

# BROWN AND CALDWELL

## TRANSMITTAL MEMORANDUM

**To:** US Environmental Protection Agency  
Region IX  
Ground Water Office WTR-0  
Water Management Division (WTR-9)  
Attn: Mr. Martin Zeleznik  
75 Hawthorne Street  
San Francisco, CA 84105-3901

<b>Date:</b> April 28, 2004	<b>File No:</b>
<b>Subject:</b> Florence Quarterly - 1Q04	
<b>Contract No:</b>	
<b>Equipment No:</b>	
<b>Spec. Ref:</b> 25529.001	
<b>Submittal No:</b>	

**WE ARE SENDING TO YOU:** ☐ Attached or ☐ Under separate cover via Make a selection the following items:

<input type="checkbox"/> Shop Drawings	<input type="checkbox"/> Prints	<input type="checkbox"/> Plans	<input type="checkbox"/> Samples
<input type="checkbox"/> Copy of letter	<input type="checkbox"/> Change Order	<input type="checkbox"/> Other:	<input type="checkbox"/> Specifications

### THESE ARE TRANSMITTED AS CHECKED BELOW:

- ☐ For approval
- ☐ For your use
- ☐ As requested
- ☐ For review and comment
- ☐ With submittal review action noted

### SUBMITTAL REVIEW ACTIONS:

- ☐ No exceptions taken
- ☐ Make revisions
- ☐ Amend and resubmit
- ☐ Rejected--see Remarks
- ☐ None

Copies	Date	No.	Description
1	4/28/2004		Merrill Mining - Florence Quarterly Compliance Monitoring Report

### REMARKS:

Here is the copy of the Quarterly report for the 1st Quarter, 2004.

  
Barbara A. Sylvester, P.E.

201 East Washington, Suite 500, Phoenix, AZ 85004  
Phone: (602) 567-4000 | FAX: (602) 567-4001

**FLORENCE COPPER INC.  
FLORENCE COPPER PROJECT  
FIRST QUARTER 2004 MONITORING REPORT  
U.I.C. PERMIT AZ396000001  
AND  
A.P.P. PERMIT 101704**

**April 28, 2004**

**MERRILL MINING, LLC**  
975 Johnson Ferry Road, Suite 450  
Atlanta, Georgia 30342  
404-495-9577 Fax: 404-495-9578

**HUGH NOWELL**  
**CORPORATE COUNSEL**

**April 28, 2004**

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**  
**FIRST QUARTER 2004 REPORT**

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 January 1 through March 31, 2003. 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 - First Quarter 2004* 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 January 12 through January 14 and February 4, 2004.

Quarterly and biennial 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 6. No unusual conditions were noted.

Mr. Martin Zeleznik

April 28, 2004

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

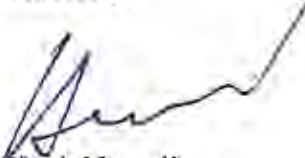
None of the existing wells and core holes were abandoned during the report period.

**(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,

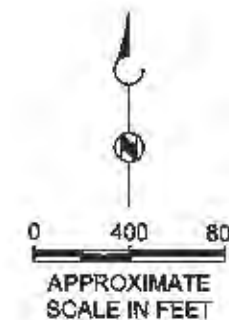
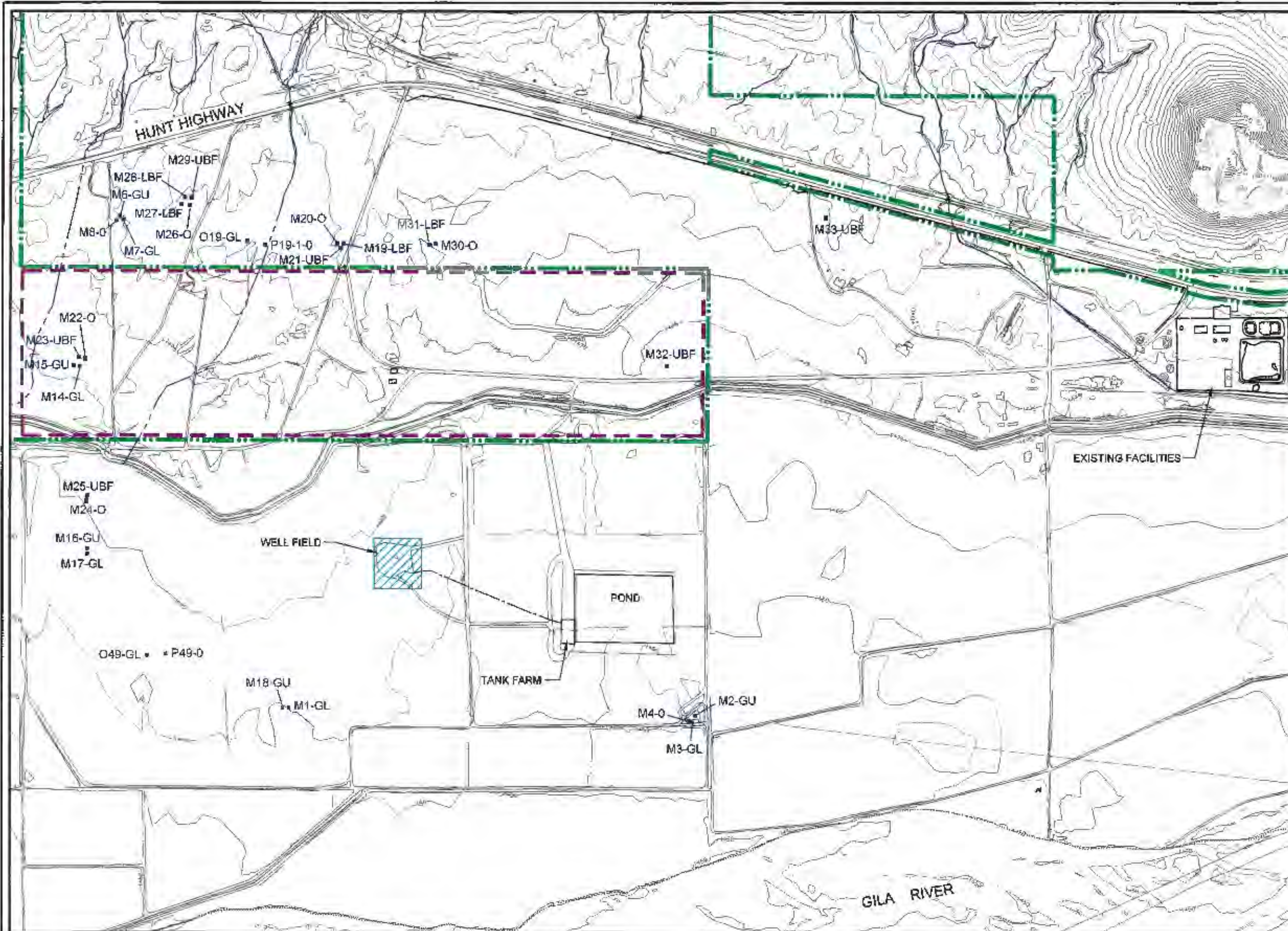


