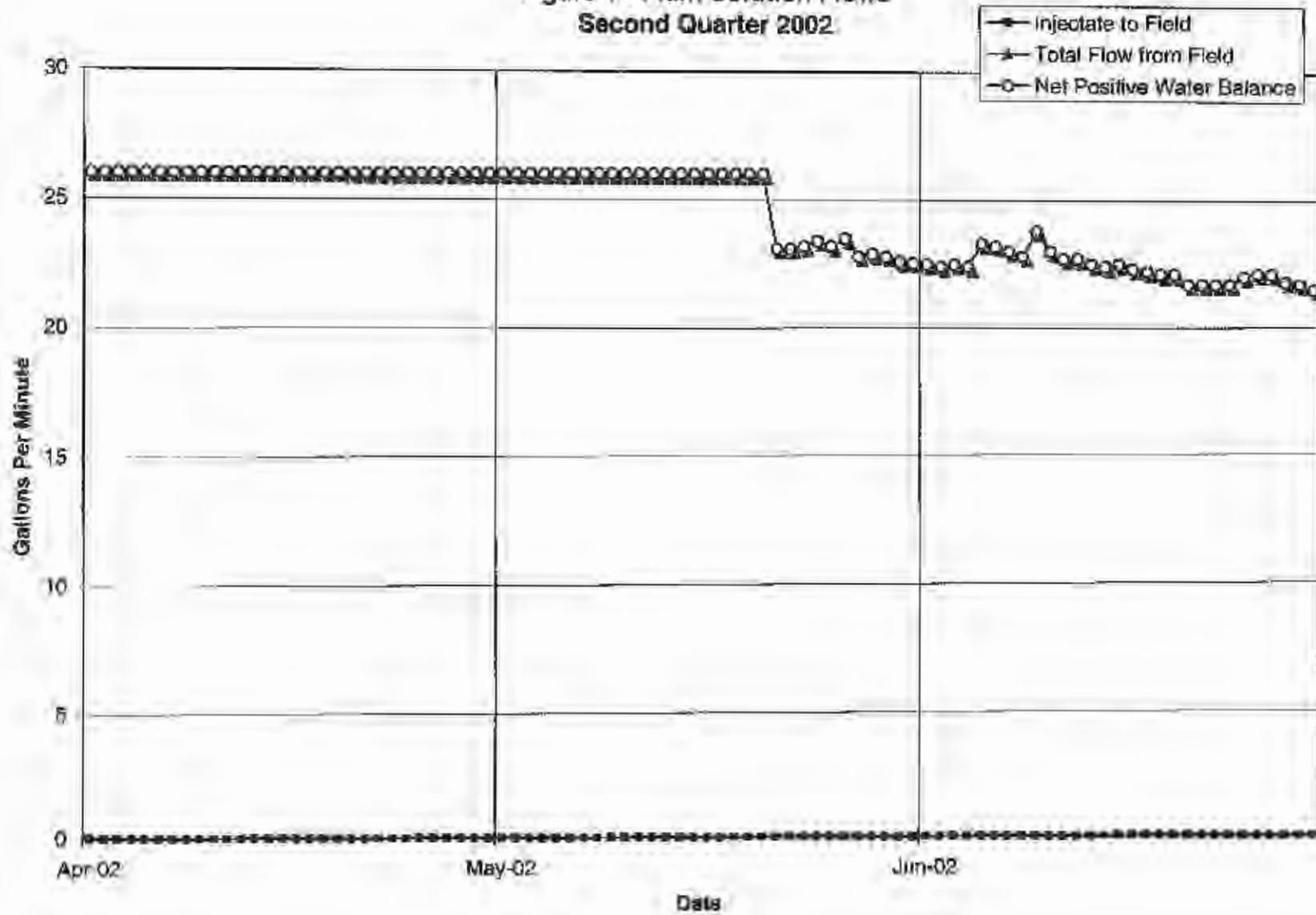
- BHP-10 PUMPING WELL (CURRENTLY INACTIVE)
- OWB-2 OBSERVATION WELL
- ▲ BHP-8 INJECTION / RECOVERY WELL (RECOVERY MODE SINCE 1998)



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

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

Figure 1 - Plant Solution Flows  
Second Quarter 2002



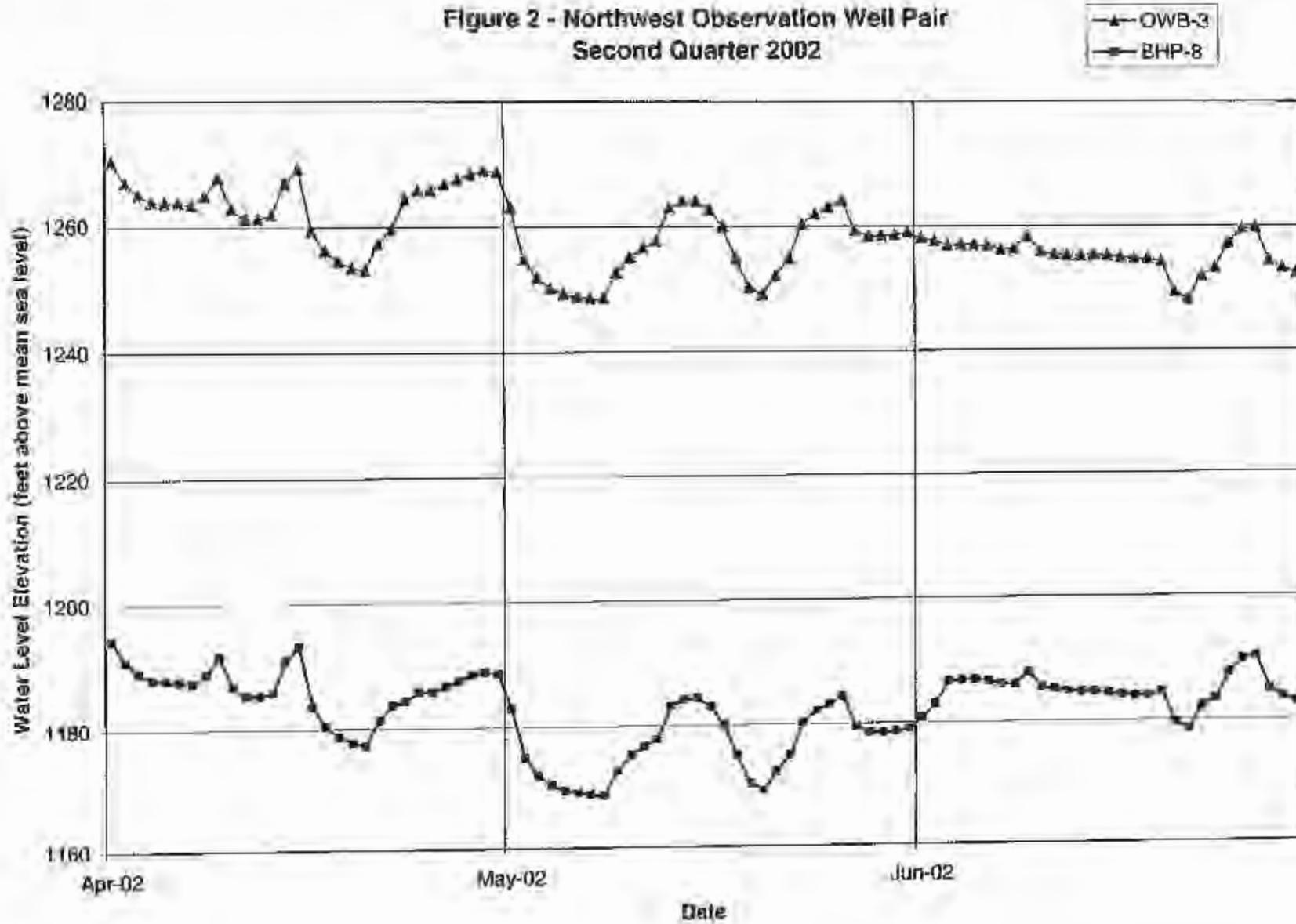
**Plant Solution Flows - Daily Averages  
Second Quarter 2002**