Hugh Nowell  
Corporate Counsel

BAS:lld  
Attachments

cc: Florence Copper File





# EXPLANATION

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

EXISTING FACILITIES

WELL FIELD

POND

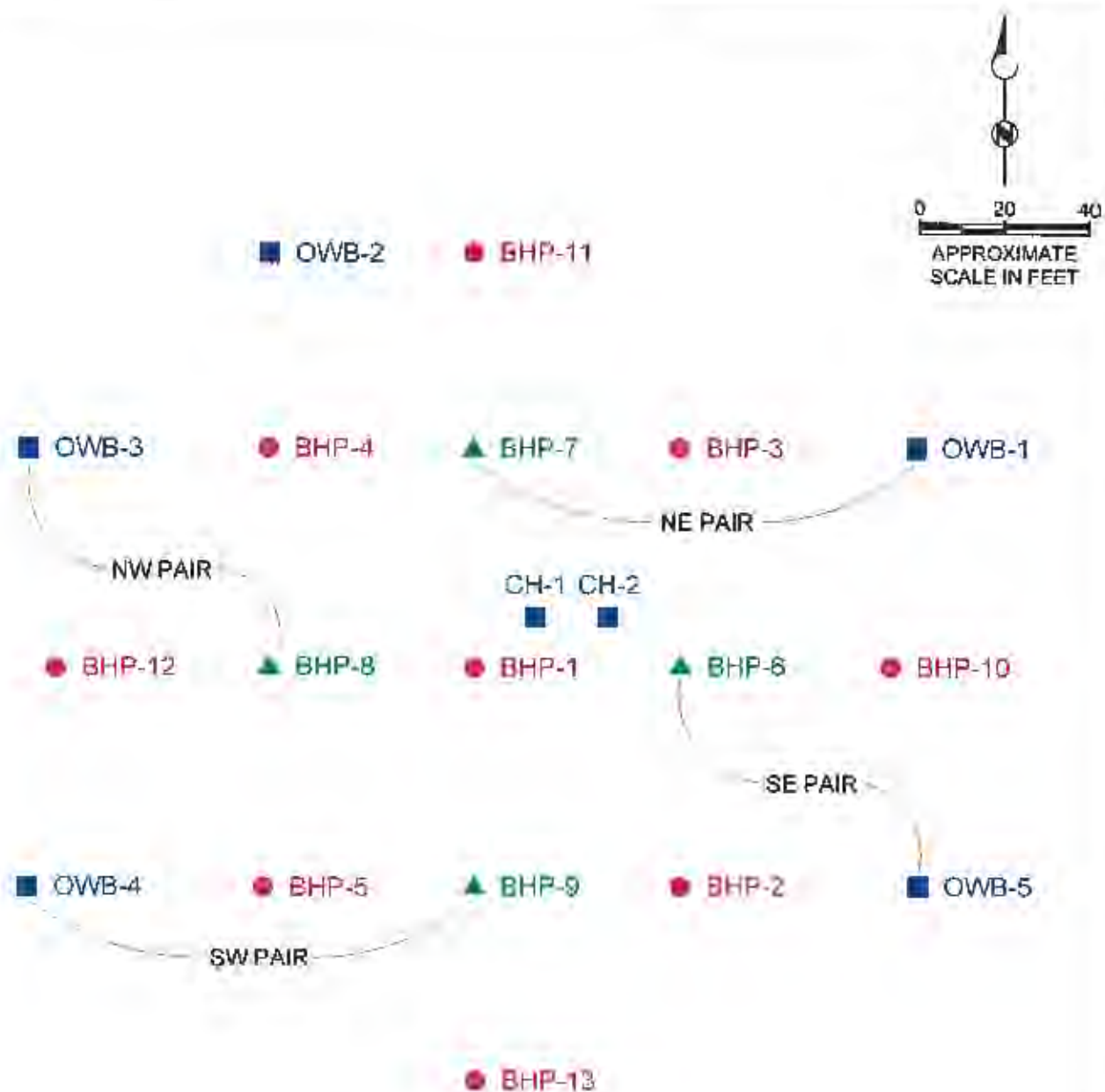
TANK FARM

GILA RIVER

BROWN AND  
CALDWELL

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





### EXPLANATION

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

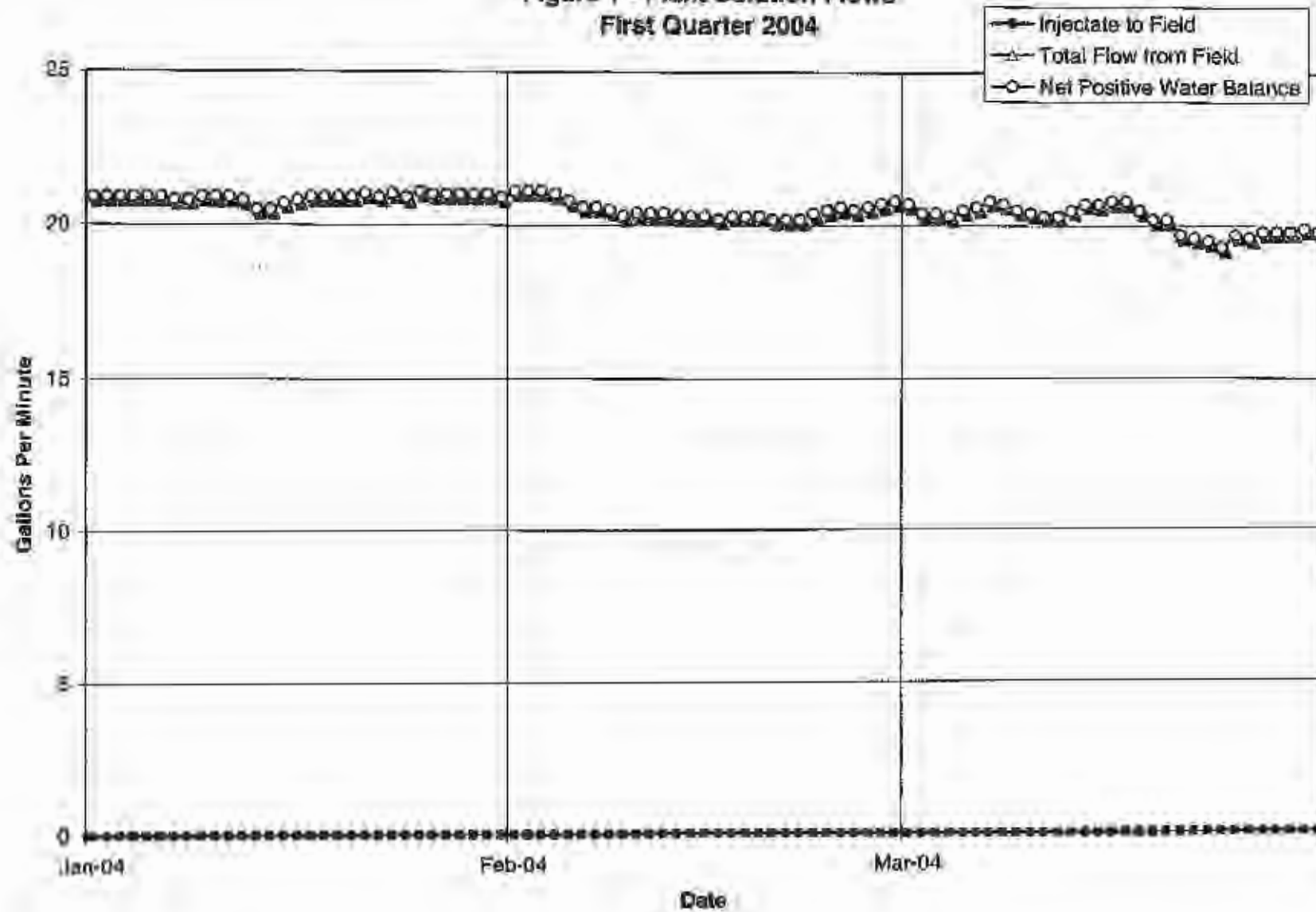
BROWN AND  
CALDWELL

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

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



Figure 1 - Plant Solution Flows  
First Quarter 2004



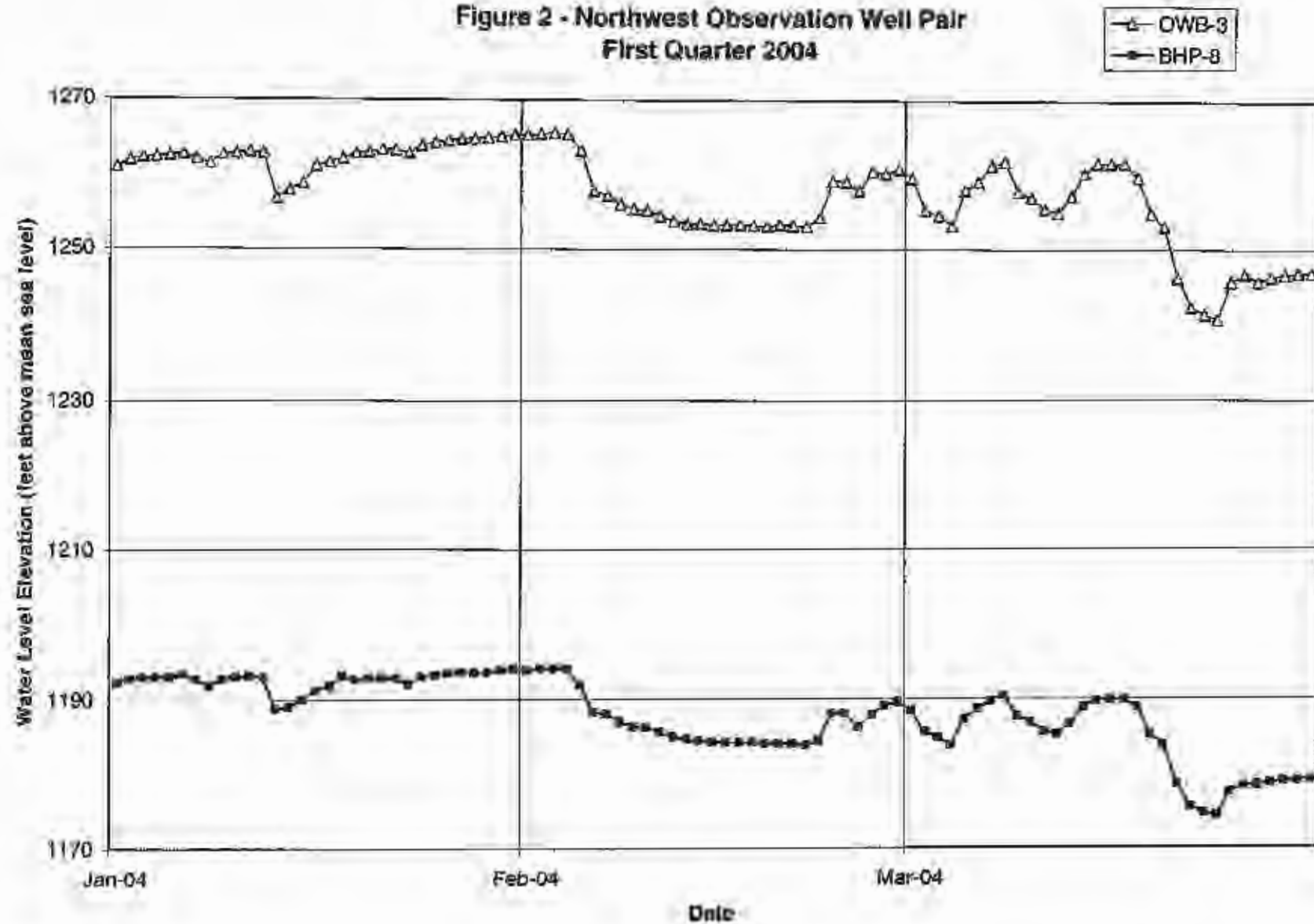
**Plant Solution Flows - Daily Averages**  
**First Quarter 2004**

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)
1/1/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/2/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/3/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/4/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/5/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/6/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/7/2004	0	0.0	0.0	7.9	12.9	20.8	20.8	Yes
1/8/2004	0	0.0	0.0	7.9	12.9	20.8	20.8	Yes
1/9/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/10/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/11/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/12/2004	0	0.0	0.0	7.9	12.9	20.8	20.8	Yes
1/13/2004	0	0.0	0.0	7.7	12.8	20.5	20.5	Yes
1/14/2004	0	0.0	0.0	7.7	12.8	20.5	20.5	Yes
1/15/2004	0	0.0	0.0	7.8	12.9	20.7	20.7	Yes
1/16/2004	0	0.0	0.0	7.9	12.9	20.8	20.8	Yes
1/17/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/18/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/19/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/20/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/21/2004	0	0.0	0.0	8.0	13.0	21.0	21.0	Yes
1/22/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/23/2004	0	0.0	0.0	7.9	13.1	21.0	21.0	Yes
1/24/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
1/25/2004	0	0.0	0.0	8.0	13.1	21.1	21.1	Yes
1/26/2004	0	0.0	0.0	7.9	13.1	21.0	21.0	Yes
1/27/2004	0	0.0	0.0	7.9	13.1	21.0	21.0	Yes
1/28/2004	0	0.0	0.0	7.9	13.1	21.0	21.0	Yes
1/29/2004	0	0.0	0.0	7.9	13.1	21.0	21.0	Yes
1/30/2004	0	0.0	0.0	7.9	13.1	21.0	21.0	Yes
1/31/2004	0	0.0	0.0	7.9	13.0	20.9	20.9	Yes
2/1/2004	0	0.0	0.0	8.0	13.1	21.1	21.1	Yes
2/2/2004	0	0.0	0.0	8.0	13.1	21.1	21.1	Yes
2/3/2004	0	0.0	0.0	7.9	13.2	21.1	21.1	Yes
2/4/2004	0	0.0	0.0	7.9	13.1	21.0	21.0	Yes
2/5/2004	0	0.0	0.0	7.8	13.0	20.8	20.8	Yes
2/6/2004	0	0.0	0.0	7.8	12.8	20.6	20.6	Yes
2/7/2004	0	0.0	0.0	7.8	12.8	20.6	20.6	Yes
2/8/2004	0	0.0	0.0	7.7	12.8	20.5	20.5	Yes
2/9/2004	0	0.0	0.0	7.6	12.7	20.3	20.3	Yes
2/10/2004	0	0.0	0.0	7.7	12.7	20.4	20.4	Yes
2/11/2004	0	0.0	0.0	7.7	12.7	20.4	20.4	Yes
2/12/2004	0	0.0	0.0	7.7	12.7	20.4	20.4	Yes
2/13/2004	0	0.0	0.0	7.6	12.7	20.3	20.3	Yes
2/14/2004	0	0.0	0.0	7.7	12.6	20.3	20.3	Yes
2/15/2004	0	0.0	0.0	7.6	12.7	20.3	20.3	Yes

**Plant Solution Flows - Daily Averages  
First Quarter 2004**

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)
2/16/2004	0	0.0	0.0	7.6	12.6	20.2	20.2	Yes
2/17/2004	0	0.0	0.0	7.6	12.7	20.3	20.3	Yes
2/18/2004	0	0.0	0.0	7.6	12.7	20.3	20.3	Yes
2/19/2004	0	0.0	0.0	7.6	12.7	20.3	20.3	Yes
2/20/2004	0	0.0	0.0	7.6	12.6	20.2	20.2	Yes
2/21/2004	0	0.0	0.0	7.6	12.6	20.2	20.2	Yes
2/22/2004	0	0.0	0.0	7.6	12.6	20.2	20.2	Yes
2/23/2004	0	0.0	0.0	7.6	12.8	20.4	20.4	Yes
2/24/2004	0	0.0	0.0	7.6	12.9	20.5	20.5	Yes
2/25/2004	0	0.0	0.0	7.7	12.9	20.6	20.6	Yes
2/26/2004	0	0.0	0.0	7.7	12.8	20.5	20.5	Yes
2/27/2004	0	0.0	0.0	7.7	12.9	20.6	20.6	Yes
2/28/2004	0	0.0	0.0	7.8	12.9	20.7	20.7	Yes
2/29/2004	0	0.0	0.0	7.8	13.0	20.8	20.8	Yes
3/1/2004	0	0.0	0.0	7.8	12.9	20.7	20.7	Yes
3/2/2004	0	0.0	0.0	7.6	12.8	20.4	20.4	Yes
3/3/2004	0	0.0	0.0	7.6	12.8	20.4	20.4	Yes
3/4/2004	0	0.0	0.0	7.6	12.7	20.3	20.3	Yes
3/5/2004	0	0.0	0.0	7.7	12.8	20.5	20.5	Yes
3/6/2004	0	0.0	0.0	7.7	12.9	20.6	20.6	Yes
3/7/2004	0	0.0	0.0	7.8	13.0	20.8	20.8	Yes
3/8/2004	0	0.0	0.0	7.8	12.9	20.7	20.7	Yes
3/9/2004	0	0.0	0.0	7.7	12.8	20.5	20.5	Yes
3/10/2004	0	0.0	0.0	7.6	12.8	20.4	20.4	Yes
3/11/2004	0	0.0	0.0	7.6	12.7	20.3	20.3	Yes
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3/13/2004	0	0.0	0.0	7.7	12.8	20.5	20.5	Yes
3/14/2004	0	0.0	0.0	7.8	12.9	20.7	20.7	Yes
3/15/2004	0	0.0	0.0	7.8	12.9	20.7	20.7	Yes
3/16/2004	0	0.0	0.0	7.8	13.0	20.8	20.8	Yes
3/17/2004	0	0.0	0.0	7.8	13.0	20.8	20.8	Yes
3/18/2004	0	0.0	0.0	7.7	12.8	20.5	20.5	Yes
3/19/2004	0	0.0	0.0	7.6	12.6	20.2	20.2	Yes
3/20/2004	0	0.0	0.0	7.6	12.6	20.2	20.2	Yes
3/21/2004	0	0.0	0.0	7.3	12.4	19.7	19.7	Yes
3/22/2004	0	0.0	0.0	7.3	12.3	19.6	19.6	Yes
3/23/2004	0	0.0	0.0	7.3	12.2	19.5	19.5	Yes
3/24/2004	0	0.0	0.0	7.2	12.1	19.3	19.3	Yes
3/25/2004	0	0.0	0.0	7.4	12.3	19.7	19.7	Yes
3/26/2004	0	0.0	0.0	7.3	12.3	19.6	19.6	Yes
3/27/2004	0	0.0	0.0	7.4	12.4	19.8	19.8	Yes
3/28/2004	0	0.0	0.0	7.4	12.4	19.8	19.8	Yes
3/29/2004	0	0.0	0.0	7.4	12.4	19.8	19.8	Yes
3/30/2004	0	0.0	0.0	7.4	12.5	19.9	19.9	Yes
3/31/2004	0	0.0	0.0	7.4	12.4	19.8	19.8	Yes