Date	Injectate to Field (gpm)	BHP-6 (gpm)	BHP-7 (gpm)	BHP-8 (gpm)	BHP-9 (gpm)	Total Flow from Field (gpm)	Net Positive Water Balance (gpm)	Maintained Hydrologic Control (Yes/No)
4/1/2002	0		17.6	8.4		26.0	26.0	Yes
4/2/2002	0		17.6	8.4		26.0	26.0	Yes
4/3/2002	0		17.6	8.4		26.0	26.0	Yes
4/4/2002	0		17.6	8.4		26.0	26.0	Yes
4/5/2002	0		17.6	8.4		26.0	26.0	Yes
4/6/2002	0		17.6	8.4		26.0	26.0	Yes
4/7/2002	0		17.6	8.4		26.0	26.0	Yes
4/8/2002	0		17.6	8.4		26.0	26.0	Yes
4/9/2002	0		17.6	8.4		26.0	26.0	Yes
4/10/2002	0		17.6	8.4		26.0	26.0	Yes
4/11/2002	0		17.6	8.4		26.0	26.0	Yes
4/12/2002	0		17.6	8.4		26.0	26.0	Yes
4/13/2002	0		17.6	8.4		26.0	26.0	Yes
4/14/2002	0		17.6	8.4		26.0	26.0	Yes
4/15/2002	0		17.6	8.4		26.0	26.0	Yes
4/16/2002	0		17.6	8.4		26.0	26.0	Yes
4/17/2002	0		17.6	8.4		26.0	26.0	Yes
4/18/2002	0		17.6	8.4		26.0	26.0	Yes
4/19/2002	0		17.6	8.4		26.0	26.0	Yes
4/20/2002	0		17.6	8.4		26.0	26.0	Yes
4/21/2002	0		17.6	8.4		26.0	26.0	Yes
4/22/2002	0		17.6	8.4		26.0	26.0	Yes
4/23/2002	0		17.6	8.4		26.0	26.0	Yes
4/24/2002	0		17.6	8.4		26.0	26.0	Yes
4/25/2002	0		17.6	8.4		26.0	26.0	Yes
4/26/2002	0		17.6	8.4		26.0	26.0	Yes
4/27/2002	0		17.6	8.4		26.0	26.0	Yes
4/28/2002	0		17.6	8.4		26.0	26.0	Yes
4/29/2002	0		17.6	8.4		26.0	26.0	Yes
4/30/2002	0		17.6	8.4		26.0	26.0	Yes
5/1/2002	0		17.6	8.4		26.0	26.0	Yes
5/2/2002	0		17.6	8.4		26.0	26.0	Yes
5/3/2002	0		17.6	8.4		26.0	26.0	Yes
5/4/2002	0		17.6	8.4		26.0	26.0	Yes
5/5/2002	0		17.6	8.4		26.0	26.0	Yes
5/6/2002	0		17.6	8.4		26.0	26.0	Yes
5/7/2002	0		17.6	8.4		26.0	26.0	Yes
5/8/2002	0		17.6	8.4		26.0	26.0	Yes
5/9/2002	0		17.6	8.4		26.0	26.0	Yes
5/10/2002	0		17.6	8.4		26.0	26.0	Yes
5/11/2002	0		17.6	8.4		26.0	26.0	Yes
5/12/2002	0		17.6	8.4		26.0	26.0	Yes
5/13/2002	0		17.6	8.4		26.0	26.0	Yes
5/14/2002	0		17.6	8.4		26.0	26.0	Yes
5/15/2002	0		17.6	8.4		26.0	26.0	Yes
5/16/2002	0		17.6	8.4		26.0	26.0	Yes
5/17/2002	0		17.6	8.4		26.0	26.0	Yes
5/18/2002	0		17.6	8.4		26.0	26.0	Yes

**Plant Solution Flows - Daily Averages  
Second Quarter 2002**

Date	Injectate to Field (gpm)	BHP-6 (gpm)	BHP-7 (gpm)	BHP-8 (gpm)	BHP-9 (gpm)	Total Flow from Field (gpm)	Net Positive Water Balance (gpm)	Maintained Hydrologic Control (Yes/No)
5/19/2002	0		17.6	8.4		26.0	26.0	Yes
5/20/2002	0		17.6	8.4		26.0	26.0	Yes
5/21/2002	0		14.9	8.2		23.1	23.1	Yes
5/22/2002	0		14.8	8.3		23.1	23.1	Yes
5/23/2002	0		14.8	8.4		23.2	23.2	Yes
5/24/2002	0		14.8	8.6		23.4	23.4	Yes
5/25/2002	0		14.7	8.5		23.2	23.2	Yes
5/26/2002	0		14.8	8.7		23.5	23.5	Yes
5/27/2002	0		14.4	8.4		22.8	22.8	Yes
5/28/2002	0		14.3	8.6		22.9	22.9	Yes
5/29/2002	0		14.4	8.4		22.8	22.8	Yes
5/30/2002	0		14.2	8.4		22.6	22.6	Yes
5/31/2002	0		14.2	8.4		22.6	22.6	Yes
6/1/2002	0		14.1	8.4		22.5	22.5	Yes
6/2/2002	0		13.9	8.5		22.4	22.4	Yes
6/3/2002	0		14.0	8.5		22.5	22.5	Yes
6/4/2002	0		13.9	8.5		22.4	22.4	Yes
6/5/2002	0		14.8	8.5		23.3	23.3	Yes
6/6/2002	0		14.8	8.4		23.2	23.2	Yes
6/7/2002	0		14.6	8.4		23.0	23.0	Yes
6/8/2002	0		14.4	8.4		22.8	22.8	Yes
6/9/2002	0		15.3	8.5		23.8	23.8	Yes
6/10/2002	0		14.6	8.4		23.0	23.0	Yes
6/11/2002	0		14.4	8.3		22.7	22.7	Yes
6/12/2002	0		14.3	8.4		22.7	22.7	Yes
6/13/2002	0		14.1	8.4		22.5	22.5	Yes
6/14/2002	0		14.1	8.3		22.4	22.4	Yes
6/15/2002	0		14.1	8.4		22.5	22.5	Yes
6/16/2002	0		13.9	8.4		22.3	22.3	Yes
6/17/2002	0		13.8	8.4		22.2	22.2	Yes
6/18/2002	0		13.7	8.4		22.1	22.1	Yes
6/19/2002	0		13.7	8.4		22.1	22.1	Yes
6/20/2002	0		13.4	8.3		21.7	21.7	Yes
6/21/2002	0		13.4	8.3		21.7	21.7	Yes
6/22/2002	0		13.4	8.3		21.7	21.7	Yes
6/23/2002	0		13.4	8.3		21.7	21.7	Yes
6/24/2002	0		13.6	8.4		22.0	22.0	Yes
6/25/2002	0		13.6	8.5		22.1	22.1	Yes
6/26/2002	0		13.6	8.5		22.1	22.1	Yes
6/27/2002	0		13.4	8.4		21.8	21.8	Yes
6/28/2002	0		13.3	8.4		21.7	21.7	Yes
6/29/2002	0		13.2	8.3		21.5	21.5	Yes
6/30/2002	0		13.2	8.4		21.6	21.6	Yes