Figure 2 - Northwest Observation Well Pair  
First Quarter 2004





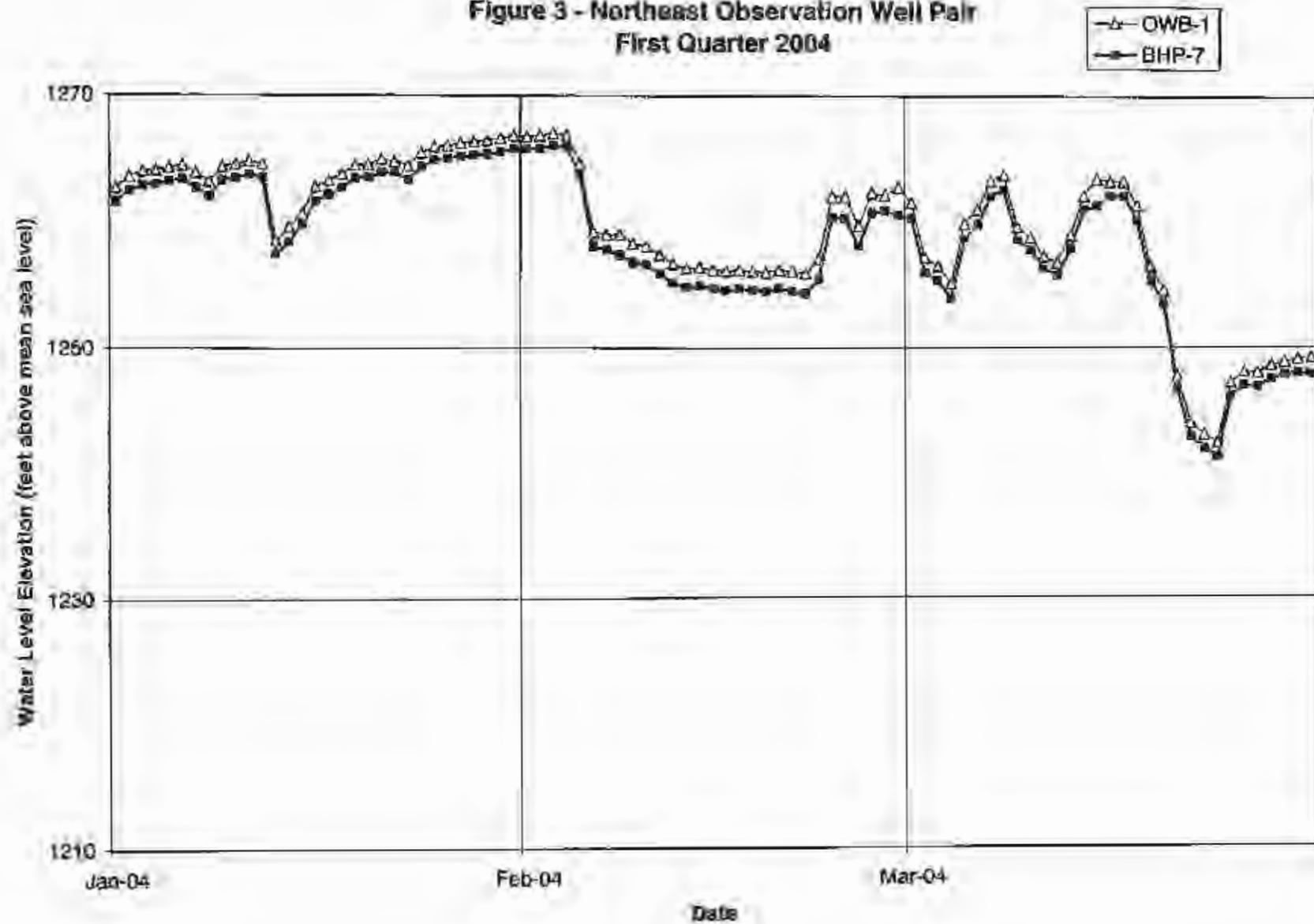
**Northwest Observation Well Pair  
First Quarter 2004**

Date	BHP-8	OWB-3	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
1/1/2004	1192.3	1260.9	-68.6	Yes
1/2/2004	1192.8	1261.8	-69	Yes
1/3/2004	1193.1	1262.2	-69.1	Yes
1/4/2004	1193.1	1262.3	-69.2	Yes
1/5/2004	1193.1	1262.5	-69.4	Yes
1/6/2004	1193.4	1262.7	-69.3	Yes
1/7/2004	1192.8	1262	-69.2	Yes
1/8/2004	1191.9	1261.4	-69.5	Yes
1/9/2004	1192.9	1262.6	-69.7	Yes
1/10/2004	1193.1	1262.8	-69.7	Yes
1/11/2004	1193.2	1263	-69.8	Yes
1/12/2004	1193	1262.8	-69.8	Yes
1/13/2004	1188.8	1256.8	-68	Yes
1/14/2004	1189	1257.9	-68.9	Yes
1/15/2004	1190.1	1258.8	-68.7	Yes
1/16/2004	1191.3	1261.1	-69.8	Yes
1/17/2004	1191.8	1261.6	-69.8	Yes
1/18/2004	1193.2	1262.1	-68.9	Yes
1/19/2004	1192.7	1262.8	-70.1	Yes
1/20/2004	1192.8	1262.9	-70.1	Yes
1/21/2004	1193	1263.3	-70.3	Yes
1/22/2004	1192.9	1263.2	-70.3	Yes
1/23/2004	1192.2	1262.8	-70.6	Yes
1/24/2004	1193.1	1263.8	-70.7	Yes
1/25/2004	1193.4	1264.3	-70.9	Yes
1/26/2004	1193.5	1264.5	-71	Yes
1/27/2004	1193.7	1264.7	-71	Yes
1/28/2004	1193.6	1264.8	-71.2	Yes
1/29/2004	1193.7	1264.9	-71.2	Yes
1/30/2004	1193.9	1265.1	-71.2	Yes
1/31/2004	1194.1	1265.3	-71.2	Yes
2/1/2004	1194	1265.3	-71.3	Yes
2/2/2004	1194.1	1265.4	-71.3	Yes
2/3/2004	1194.2	1265.6	-71.4	Yes
2/4/2004	1194.1	1265.4	-71.3	Yes
2/5/2004	1191.9	1263.2	-71.3	Yes
2/6/2004	1188.3	1257.8	-69.5	Yes
2/7/2004	1188.1	1257.2	-69.1	Yes
2/8/2004	1187	1256.1	-69.1	Yes
2/9/2004	1186.3	1255.4	-69.1	Yes
2/10/2004	1186.3	1255.2	-68.9	Yes
2/11/2004	1185.6	1254.5	-68.9	Yes
2/12/2004	1185	1253.8	-68.8	Yes
2/13/2004	1184.6	1253.4	-68.8	Yes
2/14/2004	1184.4	1253.5	-69.1	Yes
2/15/2004	1184.3	1253.3	-69	Yes

**Northwest Observation Well Pair  
First Quarter 2004**

Date	BHP-5	OWB-3	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
2/16/2004	1184.2	1253.3	-69.1	Yes
2/17/2004	1184.2	1253.3	-69.1	Yes
2/18/2004	1184.2	1253.2	-69	Yes
2/19/2004	1184.1	1253.1	-69	Yes
2/20/2004	1184	1253.3	-69.3	Yes
2/21/2004	1184	1253.2	-69.2	Yes
2/22/2004	1183.8	1253.1	-69.3	Yes
2/23/2004	1184.4	1254.3	-69.9	Yes
2/24/2004	1188.1	1259.2	-71.1	Yes
2/25/2004	1188	1259.1	-71.1	Yes
2/26/2004	1186.2	1257.9	-71.7	Yes
2/27/2004	1187.9	1260.5	-72.6	Yes
2/28/2004	1189.1	1260.2	-71.1	Yes
2/29/2004	1189.6	1260.8	-71.2	Yes
3/1/2004	1188.4	1259.6	-71.2	Yes
3/2/2004	1185.6	1255.3	-69.7	Yes
3/3/2004	1184.9	1254.6	-69.7	Yes
3/4/2004	1183.8	1253.2	-69.4	Yes
3/5/2004	1187.2	1258	-70.8	Yes
3/6/2004	1188.6	1259.1	-70.5	Yes
3/7/2004	1189.8	1261.3	-71.5	Yes
3/8/2004	1190.4	1261.8	-71.4	Yes
3/9/2004	1187.6	1257.8	-70.2	Yes
3/10/2004	1186.9	1257	-70.1	Yes
3/11/2004	1185.7	1255.5	-69.8	Yes
3/12/2004	1185.3	1255	-69.7	Yes
3/13/2004	1186.7	1257.2	-70.5	Yes
3/14/2004	1188.9	1260.3	-71.4	Yes
3/15/2004	1189.8	1261.6	-71.8	Yes
3/16/2004	1189.9	1261.6	-71.7	Yes
3/17/2004	1189.9	1261.6	-71.7	Yes
3/18/2004	1188.8	1259.7	-70.9	Yes
3/19/2004	1185.3	1254.9	-69.6	Yes
3/20/2004	1183.9	1253.1	-69.2	Yes
3/21/2004	1178.6	1246.3	-67.7	Yes
3/22/2004	1175.6	1242.5	-66.9	Yes
3/23/2004	1174.7	1241.6	-66.9	Yes
3/24/2004	1174.4	1240.9	-66.5	Yes
3/25/2004	1177.6	1245.8	-68.2	Yes
3/26/2004	1178.3	1246.7	-68.4	Yes
3/27/2004	1178.5	1245.8	-67.3	Yes
3/28/2004	1178.8	1246.4	-67.6	Yes
3/29/2004	1179	1246.7	-67.7	Yes
3/30/2004	1179.1	1246.9	-67.8	Yes
3/31/2004	1179.3	1246.9	-67.6	Yes

Figure 3 - Northeast Observation Well Pair  
First Quarter 2004



**Northeast Observation Well Pair  
First Quarter 2004**

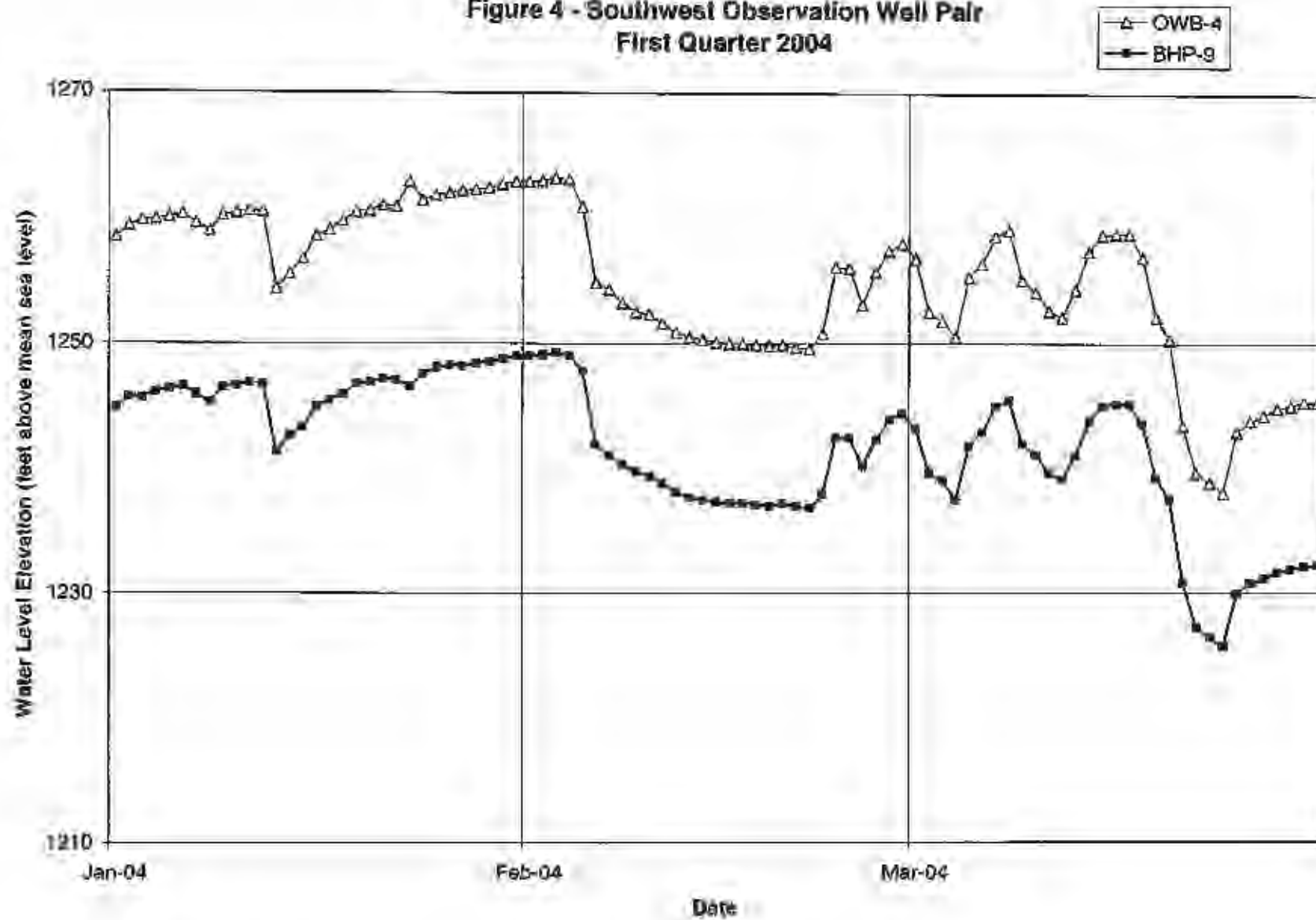
Date	BHP-7	OWB-1	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
1/1/2004	1261.5	1262.6	-1.1	Yes
1/2/2004	1262.4	1263.5	-1.1	Yes
1/3/2004	1262.8	1263.9	-1.1	Yes
1/4/2004	1262.9	1264	-1.1	Yes
1/5/2004	1263.1	1264.2	-1.1	Yes
1/6/2004	1263.3	1264.4	-1.1	Yes
1/7/2004	1262.6	1263.8	-1.2	Yes
1/8/2004	1262	1263.1	-1.1	Yes
1/9/2004	1263.2	1264.3	-1.1	Yes
1/10/2004	1263.4	1264.5	-1.1	Yes
1/11/2004	1263.6	1264.7	-1.1	Yes
1/12/2004	1263.4	1264.5	-1.1	Yes
1/13/2004	1257.4	1258.5	-1.1	Yes
1/14/2004	1258.4	1259.6	-1.2	Yes
1/15/2004	1259.8	1260.6	-0.8	Yes
1/16/2004	1261.6	1262.7	-1.1	Yes
1/17/2004	1262.1	1263.2	-1.1	Yes
1/18/2004	1262.6	1263.7	-1.1	Yes
1/19/2004	1263.4	1264.4	-1	Yes
1/20/2004	1263.5	1264.5	-1	Yes
1/21/2004	1263.8	1264.9	-1.1	Yes
1/22/2004	1263.8	1264.7	-0.9	Yes
1/23/2004	1263.3	1264.4	-1.1	Yes
1/24/2004	1264.3	1265.4	-1.1	Yes
1/25/2004	1264.8	1265.9	-1.1	Yes
1/26/2004	1265	1266	-1	Yes
1/27/2004	1265.1	1266.2	-1.1	Yes
1/28/2004	1265.2	1266.3	-1.1	Yes
1/29/2004	1265.3	1266.4	-1.1	Yes
1/30/2004	1265.5	1266.6	-1.1	Yes
1/31/2004	1265.7	1266.8	-1.1	Yes
2/1/2004	1265.7	1266.7	-1	Yes
2/2/2004	1265.8	1266.8	-1	Yes
2/3/2004	1266	1267	-1	Yes
2/4/2004	1265.9	1266.8	-0.9	Yes
2/5/2004	1263.7	1264.6	-0.9	Yes
2/6/2004	1258.1	1259.2	-1.1	Yes
2/7/2004	1257.8	1259	-1.2	Yes
2/8/2004	1257.4	1259	-1.6	Yes
2/9/2004	1256.8	1258.3	-1.5	Yes
2/10/2004	1256.6	1258.1	-1.5	Yes
2/11/2004	1255.9	1257.4	-1.5	Yes
2/12/2004	1255.2	1256.7	-1.5	Yes
2/13/2004	1254.8	1256.3	-1.5	Yes
2/14/2004	1254.9	1256.4	-1.5	Yes
2/15/2004	1254.7	1256.2	-1.5	Yes