Figure 2 - Northwest Observation Well Pair  
Second Quarter 2002



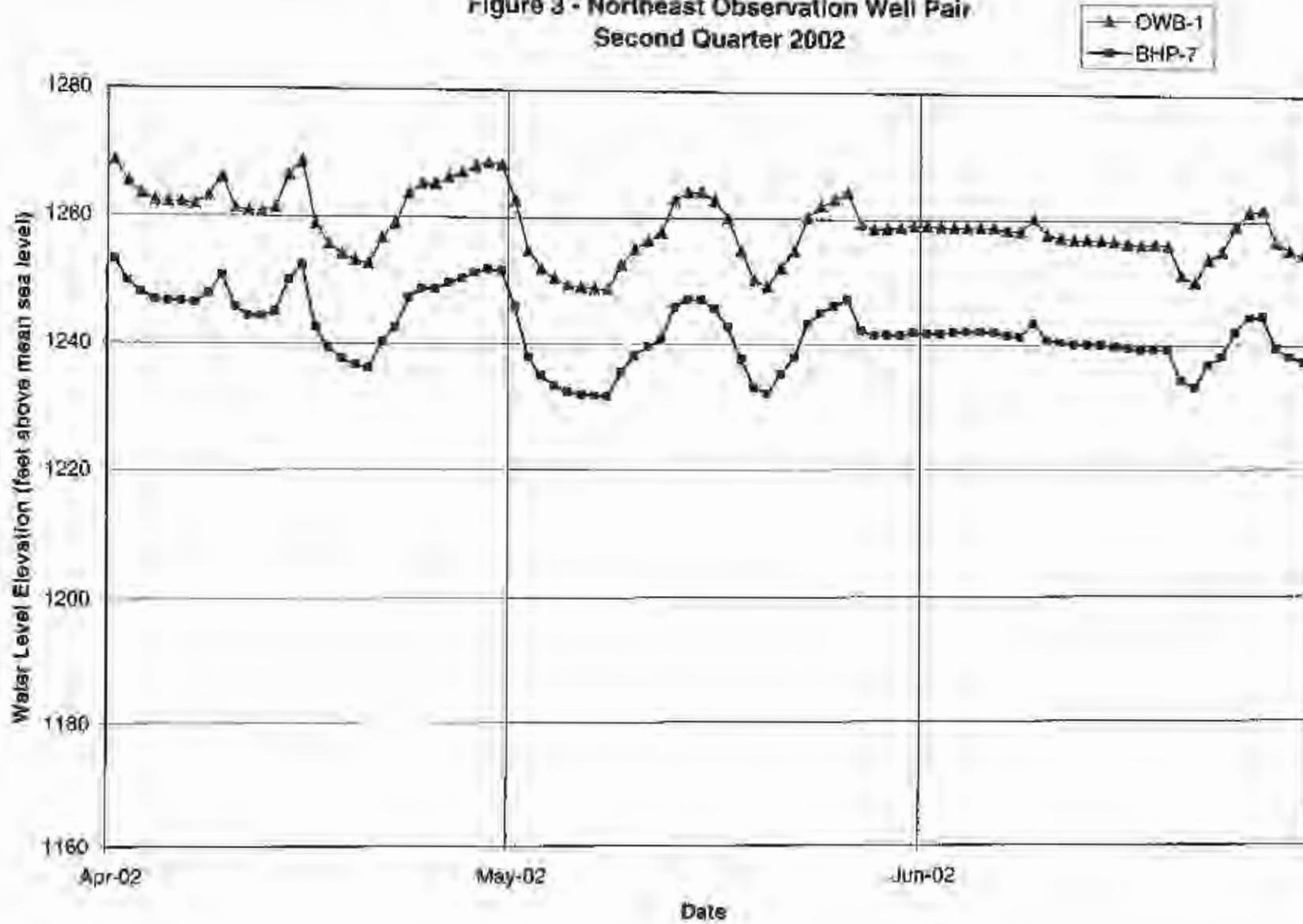
**Northwest Observation Well Pair  
Second Quarter 2002**

Date	BHP-8	OWB-3	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
4/1/2002	1194.4	1270.1	-75.7	Yes
4/2/2002	1191	1266.7	-75.7	Yes
4/3/2002	1189.2	1264.9	-75.7	Yes
4/4/2002	1188.1	1263.8	-75.7	Yes
4/5/2002	1187.9	1263.6	-75.7	Yes
4/6/2002	1187.8	1263.6	-75.8	Yes
4/7/2002	1187.5	1263.3	-75.8	Yes
4/8/2002	1188.9	1264.7	-75.8	Yes
4/9/2002	1191.8	1267.6	-75.8	Yes
4/10/2002	1186.9	1262.7	-75.8	Yes
4/11/2002	1185.4	1261.2	-75.8	Yes
4/12/2002	1185.4	1261.2	-75.8	Yes
4/13/2002	1186	1261.8	-75.8	Yes
4/14/2002	1191.1	1266.9	-75.8	Yes
4/15/2002	1193.4	1269.1	-75.7	Yes
4/16/2002	1183.6	1259.3	-75.7	Yes
4/17/2002	1180.4	1256.1	-75.7	Yes
4/18/2002	1178.8	1254.5	-75.7	Yes
4/19/2002	1177.8	1253.5	-75.7	Yes
4/20/2002	1177.3	1253.1	-75.8	Yes
4/21/2002	1181.4	1257.2	-75.8	Yes
4/22/2002	1183.7	1259.5	-75.8	Yes
4/23/2002	1184.4	1264.2	-79.8	Yes
4/24/2002	1185.9	1265.7	-79.8	Yes
4/25/2002	1185.9	1265.7	-79.8	Yes
4/26/2002	1186.8	1266.7	-79.9	Yes
4/27/2002	1187.5	1267.4	-79.9	Yes
4/28/2002	1188.4	1268.3	-79.9	Yes
4/29/2002	1189	1268.9	-79.9	Yes
4/30/2002	1188.6	1268.6	-80	Yes
5/1/2002	1183	1263	-80	Yes
5/2/2002	1175	1254.7	-79.7	Yes
5/3/2002	1172.1	1251.8	-79.7	Yes
5/4/2002	1170.5	1250.2	-79.7	Yes
5/5/2002	1169.5	1249.2	-79.7	Yes
5/6/2002	1169.1	1248.8	-79.7	Yes
5/7/2002	1168.8	1248.6	-79.8	Yes
5/8/2002	1168.7	1248.5	-79.8	Yes
5/9/2002	1172.7	1252.6	-79.9	Yes
5/10/2002	1175.2	1255.1	-79.9	Yes
5/11/2002	1176.6	1256.5	-79.9	Yes
5/12/2002	1177.8	1257.7	-79.9	Yes
5/13/2002	1183.1	1263	-79.9	Yes
5/14/2002	1184.2	1264	-79.8	Yes
5/15/2002	1184.3	1264	-79.7	Yes
5/16/2002	1183	1262.7	-79.7	Yes