**Northeast Observation Well Pair  
First Quarter 2004**

Date	BHP-7	OWE-1	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
2/16/2004	1254.6	1256.1	-1.5	Yes
2/17/2004	1254.7	1256.2	-1.5	Yes
2/18/2004	1254.6	1256.1	-1.5	Yes
2/19/2004	1254.5	1256	-1.5	Yes
2/20/2004	1254.7	1256.2	-1.5	Yes
2/21/2004	1254.5	1256.1	-1.6	Yes
2/22/2004	1254.3	1255.9	-1.6	Yes
2/23/2004	1255.5	1257.1	-1.6	Yes
2/24/2004	1260.4	1262	-1.6	Yes
2/25/2004	1260.3	1262	-1.7	Yes
2/26/2004	1258.1	1259.7	-1.6	Yes
2/27/2004	1260.7	1262.3	-1.6	Yes
2/28/2004	1260.9	1262.1	-1.2	Yes
2/29/2004	1260.5	1262.7	-2.2	Yes
3/1/2004	1260.3	1261.5	-1.2	Yes
3/2/2004	1256	1257.2	-1.2	Yes
3/3/2004	1255.3	1256.5	-1.2	Yes
3/4/2004	1253.9	1255.1	-1.2	Yes
3/5/2004	1258.7	1259.9	-1.2	Yes
3/6/2004	1259.8	1261	-1.2	Yes
3/7/2004	1262	1263.2	-1.2	Yes
3/8/2004	1262.5	1263.7	-1.2	Yes
3/9/2004	1258.6	1259.6	-1	Yes
3/10/2004	1257.8	1258.8	-1	Yes
3/11/2004	1256.3	1257.3	-1	Yes
3/12/2004	1255.8	1256.8	-1	Yes
3/13/2004	1257.9	1259	-1.1	Yes
3/14/2004	1261	1262.1	-1.1	Yes
3/15/2004	1261.3	1263.4	-2.1	Yes
3/16/2004	1262.1	1263.2	-1.1	Yes
3/17/2004	1262.1	1263.2	-1.1	Yes
3/18/2004	1260.2	1261.3	-1.1	Yes
3/19/2004	1255.4	1256.5	-1.1	Yes
3/20/2004	1253.5	1254.6	-1.1	Yes
3/21/2004	1246.6	1247.7	-1.1	Yes
3/22/2004	1242.8	1243.9	-1.1	Yes
3/23/2004	1241.9	1243	-1.1	Yes
3/24/2004	1241.2	1242.3	-1.1	Yes
3/25/2004	1246.1	1247.2	-1.1	Yes
3/26/2004	1247	1248.1	-1.1	Yes
3/27/2004	1246.9	1248	-1.1	Yes
3/28/2004	1247.5	1248.6	-1.1	Yes
3/29/2004	1247.9	1248.9	-1	Yes
3/30/2004	1248	1249.1	-1.1	Yes
3/31/2004	1247.9	1249.2	-1.3	Yes

Figure 4 - Southwest Observation Well Pair  
First Quarter 2004



**Southwest Observation Well Pair  
First Quarter 2004**

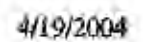
Date	BHP-9	OWB-4	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
1/1/2004	1244.9	1258.4	-13.5	Yes
1/2/2004	1245.8	1259.3	-13.5	Yes
1/3/2004	1245.7	1259.7	-14	Yes
1/4/2004	1246.2	1259.8	-13.6	Yes
1/5/2004	1246.4	1260	-13.6	Yes
1/6/2004	1246.6	1260.2	-13.6	Yes
1/7/2004	1246	1259.5	-13.5	Yes
1/8/2004	1245.3	1258.9	-13.6	Yes
1/9/2004	1246.5	1260.1	-13.6	Yes
1/10/2004	1246.7	1260.3	-13.6	Yes
1/11/2004	1246.9	1260.5	-13.6	Yes
1/12/2004	1246.8	1260.4	-13.6	Yes
1/13/2004	1241.3	1254.3	-13	Yes
1/14/2004	1242.7	1255.5	-12.8	Yes
1/15/2004	1243.3	1256.7	-13.4	Yes
1/16/2004	1245	1258.5	-13.5	Yes
1/17/2004	1245.5	1259	-13.5	Yes
1/18/2004	1246	1259.7	-13.7	Yes
1/19/2004	1246.8	1260.4	-13.6	Yes
1/20/2004	1246.9	1260.5	-13.6	Yes
1/21/2004	1247.2	1260.9	-13.7	Yes
1/22/2004	1247.1	1260.8	-13.7	Yes
1/23/2004	1246.6	1262.8	-16.2	Yes
1/24/2004	1247.6	1261.3	-13.7	Yes
1/25/2004	1248.1	1261.7	-13.6	Yes
1/26/2004	1248.3	1261.9	-13.6	Yes
1/27/2004	1248.2	1262.1	-13.9	Yes
1/28/2004	1248.4	1262.2	-13.8	Yes
1/29/2004	1248.6	1262.3	-13.7	Yes
1/30/2004	1248.8	1262.6	-13.8	Yes
1/31/2004	1249	1262.8	-13.8	Yes
2/1/2004	1249	1262.8	-13.8	Yes
2/2/2004	1249.1	1262.9	-13.8	Yes
2/3/2004	1249.3	1263.1	-13.8	Yes
2/4/2004	1249.1	1263	-13.9	Yes
2/5/2004	1247.8	1260.8	-13	Yes
2/6/2004	1241.9	1254.8	-12.9	Yes
2/7/2004	1241.1	1254.3	-13.2	Yes
2/8/2004	1240.3	1253.2	-12.9	Yes
2/9/2004	1239.7	1252.5	-12.8	Yes
2/10/2004	1239.4	1252.3	-12.9	Yes
2/11/2004	1238.8	1251.6	-12.8	Yes
2/12/2004	1238.1	1250.9	-12.8	Yes
2/13/2004	1237.7	1250.5	-12.8	Yes
2/14/2004	1237.5	1250.3	-12.8	Yes
2/15/2004	1237.3	1250.1	-12.8	Yes

**Southwest Observation Well Pair  
First Quarter 2004**

Date	BHP-9	OWB-4	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
2/16/2004	1237.2	1250	-12.8	Yes
2/17/2004	1237.2	1250	-12.8	Yes
2/18/2004	1237.1	1249.9	-12.8	Yes
2/19/2004	1237	1249.8	-12.8	Yes
2/20/2004	1237.2	1249.9	-12.7	Yes
2/21/2004	1237	1249.7	-12.7	Yes
2/22/2004	1236.8	1249.6	-12.8	Yes
2/23/2004	1237.9	1250.8	-12.9	Yes
2/24/2004	1242.5	1256.1	-13.6	Yes
2/25/2004	1242.4	1256	-13.6	Yes
2/26/2004	1240.2	1253.1	-12.9	Yes
2/27/2004	1242.3	1255.7	-13.4	Yes
2/28/2004	1243.9	1257.4	-13.5	Yes
2/29/2004	1244.4	1258	-13.6	Yes
3/1/2004	1243.2	1256.8	-13.6	Yes
3/2/2004	1239.6	1252.5	-12.9	Yes
3/3/2004	1239	1251.8	-12.8	Yes
3/4/2004	1237.5	1250.5	-13	Yes
3/5/2004	1241.8	1255.3	-13.5	Yes
3/6/2004	1242.9	1256.4	-13.5	Yes
3/7/2004	1245	1258.6	-13.6	Yes
3/8/2004	1245.5	1259.1	-13.6	Yes
3/9/2004	1241.9	1255.1	-13.2	Yes
3/10/2004	1241.1	1254.1	-13	Yes
3/11/2004	1239.6	1252.6	-13	Yes
3/12/2004	1239.1	1252.1	-13	Yes
3/13/2004	1241	1254.3	-13.3	Yes
3/14/2004	1243.8	1257.4	-13.6	Yes
3/15/2004	1245	1258.7	-13.7	Yes
3/16/2004	1245.2	1258.8	-13.6	Yes
3/17/2004	1245.1	1258.8	-13.7	Yes
3/18/2004	1243.6	1256.9	-13.3	Yes
3/19/2004	1239.2	1252.1	-12.9	Yes
3/20/2004	1237.5	1250.3	-12.8	Yes
3/21/2004	1230.8	1243.4	-12.6	Yes
3/22/2004	1227.2	1239.6	-12.4	Yes
3/23/2004	1226.4	1238.8	-12.4	Yes
3/24/2004	1225.7	1238	-12.3	Yes
3/25/2004	1229.9	1242.9	-13	Yes
3/26/2004	1230.8	1243.8	-13	Yes
3/27/2004	1231.1	1244.2	-13.1	Yes
3/28/2004	1231.6	1244.8	-13.2	Yes
3/29/2004	1231.9	1245	-13.1	Yes
3/30/2004	1232.1	1245.3	-13.2	Yes
3/31/2004	1232.2	1245.3	-13.1	Yes