Northwest Observation Well Pair  
Second Quarter 2002

Date	BHP-8	OWB-3	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
5/17/2002	1180.1	1259.9	-79.8	Yes
5/18/2002	1175	1254.8	-79.8	Yes
5/19/2002	1170.4	1250.2	-79.8	Yes
5/20/2002	1169.2	1249	-79.8	Yes
5/21/2002	1172.3	1252.1	-79.8	Yes
5/22/2002	1175	1254.8	-79.8	Yes
5/23/2002	1180.4	1260.2	-79.8	Yes
5/24/2002	1182.1	1261.9	-79.8	Yes
5/25/2002	1183.2	1263	-79.8	Yes
5/26/2002	1184.3	1264.1	-79.8	Yes
5/27/2002	1179.4	1259.2	-79.8	Yes
5/28/2002	1178.5	1258.3	-79.8	Yes
5/29/2002	1178.5	1258.4	-79.9	Yes
5/30/2002	1178.6	1258.5	-79.9	Yes
5/31/2002	1179	1258.9	-79.9	Yes
6/1/2002	1180.8	1258	-77.2	Yes
6/2/2002	1183	1257.6	-74.6	Yes
6/3/2002	1186.6	1256.8	-70.2	Yes
6/4/2002	1186.7	1256.9	-70.2	Yes
6/5/2002	1186.7	1256.9	-70.2	Yes
6/6/2002	1186.6	1256.7	-70.1	Yes
6/7/2002	1186	1256.1	-70.1	Yes
6/8/2002	1185.9	1256.2	-70.3	Yes
6/9/2002	1188	1258.3	-70.3	Yes
6/10/2002	1185.5	1255.7	-70.2	Yes
6/11/2002	1185.1	1255.3	-70.2	Yes
6/12/2002	1184.8	1255.1	-70.3	Yes
6/13/2002	1184.7	1255.1	-70.4	Yes
6/14/2002	1184.6	1255.2	-70.6	Yes
6/15/2002	1184.4	1255.1	-70.7	Yes
6/16/2002	1184.1	1254.8	-70.7	Yes
6/17/2002	1183.9	1254.6	-70.7	Yes
6/18/2002	1183.9	1254.6	-70.7	Yes
6/19/2002	1184.5	1254.1	-69.6	Yes
6/20/2002	1179.6	1249.2	-69.6	Yes
6/21/2002	1178.5	1248.1	-69.6	Yes
6/22/2002	1182.2	1251.8	-69.6	Yes
6/23/2002	1183.5	1253.1	-69.6	Yes
6/24/2002	1187.5	1257.1	-69.6	Yes
6/25/2002	1189.8	1259.4	-69.6	Yes
6/26/2002	1190.1	1259.6	-69.5	Yes
6/27/2002	1184.9	1254.4	-69.5	Yes
6/28/2002	1183.6	1253.1	-69.5	Yes
6/29/2002	1182.8	1252.3	-69.5	Yes

Figure 3 - Northeast Observation Well Pair  
Second Quarter 2002



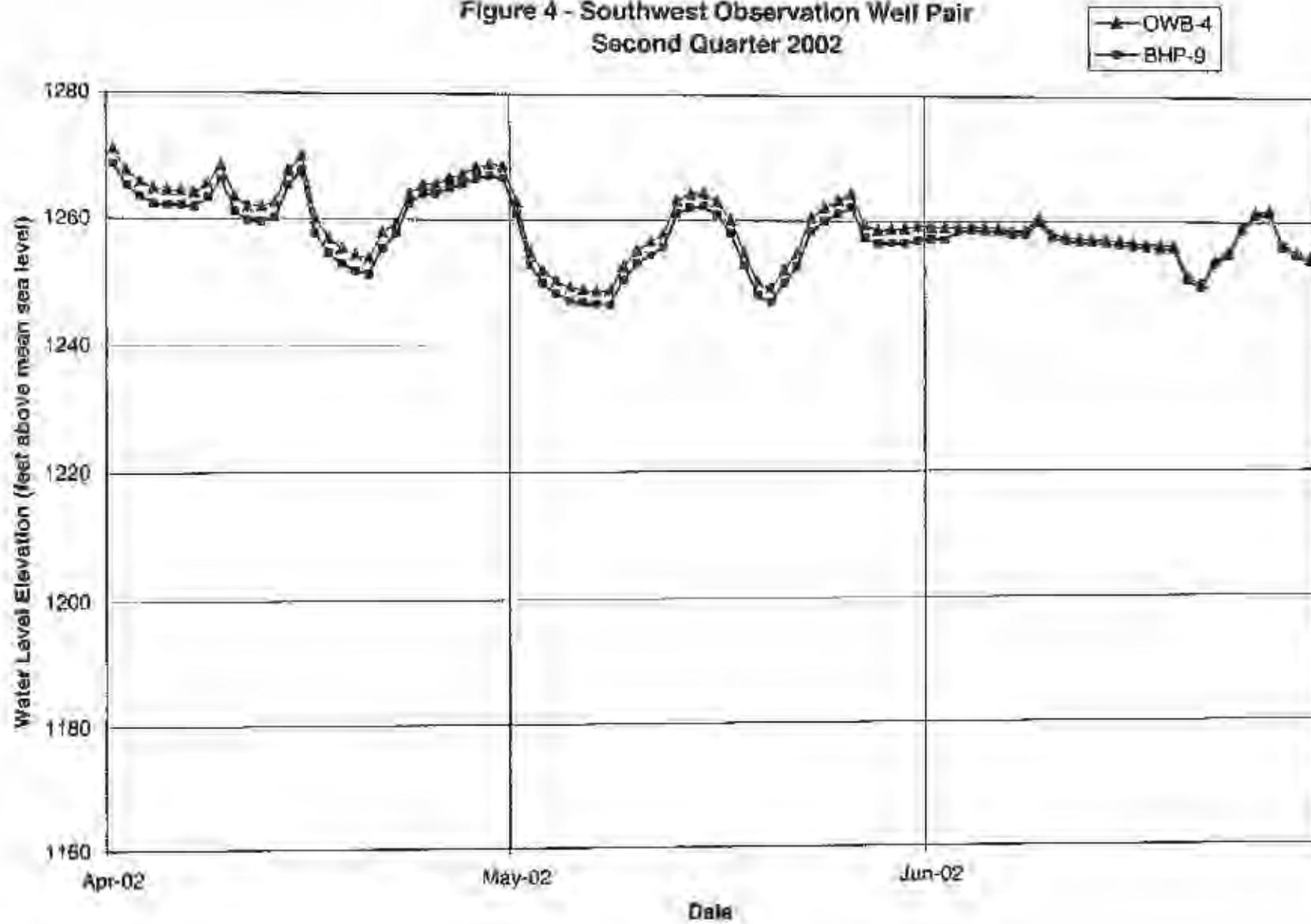
**Northeast Observation Well Pair  
Second Quarter 2002**

Date	BHP-7	OWB-1	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
4/1/2002	1253.2	1268.6	-15.4	Yes
4/2/2002	1249.8	1265.3	-15.5	Yes
4/3/2002	1248	1263.5	-15.5	Yes
4/4/2002	1246.9	1262.4	-15.5	Yes
4/5/2002	1246.7	1262.2	-15.5	Yes
4/6/2002	1246.7	1262.2	-15.5	Yes
4/7/2002	1246.4	1261.9	-15.5	Yes
4/8/2002	1247.8	1263.3	-15.5	Yes
4/9/2002	1250.7	1266.2	-15.5	Yes
4/10/2002	1245.8	1261.3	-15.5	Yes
4/11/2002	1244.3	1260.8	-16.5	Yes
4/12/2002	1244.3	1260.75	-16.45	Yes
4/13/2002	1244.9	1261.4	-16.5	Yes
4/14/2002	1250	1266.5	-16.5	Yes
4/15/2002	1252.3	1268.7	-16.4	Yes
4/16/2002	1242.5	1258.9	-16.4	Yes
4/17/2002	1239.3	1255.7	-16.4	Yes
4/18/2002	1237.7	1254.1	-16.4	Yes
4/19/2002	1236.6	1253.1	-16.5	Yes
4/20/2002	1236.1	1252.6	-16.5	Yes
4/21/2002	1240.2	1256.7	-16.5	Yes
4/22/2002	1242.5	1259	-16.5	Yes
4/23/2002	1247.2	1263.7	-16.5	Yes
4/24/2002	1248.7	1265.2	-16.5	Yes
4/25/2002	1248.6	1265.2	-16.6	Yes
4/26/2002	1249.6	1266.3	-16.7	Yes
4/27/2002	1250.3	1267	-16.7	Yes
4/28/2002	1251.2	1268	-16.8	Yes
4/29/2002	1251.8	1268.6	-16.8	Yes
4/30/2002	1251.5	1268.3	-16.8	Yes
5/1/2002	1245.9	1262.7	-16.8	Yes
5/2/2002	1237.9	1254.7	-16.8	Yes
5/3/2002	1234.9	1251.9	-17	Yes
5/4/2002	1233.3	1250.3	-17	Yes
5/5/2002	1232.3	1249.3	-17	Yes
5/6/2002	1231.9	1248.9	-17	Yes
5/7/2002	1231.7	1248.7	-17	Yes
5/8/2002	1231.6	1248.6	-17	Yes
5/9/2002	1235.6	1252.5	-16.9	Yes
5/10/2002	1238.1	1255	-16.9	Yes
5/11/2002	1239.5	1256.4	-16.9	Yes
5/12/2002	1240.7	1257.6	-16.9	Yes
5/13/2002	1245.9	1262.9	-17	Yes
5/14/2002	1247	1264.1	-17.1	Yes
5/15/2002	1247	1264.2	-17.2	Yes
5/16/2002	1245.7	1262.9	-17.2	Yes

**Northwest Observation Well Pair  
Second Quarter 2002**

Date	BHP-7	OWB-1	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
5/17/2002	1242.8	1260	-17.2	Yes
5/18/2002	1237.7	1254.9	-17.2	Yes
5/19/2002	1233.1	1250.3	-17.2	Yes
5/20/2002	1232.1	1249.1	-17	Yes
5/21/2002	1235.2	1252.2	-17	Yes
5/22/2002	1237.9	1254.9	-17	Yes
5/23/2002	1243.3	1260.3	-17	Yes
5/24/2002	1245	1262	-17	Yes
5/25/2002	1246.1	1263.1	-17	Yes
5/26/2002	1247.2	1264.2	-17	Yes
5/27/2002	1242.3	1259.3	-17	Yes
5/28/2002	1241.4	1258.4	-17	Yes
5/29/2002	1241.4	1258.5	-17.1	Yes
5/30/2002	1241.5	1258.6	-17.1	Yes
5/31/2002	1241.9	1259	-17.1	Yes
6/1/2002	1241.8	1258.9	-17.1	Yes
6/2/2002	1241.8	1258.85	-17.05	Yes
6/3/2002	1242	1258.7	-16.7	Yes
6/4/2002	1242.1	1258.8	-16.7	Yes
6/5/2002	1242.1	1258.8	-16.7	Yes
6/6/2002	1242	1258.7	-16.7	Yes
6/7/2002	1241.4	1258.2	-16.8	Yes
6/8/2002	1241.3	1258.2	-16.9	Yes
6/9/2002	1243.4	1260.2	-16.8	Yes
6/10/2002	1240.8	1257.6	-16.8	Yes
6/11/2002	1240.4	1257.2	-16.8	Yes
6/12/2002	1240.1	1256.9	-16.8	Yes
6/13/2002	1240.1	1256.9	-16.8	Yes
6/14/2002	1240	1256.8	-16.8	Yes
6/15/2002	1239.8	1256.6	-16.8	Yes
6/16/2002	1239.5	1256.3	-16.8	Yes
6/17/2002	1239.2	1256.1	-16.9	Yes
6/18/2002	1239.2	1256.2	-17	Yes
6/19/2002	1239.2	1256.1	-16.9	Yes
6/20/2002	1234.3	1251.2	-16.9	Yes
6/21/2002	1233.2	1250.1	-16.9	Yes
6/22/2002	1236.9	1253.8	-16.9	Yes
6/23/2002	1238.2	1255.1	-16.9	Yes
6/24/2002	1242.1	1259.2	-17.1	Yes
6/25/2002	1244.4	1261.5	-17.1	Yes
6/26/2002	1244.7	1261.8	-17.1	Yes
6/27/2002	1239.5	1256.6	-17.1	Yes
6/28/2002	1238.2	1255.3	-17.1	Yes
6/29/2002	1237.4	1254.5	-17.1	Yes

Figure 4 - Southwest Observation Well Pair  
Second Quarter 2002



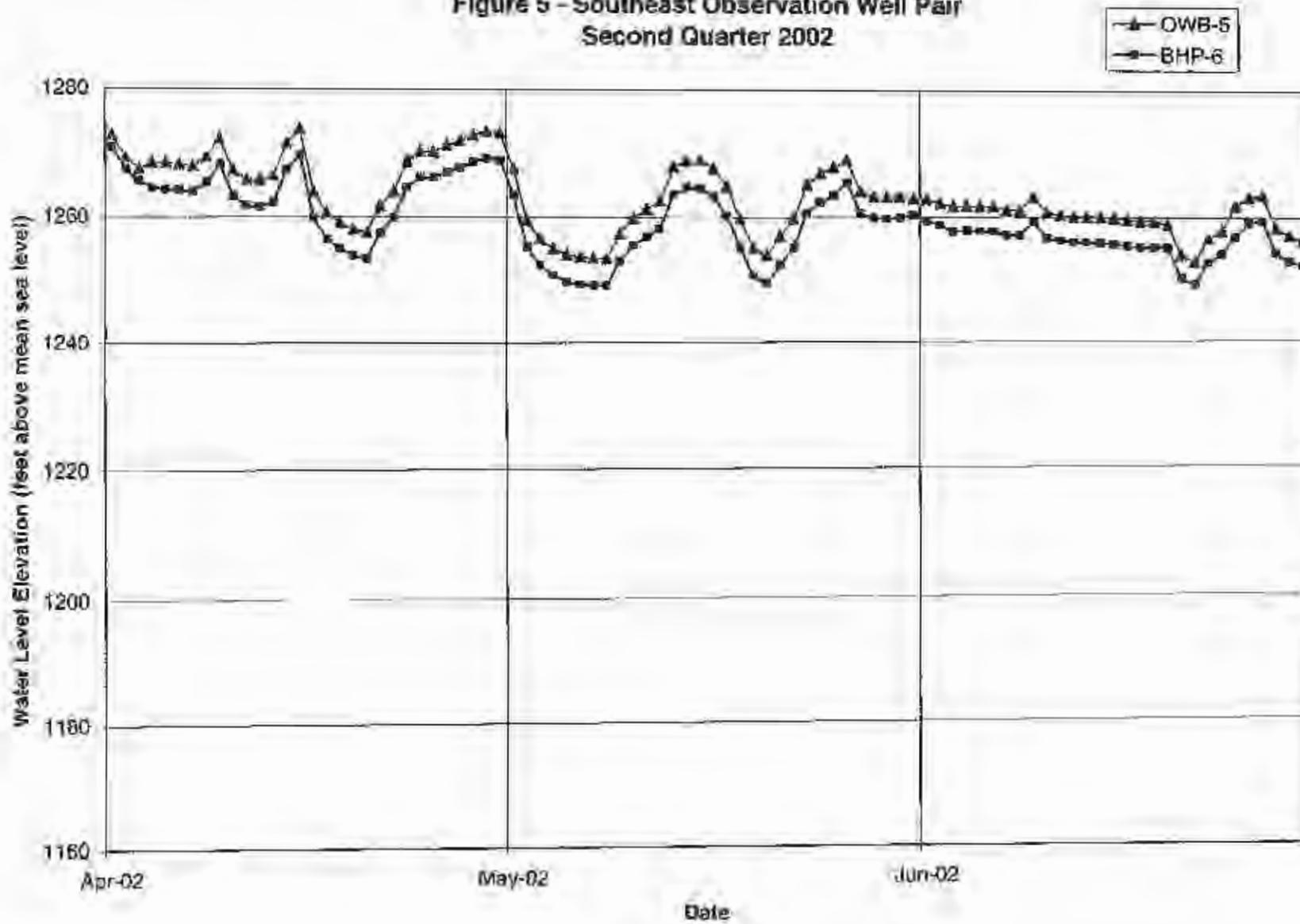
Southwest Observation Well Pair  
Second Quarter 2002