—△— QWB-5  
—●— BHP-5



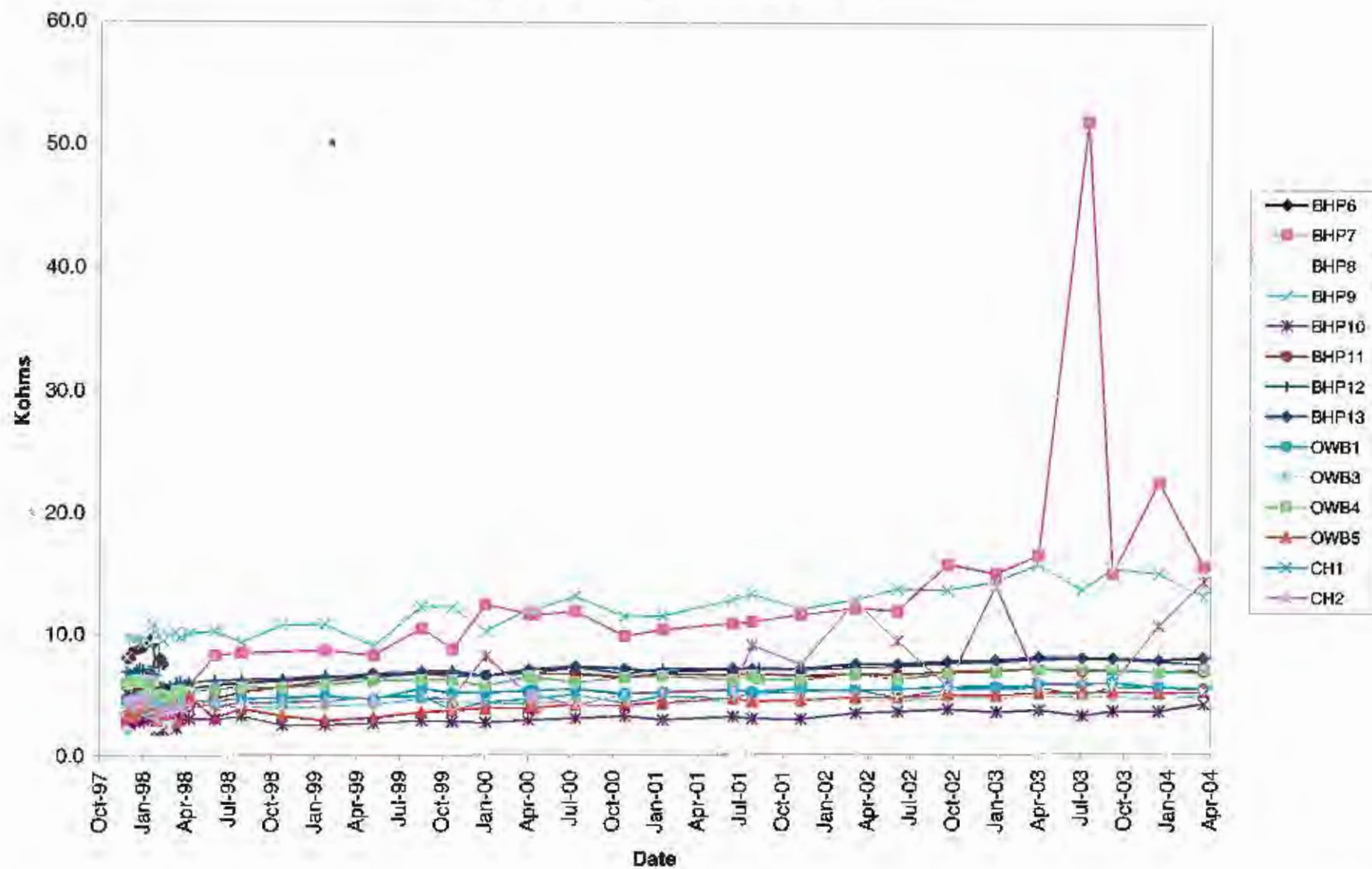
**Southeast Observation Well Pair  
First Quarter 2004**

Date	BHP-6	OWB-5	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
1/1/2004	1261.3	1262.5	-1.2	Yes
1/2/2004	1262.2	1263.4	-1.2	Yes
1/3/2004	1262.6	1263.8	-1.2	Yes
1/4/2004	1262.7	1263.9	-1.2	Yes
1/5/2004	1262.9	1264.1	-1.2	Yes
1/6/2004	1263.1	1264.3	-1.2	Yes
1/7/2004	1262.4	1263.7	-1.3	Yes
1/8/2004	1261.8	1263	-1.2	Yes
1/9/2004	1263	1264.2	-1.2	Yes
1/10/2004	1263.2	1264.4	-1.2	Yes
1/11/2004	1263.4	1264.6	-1.2	Yes
1/12/2004	1262.2	1263	-0.8	Yes
1/13/2004	1257.2	1258.4	-1.2	Yes
1/14/2004	1258.7	1259.5	-0.8	Yes
1/15/2004	1259.6	1260.5	-0.9	Yes
1/16/2004	1261.5	1262.5	-1	Yes
1/17/2004	1262	1262.9	-0.9	Yes
1/18/2004	1262.5	1263.4	-0.9	Yes
1/19/2004	1263.3	1264.1	-0.8	Yes
1/20/2004	1263.4	1264.2	-0.8	Yes
1/21/2004	1263.8	1264.6	-0.8	Yes
1/22/2004	1263.9	1264.5	-0.6	Yes
1/23/2004	1263.2	1264.1	-0.9	Yes
1/24/2004	1264.2	1265.1	-0.9	Yes
1/25/2004	1264.7	1265.6	-0.9	Yes
1/26/2004	1264.9	1265.8	-0.9	Yes
1/27/2004	1265	1265.9	-0.9	Yes
1/28/2004	1265.1	1266	-0.9	Yes
1/29/2004	1265.2	1266.1	-0.9	Yes
1/30/2004	1265.4	1266.3	-0.9	Yes
1/31/2004	1265.6	1266.5	-0.9	Yes
2/1/2004	1265.5	1266.5	-1	Yes
2/2/2004	1265.6	1266.6	-1	Yes
2/3/2004	1265.8	1266.8	-1	Yes
2/4/2004	1265.7	1266.6	-0.9	Yes
2/5/2004	1263.5	1264.4	-0.9	Yes
2/6/2004	1257.9	1259	-1.1	Yes
2/7/2004	1257.8	1258.6	-0.8	Yes
2/8/2004	1257.6	1258.4	-0.8	Yes
2/9/2004	1257	1257.7	-0.7	Yes
2/10/2004	1256.8	1257.5	-0.7	Yes
2/11/2004	1256.1	1256.8	-0.7	Yes
2/12/2004	1255.4	1256.1	-0.7	Yes
2/13/2004	1255	1255.7	-0.7	Yes
2/14/2004	1254.7	1255.6	-0.9	Yes
2/15/2004	1254.5	1255.4	-0.9	Yes