Date	BHP-9	OWB-4	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
4/1/2002	1268.6	1270.9	-2.3	Yes
4/2/2002	1265.2	1267.5	-2.3	Yes
4/3/2002	1263.4	1265.7	-2.3	Yes
4/4/2002	1262.3	1264.6	-2.3	Yes
4/5/2002	1262.1	1264.4	-2.3	Yes
4/6/2002	1262.1	1264.4	-2.3	Yes
4/7/2002	1261.8	1264.1	-2.3	Yes
4/8/2002	1263.2	1265.3	-2.3	Yes
4/9/2002	1266.1	1268.4	-2.3	Yes
4/10/2002	1261.2	1263.5	-2.3	Yes
4/11/2002	1259.7	1262	-2.3	Yes
4/12/2002	1259.6	1262	-2.4	Yes
4/13/2002	1260.2	1262.6	-2.4	Yes
4/14/2002	1265.3	1267.7	-2.4	Yes
4/15/2002	1267.6	1270	-2.4	Yes
4/16/2002	1257.8	1260.2	-2.4	Yes
4/17/2002	1254.6	1257	-2.4	Yes
4/18/2002	1253	1255.4	-2.4	Yes
4/19/2002	1251.9	1254.4	-2.5	Yes
4/20/2002	1251.4	1253.9	-2.5	Yes
4/21/2002	1255.5	1258	-2.5	Yes
4/22/2002	1257.8	1259.3	-1.5	Yes
4/23/2002	1262.5	1264	-1.5	Yes
4/24/2002	1264	1265.5	-1.5	Yes
4/25/2002	1263.9	1265.5	-1.6	Yes
4/26/2002	1264.9	1266.5	-1.6	Yes
4/27/2002	1265.6	1267.2	-1.6	Yes
4/28/2002	1266.5	1268.2	-1.7	Yes
4/29/2002	1266.9	1268.8	-1.9	Yes
4/30/2002	1266.6	1268.5	-1.9	Yes
5/1/2002	1261	1262.9	-1.9	Yes
5/2/2002	1253	1254.9	-1.9	Yes
5/3/2002	1250	1252	-2	Yes
5/4/2002	1248.4	1250.4	-2	Yes
5/5/2002	1247.3	1249.4	-2.1	Yes
5/6/2002	1246.9	1249	-2.1	Yes
5/7/2002	1246.7	1248.8	-2.1	Yes
5/8/2002	1246.6	1248.7	-2.1	Yes
5/9/2002	1250.6	1252.7	-2.1	Yes
5/10/2002	1253.1	1255.2	-2.1	Yes
5/11/2002	1254.5	1256.6	-2.1	Yes
5/12/2002	1255.7	1257.8	-2.1	Yes
5/13/2002	1261	1263.1	-2.1	Yes
5/14/2002	1262.1	1264.2	-2.1	Yes
5/15/2002	1262.2	1264.3	-2.1	Yes
5/16/2002	1260.9	1263	-2.1	Yes

**Southwest Observation Well Pair  
Second Quarter 2002**

Date	BHP-9	OWB-4	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
5/17/2002	1258	1260.1	-2.1	Yes
5/18/2002	1252.9	1255	-2.1	Yes
5/19/2002	1248.3	1250.4	-2.1	Yes
5/20/2002	1247.1	1249.2	-2.1	Yes
5/21/2002	1250.2	1252.3	-2.1	Yes
5/22/2002	1252.9	1255	-2.1	Yes
5/23/2002	1258.3	1260.4	-2.1	Yes
5/24/2002	1260	1262.1	-2.1	Yes
5/25/2002	1261.1	1263.2	-2.1	Yes
5/26/2002	1262.2	1264.3	-2.1	Yes
5/27/2002	1257.3	1259.4	-2.1	Yes
5/28/2002	1256.4	1258.5	-2.1	Yes
5/29/2002	1256.5	1258.7	-2.2	Yes
5/30/2002	1256.5	1258.8	-2.3	Yes
5/31/2002	1256.9	1259.2	-2.3	Yes
6/1/2002	1257.2	1259.1	-1.9	Yes
6/2/2002	1257	1259	-2	Yes
6/3/2002	1258.4	1258.9	-0.5	Yes
6/4/2002	1258.5	1259	-0.5	Yes
6/5/2002	1258.4	1259	-0.6	Yes
6/6/2002	1258.4	1258.9	-0.5	Yes
6/7/2002	1257.8	1258.3	-0.5	Yes
6/8/2002	1257.8	1258.4	-0.6	Yes
6/9/2002	1259.9	1260.5	-0.6	Yes
6/10/2002	1257.3	1257.9	-0.6	Yes
6/11/2002	1256.9	1257.5	-0.6	Yes
6/12/2002	1256.6	1257.2	-0.6	Yes
6/13/2002	1256.6	1257.1	-0.5	Yes
6/14/2002	1256.5	1257	-0.5	Yes
6/15/2002	1256.3	1256.8	-0.5	Yes
6/16/2002	1256	1256.5	-0.5	Yes
6/17/2002	1255.7	1256.3	-0.6	Yes
6/18/2002	1255.6	1256.3	-0.7	Yes
6/19/2002	1255.6	1256.1	-0.5	Yes
6/20/2002	1250.7	1251.2	-0.5	Yes
6/21/2002	1249.6	1250.1	-0.5	Yes
6/22/2002	1253.3	1253.8	-0.5	Yes
6/23/2002	1254.6	1255.1	-0.5	Yes
6/24/2002	1258.6	1259.1	-0.5	Yes
6/25/2002	1260.9	1261.4	-0.5	Yes
6/26/2002	1261.2	1261.7	-0.5	Yes
6/27/2002	1256	1256.2	-0.2	Yes
6/28/2002	1254.7	1254.9	-0.2	Yes
6/29/2002	1253.8	1254.1	-0.3	Yes

Figure 5 - Southeast Observation Well Pair  
Second Quarter 2002



**Southeast Observation Well Pair  
Second Quarter 2002**

Date	BHP-6	OWB-5	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
4/1/2002	1270.7	1272.6	-1.9	Yes
4/2/2002	1267.3	1269.2	-1.9	Yes
4/3/2002	1265.5	1267.4	-1.9	Yes
4/4/2002	1264.4	1268.3	-3.9	Yes
4/5/2002	1264.2	1268.3	-4.1	Yes
4/6/2002	1264.1	1268.1	-4	Yes
4/7/2002	1263.8	1267.8	-4	Yes
4/8/2002	1265.2	1269.2	-4	Yes
4/9/2002	1268.1	1272.1	-4	Yes
4/10/2002	1263.2	1267.2	-4	Yes
4/11/2002	1261.7	1265.7	-4	Yes
4/12/2002	1261.6	1265.7	-4.1	Yes
4/13/2002	1262.2	1266.3	-4.1	Yes
4/14/2002	1267.3	1271.4	-4.1	Yes
4/15/2002	1269.6	1273.7	-4.1	Yes
4/16/2002	1259.8	1263.9	-4.1	Yes
4/17/2002	1256.6	1260.7	-4.1	Yes
4/18/2002	1255	1259.1	-4.1	Yes
4/19/2002	1254	1258.1	-4.1	Yes
4/20/2002	1253.5	1257.6	-4.1	Yes
4/21/2002	1257.6	1261.7	-4.1	Yes
4/22/2002	1259.9	1264	-4.1	Yes
4/23/2002	1264.6	1268.7	-4.1	Yes
4/24/2002	1266.1	1270.2	-4.1	Yes
4/25/2002	1266.1	1270.2	-4.1	Yes
4/26/2002	1267	1271.2	-4.2	Yes
4/27/2002	1267.7	1271.9	-4.2	Yes
4/28/2002	1268.6	1272.8	-4.2	Yes
4/29/2002	1269.2	1273.4	-4.2	Yes
4/30/2002	1268.9	1273.1	-4.2	Yes
5/1/2002	1263.3	1267.5	-4.2	Yes
5/2/2002	1255.3	1259.5	-4.2	Yes
5/3/2002	1252.4	1256.6	-4.2	Yes
5/4/2002	1250.8	1255	-4.2	Yes
5/5/2002	1249.7	1254.1	-4.4	Yes
5/6/2002	1249.3	1253.7	-4.4	Yes
5/7/2002	1249.1	1253.5	-4.4	Yes
5/8/2002	1249.1	1253.4	-4.3	Yes
5/9/2002	1253.1	1257.4	-4.3	Yes
5/10/2002	1255.6	1259.9	-4.3	Yes
5/11/2002	1257	1261.3	-4.3	Yes
5/12/2002	1258.2	1262.5	-4.3	Yes
5/13/2002	1263.5	1267.8	-4.3	Yes
5/14/2002	1264.6	1268.9	-4.3	Yes
5/15/2002	1264.5	1269	-4.5	Yes
5/16/2002	1263.2	1267.7	-4.5	Yes

Southeast Observation Well Pair  
Second Quarter 2002

Date	BHP-6	OWB-5	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
5/17/2002	1260.3	1264.8	-4.5	Yes
5/18/2002	1255.2	1259.7	-4.5	Yes
5/19/2002	1250.6	1255.1	-4.5	Yes
5/20/2002	1249.4	1253.9	-4.5	Yes
5/21/2002	1252.5	1257	-4.5	Yes
5/22/2002	1255.2	1259.7	-4.5	Yes
5/23/2002	1260.6	1265.1	-4.5	Yes
5/24/2002	1262.3	1266.8	-4.5	Yes
5/25/2002	1263.4	1267.9	-4.5	Yes
5/26/2002	1265.5	1269	-3.5	Yes
5/27/2002	1260.6	1264.1	-3.5	Yes
5/28/2002	1259.9	1263.2	-3.3	Yes
5/29/2002	1259.8	1263.2	-3.4	Yes
5/30/2002	1259.9	1263.3	-3.4	Yes
5/31/2002	1260.3	1262.9	-2.6	Yes
6/1/2002	1259.5	1262.85	-3.35	Yes
6/2/2002	1258.8	1262.2	-3.4	Yes
6/3/2002	1257.8	1261.7	-3.9	Yes
6/4/2002	1257.9	1261.8	-3.9	Yes
6/5/2002	1257.8	1261.7	-3.9	Yes
6/6/2002	1257.8	1261.7	-3.9	Yes
6/7/2002	1257.2	1261.1	-3.9	Yes
6/8/2002	1257.2	1261.2	-4	Yes
6/9/2002	1259.3	1263.3	-4	Yes
6/10/2002	1256.7	1260.7	-4	Yes
6/11/2002	1256.3	1260.4	-4.1	Yes
6/12/2002	1256	1260.1	-4.1	Yes
6/13/2002	1256	1260.1	-4.1	Yes
6/14/2002	1255.9	1260.1	-4.2	Yes
6/15/2002	1255.7	1259.9	-4.2	Yes
6/16/2002	1255.4	1259.6	-4.2	Yes
6/17/2002	1255.2	1259.4	-4.2	Yes
6/18/2002	1255.1	1259.4	-4.3	Yes
6/19/2002	1255.1	1258.8	-3.7	Yes
6/20/2002	1250.2	1253.9	-3.7	Yes
6/21/2002	1249.1	1252.8	-3.7	Yes
6/22/2002	1252.8	1256.5	-3.7	Yes
6/23/2002	1254.1	1257.8	-3.7	Yes
6/24/2002	1256.8	1261.8	-5	Yes
6/25/2002	1259.1	1263.1	-4	Yes
6/26/2002	1259.4	1263.4	-4	Yes
6/27/2002	1254.2	1258.2	-4	Yes
6/28/2002	1252.9	1257	-4.1	Yes
6/29/2002	1252.2	1256.2	-4	Yes

**ATTACHMENT 2**

**POC QUARTERLY COMPLIANCE MONITORING REPORT**

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July 18, 2002



Mr. Adrian Taylor  
Senior Vice President  
Vanguard Properties, Inc.  
3232 Cobb Parkway  
PMB 315  
Atlanta, Georgia 30339

15-21622/006

Subject: Florence Project  
Quarterly Compliance Monitoring Report

Dear Mr. Taylor:

Please find enclosed a final copy of the Florence Project Quarterly Compliance Monitoring Report for the Second Quarter 2002. This report is provided for inclusion in the quarterly submittals required by the Arizona Department of Environmental Quality (ADEQ) and the United States Environmental Protection Agency (USEPA) under Aquifer Protection Permit (APP) Number 101704 and Underground Injection Control (UIC) Permit Number AZ396000001.

If you should have any questions regarding this report, please do not hesitate to contact me at (602) 567-3894.

Very truly yours,

BROWN AND CALDWELL

A handwritten signature in cursive script, appearing to read 'Barbara A. Sylvester'.

Barbara A. Sylvester, E.I.T.  
Engineer II

BAS:sdw  
Attachment

**FLORENCE MINE PROJECT  
 QUARTERLY COMPLIANCE MONITORING REPORT  
 SECOND QUARTER 2002**

**PRIMARY SAMPLING ACTIVITIES**

Quarterly compliance monitoring was conducted for the Florence Mine project on April 8 through April 11, 2002 (Second Quarter 2002). Groundwater sampling and analysis was conducted in accordance with the requirements of Aquifer Protection Permit (APP) Permit Number 101704, Part III.3.d (Compliance Monitoring). Level I parameters, as listed in Part IV Table III.B of the APP were analyzed from the designated Point of Compliance (POC) wells. The Level I parameters are magnesium, sulfate, fluoride, and total dissolved solids (TDS).

During the Second Quarter 2002 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, 2 were reported as having concentrations exceeding the established Alert Levels (ALs). Well M20-O and M22-O had reported exceedances of sulfate.