**Southeast Observation Well Pair  
First Quarter 2004**

Date	BHP-6	OWB-5	Difference in Gradient	Maintained Hydrologic Control
	Water Level Elevation (feet AMSL)	Water Level Elevation (feet AMSL)	(feet)	(Yes/No)
2/16/2004	1254.5	1255.4	-0.9	Yes
2/17/2004	1254.5	1255.4	-0.9	Yes
2/18/2004	1254.4	1255.3	-0.9	Yes
2/19/2004	1254.3	1255.2	-0.9	Yes
2/20/2004	1254.5	1255.4	-0.9	Yes
2/21/2004	1254.3	1255.2	-0.9	Yes
2/22/2004	1254.2	1255	-0.8	Yes
2/23/2004	1255.4	1256.2	-0.8	Yes
2/24/2004	1260.3	1261.1	-0.8	Yes
2/25/2004	1260.4	1261.2	-0.8	Yes
2/26/2004	1258	1258.8	-0.8	Yes
2/27/2004	1260.6	1261.4	-0.8	Yes
2/28/2004	1260.7	1261.7	-1	Yes
2/29/2004	1261.3	1262.3	-1	Yes
3/1/2004	1260.1	1261.2	-1.1	Yes
3/2/2004	1255.8	1256.8	-1	Yes
3/3/2004	1255.1	1256.2	-1.1	Yes
3/4/2004	1253.7	1254.7	-1	Yes
3/5/2004	1258.5	1259.5	-1	Yes
3/6/2004	1259.7	1260.8	-1.1	Yes
3/7/2004	1261.8	1262.8	-1	Yes
3/8/2004	1262.4	1263.3	-0.9	Yes
3/9/2004	1258.5	1259.2	-0.7	Yes
3/10/2004	1257.7	1258.4	-0.7	Yes
3/11/2004	1256.2	1256.9	-0.7	Yes
3/12/2004	1255.7	1256.4	-0.7	Yes
3/13/2004	1257.8	1258.6	-0.8	Yes
3/14/2004	1260.9	1261.7	-0.8	Yes
3/15/2004	1262.2	1263	-0.8	Yes
3/16/2004	1261.9	1262.8	-0.9	Yes
3/17/2004	1261.9	1262.8	-0.9	Yes
3/18/2004	1260	1260.9	-0.9	Yes
3/19/2004	1255.2	1256.1	-0.9	Yes
3/20/2004	1253.4	1254.3	-0.9	Yes
3/21/2004	1246.5	1247.4	-0.9	Yes
3/22/2004	1242.7	1243.6	-0.9	Yes
3/23/2004	1241.8	1242.7	-0.9	Yes
3/24/2004	1241.1	1242.1	-1	Yes
3/25/2004	1245.9	1247	-1.1	Yes
3/26/2004	1246.8	1247.9	-1.1	Yes
3/27/2004	1246.9	1248.7	-1.8	Yes
3/28/2004	1247.6	1249.3	-1.7	Yes
3/29/2004	1247.9	1249.6	-1.7	Yes
3/30/2004	1248.1	1249.8	-1.7	Yes
3/31/2004	1248.1	1249.8	-1.7	Yes

Figure 6 - Annular Resistivity in Kohms





**ATTACHMENT 2**

**POC QUARTERLY COMPLIANCE MONITORING REPORT**

**FLORENCE COPPER PROJECT  
QUARTERLY COMPLIANCE MONITORING REPORT  
FIRST QUARTER 2004**

***Primary Sampling Activities***

Quarterly compliance monitoring was conducted for the Florence Copper project on January 12 through January 14, 2004 (First Quarter 2004). 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 III.B 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 2004 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 2004***

There were no AL exceedances verified during this quarterly sampling. No contingency sampling plan is required during the Second Quarter of 2004.

***Results of Contingency Sampling Plan Implemented from Fourth Quarter 2003***

There were no AL exceedances during the Fourth Quarter 2003. Therefore, no contingency sampling plan was implemented.

***Issues***

There were no other issues to report during the First Quarter 2004.



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 14 2004	20.0	31	100	109	0.77	1.3	610	1028
M2-GU	Jan 13 2004	22.0	39	150	275	0.93	1.4	710	1496
M3-GL	Jan 13 2004	20.0	36	140	187	0.77	1.3	610	1157
M4-O	Jan 13 2004	4.3	15	61	405	2.8	5.1	400	1072
M6-GU	Jan 13 2004	2.9	5.1	56	86	0.77	1.3	330	620
M7-GL	Jan 13 2004	<0.25	1	40	82	1.0	1.7	250	464
M8-O	Jan 13 2004	<0.25	1	82	122	2.2	3.6	340	609
M14-GL	Jan 13 2004	2.2	23	63	144	0.68	1.4	400	874
M15-GU	Jan 13 2004	25.0	44	84	126	0.52	1.2	770	1359
M16-GU	Jan 14 2004	30.0	52	190	248	0.62	1.1	920	1635
M17-GL	Jan 14 2004	5.7	9.3	140	209	0.89	1.6	500	831
M18-GU	Jan 14 2004	18.0	36	170	288	1.1	1.6	710	1323
M19-LBF	Jan 12 2004	11.0	21	54	89	0.55	1	450	794
M20-O	Jan 12 2004	8.9	14	74	112	0.86	1.7	460	809
M20-O (Dup)	Jan 12 2004	8.6	14	74	112	0.88	1.7	460	809
M21-UBF	Jan 12 2004	28.0	87	230	487	0.78	1.1	930	2867
M22-O	Jan 13 2004	6.0	8.6	57	86	0.76	1.3	390	1094
M22-O (Dup)	Jan 13 2004	5.9	8.6	57	86	0.72	1.3	380	1094
M23-UBF	Jan 13 2004	42.0	69	320	411	0.71	1.3	1400	2392
M24-O	Jan 14 2004	11.0	19	790	1364	1.3	2.5	1300	2363
M25-UBF	Jan 14 2004	27.0	76	230	387	0.93	1.6	890	2683
M25-UBF (Dup)	Jan 14 2004	28.0	76	230	387	0.89	1.6	980	2683
M26-O	Jan 12 2004	<0.25	1	61	105	1.6	3.4	320	556
M27-LBF	Jan 12 2004	32.0	51	130	179	<0.4	1	980	1745
M28-LBF	Jan 12 2004	1.6	2.6	48	81	0.83	1.6	350	610
M29-UBF	Jan 12 2004	44.0	84	280	465	0.64	1.1	1300	2751
M30-O	Jan 12 2004	11.0	18	66	102	0.88	1.6	440	824
M31-LBF	Jan 12 2004	26.0	46	240	330	0.83	1.3	890	1665
O19-GL	Feb 02 2004	9.5	17	55	99	0.63	1.4	420	770
O49-GL	Jan 12 2004	9.7	18	74	159	0.59	1	510	849
P19-I-O	Jan 14 2004	6.3	12	72	107	1.6	2.8	470	767
P49-O	Jan 12 2004	3.5	6.2	110	181	1.0	2	450	801
Laboratory Detection Limit		0.25		2		0.4		10	
Arizona Aquifer Water Quality Standard						4			

All results in milligrams per liter (mg/l)

&lt; = 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 14 2004	21.5	70.7	7.67	1036
M2-GU	Jan 13 2004	19.9	67.8	7.55	1157
M3-GL	Jan 13 2004	21.6	70.9	7.61	1020
M4-O	Jan 13 2004	23.3	73.9	7.58	637
M6-GU	Jan 13 2004	25.1	77.2	8.51	683
M7-GL	Jan 13 2004	24.4	75.9	9.33	494
M8-O	Jan 13 2004	29.3	84.7	8.84	665
M14-GL	Jan 13 2004	26.9	80.4	8.51	793
M15-GU	Jan 13 2004	24.4	75.9	7.60	1272
M16-GU	Jan 14 2004	23.8	74.8	7.50	1539
M17-GL	Jan 14 2004	27.7	81.9	8.37	829
M18-GU	Jan 14 2004	19.4	66.9	7.56	1031
M19-LBF	Jan 12 2004	23.0	73.4	7.72	760
M20-O	Jan 12 2004	23.7	74.7	7.62	749
M21-UBF	Jan 12 2004	22.2	72.0	7.39	1429
M22-O	Jan 13 2004	27.4	81.3	8.09	762
M23-UBF	Jan 13 2004	21.8	71.2	7.20	2109
M24-O	Jan 14 2004	30.3	86.5	7.84	1932
M25-UBF	Jan 14 2004	20.8	69.4	7.35	1456
M26-O	Jan 12 2004	28.6	83.5	8.64	576
M27-LBF	Jan 12 2004	23.3	73.9	7.60	1542
M28-LBF	Jan 12 2004	26.0	78.8	8.34	654
M29-UBF	Jan 12 2004	22.2	72.0	7.23	2071
M30-O	Jan 12 2004	24.0	75.2	7.53	777
M31-LBF	Jan 12 2004	22.2	72.0	7.42	1389
O19-GL	Feb 02 2004	23.9	75.0	7.64	743
O49-GL	Jan 12 2004	25.1	77.2	7.77	893
P19-1-O	Jan 14 2004	24.1	75.4	7.76	721
P49-O	Jan 12 2004	27.3	81.1	7.67	776