Analyses of the samples were conducted by Nevada Environmental Laboratories (NEL). Analytical results for the POC wells for the indicator parameters are provided in Table 2 and field parameters measured during sampling are indicated in Table 3.

**AL EXCEEDANCES AND VERIFICATION SAMPLING**

As required in Part II.F.4 of the permit (AL, Aquifer Quality Limit (AQL) and Discharge Limit (DL) Contingencies), verification sampling of wells M20-O and M22-O was conducted on June 12, 2002. Neither exceedance was verified. Table 1 shows the initial alert level exceedances and the results of the verification sampling.

**TABLE 1. AL EXCEEDANCES**

WELL ID	PARAMETER	SAMPLE DATE	RESULT (mg/L)	AL
M20-O	Sulfate	April 10, 2002	<b>150</b>	112
M20-O (Verification)	Sulfate	June 12, 2002	43	509
M22-O	Sulfate	April 9, 2002	<b>230</b>	86
M22-O (Verification)	Sulfate	June 12, 2002	66	200

Note: Bold values indicate exceedances.





**TABLE 2. QUARTERLY SUMMARY OF ANALYTICAL RESULTS, LEVEL I PARAMETERS, IN MILLIGRAMS PER LITER (MG/L)**

Well ID	Sample Date	Magnesium		Sulfate		Fluoride		Total Dissolved Solids	
		Concentration	Alert Level	Concentration	Alert Level	Concentration	Alert Level	Concentration	Alert Level
M1-GL	Apr 11 2002	19.0	31	78	109	0.71	1.3	581	1028
M2-GU	Apr 11 2002	18.0	39	140	275	0.9	1.4	653	1496
M3-GL	Apr 11 2002	19.0	36	120	187	0.68	1.3	596	1157
M4-O	Apr 11 2002	4.4	15	48	405	2.4	5.1	378	1072
M4-O (Dup)	Apr 11 2002	4.4	15	51	405	2.4	5.1	403	1072
M6-GU	Apr 09 2002	2.7	5.1	46	86	0.7	1.3	329	620
M6-GU (Dup)	Apr 09 2002	2.8	5.1	46	86	0.7	1.3	332	620
M7-GL	Apr 10 2002	<0.25	0.45	30	82	0.89	1.7	264	464
M8-O	Apr 09 2002	<0.5	0.75	64	122	2.2	3.6	328	609
M14-GL	Apr 09 2002	2.5	23	52	144	0.6	1.4	403	874
M15-GU	Apr 09 2002	25.0	44	71	126	0.52	1.2	666	1359
M16-GU	Apr 10 2002	28.0	52	160	248	0.58	1.1	877	1635
M16-GU (Dup)	Apr 10 2002	28.0	52	160	248	0.56	1.1	715	1635
M17-GL	Apr 10 2002	5.2	9.3	110	209	0.76	1.6	470	831
M18-GU	Apr 11 2002	17.0	36	160	288	0.94	1.6	680	1323
M19-LBF	Apr 08 2002	12.0	21	48	89	0.48	0.92	421	794
M20-O	Apr 10 2002	8.6	14	150	112	0.75	1.7	414	809
M20-O	Jun 12 2002	NA	14	43	112	NA	1.7	NA	809
M21-UBF	Apr 08 2002	36.0	87	230	487	0.7	1.1	1090	2867
M22-O	Apr 09 2002	4.1	8.6	230	86	0.75	1.3	344	1094
M22-O	Jun 12 2002	NA	8.6	66	86	NA	1.3	NA	1094
M23-UBF	Apr 09 2002	42.0	69	260	411	0.73	1.3	1350	2392
M24-O	Apr 10 2002	11.0	19	680	1364	1.1	2.5	1130	2363
M25-UBF	Apr 10 2002	28.0	76	220	387	0.69	1.6	988	2683
M26-O	Apr 08 2002	<0.25	0.53	58	105	1.9	3.4	284	556
M27-LBF	Apr 08 2002	31.0	51	120	179	<0.4	0.79	683	1745
M28-LBF	Apr 08 2002	1.5	2.6	44	81	0.83	1.6	218	610
M29-UBF	Apr 08 2002	49.0	84	280	465	0.64	1.1	1340	2751
M30-O	Apr 09 2002	9.8	18	53	102	0.75	1.6	371	824
M31-LBF	Apr 09 2002	24.0	46	220	330	0.78	1.3	831	1665
O19-GL	Apr 10 2002	9.8	17	52	99	0.58	1.4	430	770
O49-GL	Apr 08 2002	8.9	18	63	159	0.56	0.89	468	849
O49-GL (Dup)	Apr 08 2002	8.6	18	63	159	0.58	0.89	473	849
P19-T-O	Apr 10 2002	6.0	12	56	107	0.58	2.8	433	767
P49-O	Apr 08 2002	3.4	6.2	100	181	1.0	2	423	801
Laboratory Detection Limit		0.25		0.1		0.4		25.0	
Arizona Aquifer Water Quality Standard						4			
Notes: Bold indicates result exceeds alert level < = less than the laboratory practical quantitation limit									

**TABLE 3. QUARTERLY SUMMARY OF WATER QUALITY FIELD PARAMETERS**

Well ID	Sample Date	Temperature (°C)	Temperature (°F)	pH	Conductivity (µmhos/cm)
M1-GL	Apr 11 2002	21.7	71.1	7.32	1031
M2-GU	Apr 11 2002	19.9	67.8	7.26	999
M3-GL	Apr 11 2002	21.7	71.1	7.34	1041
M4-O	Apr 11 2002	23.4	74.1	7.32	646
M6-GU	Apr 09 2002	24.9	76.8	8.38	685
M7-GL	Apr 10 2002	23.8	74.8	9.37	488
M8-O	Apr 09 2002	29.2	84.6	8.72	660
M14-GL	Apr 09 2002	27.1	80.8	8.32	819
M15-GU	Apr 09 2002	24.7	76.5	7.43	1321
M16-GU	Apr 10 2002	24.4	75.9	7.41	1511
M17-GL	Apr 10 2002	28.1	82.6	8.27	839
M18-GU	Apr 11 2002	19.1	66.4	7.20	1013
M19-LBF	Apr 08 2002	22.7	72.9	7.61	759
M20-O	Apr 10 2002	23.7	74.7	7.49	733
M20-O	Jun 12 2002	24.4	75.9	7.36	757
M21-UBF	Apr 08 2002	27.0	71.6	7.11	1683
M22-O	Apr 09 2002	28.6	83.5	8.01	767
M22-O	Jun 12 2002	28.8	83.8	7.91	773
M23-UBF	Apr 09 2002	22.2	72.0	6.99	2158
M24-O	Apr 10 2002	30.5	86.9	7.66	1997
M25-UBF	Apr 10 2002	21.2	70.2	7.15	1509
M26-O	Apr 08 2002	28.9	84.0	8.75	593
M27-LBF	Apr 08 2002	23.1	73.6	7.46	1552
M28-LBF	Apr 08 2002	26.1	79.0	8.45	667
M29-UBF	Apr 08 2002	22.7	72.9	7.03	2259
M30-O	Apr 09 2002	24.1	75.4	7.35	771
M31-LBF	Apr 09 2002	27.3	72.1	7.21	1325
O19-GL	Apr 10 2002	23.8	74.8	7.73	749
O49-GL	Apr 08 2002	25.9	78.6	7.66	873
P19-1-O	Apr 10 2002	24.7	76.5	7.56	726
P49-O	Apr 08 2002	27.6	81.7	7.60	795