



FIRST QUARTER 2011 MONITORING REPORT  
UIC PERMIT AZ396000001 AND APP PERMIT 101704  
FLORENCE COPPER PROJECT, FLORENCE, ARIZONA

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Curis Resources (Arizona) Inc.  
1575 W. Hunt Highway  
Florence, AZ 85132

April 28, 2011



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

Subject: First Quarter 2011 Monitoring Report  
Underground Injection Control (UIC) Permit Number AZ396000001

Dear Ms. Rumrill:

As you are aware, in February 2010, Curis Resources (Arizona) Inc. (Curis Arizona) purchased all of the assets of Florence Copper and the right to apply for the transfer of its permits to Curis Arizona, including the Aquifer Protection Permit (APP) and the UIC Permit. Curis Arizona submitted a UIC Permit application in March 2011 and, although the permit transfer is not complete, Curis Arizona is assuming the compliance obligations of those permits and is submitting this report in accordance with the reporting requirements of Parts II.G.2.(a) through (j) of the UIC Permit No. AZ396000001 issued by the United States Environmental Protection Agency (USEPA) on May 1, 1997. The Florence Copper Project is also subject to the requirements of APP No. 101704 issued by the Arizona Department of Environmental Quality (ADEQ) on June 9, 1997, and last amended on July 16, 2004.

This report pertains to monitoring activities conducted at the Florence Copper Project from January 1 through March 31, 2011. Copies of records required by Part II.G.1 are maintained at the mine site along with other information that is summarized below.

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.I.2 of the UIC Permit. A report of the results has been provided to ADEQ and USEPA for review. The recovery wells have remained off until a plan for further activity can be approved. 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 observation well/recovery well pairs.



There are four injection/recovery wells and nine original recovery wells. The four injection wells were later used as recovery wells during the rising of the mine block. 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 required during this reporting period, water level measurements were continued by manual measurements in the four observation wells and their nearest inward recovery well. 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 2011*, 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 January 25 through January 28, 2011.

Quarterly parameters were analyzed for 29 of the 31 POC monitoring wells. POC monitoring wells M32-UBF and M33-UBF were dry and could not be sampled. There were no exceedances of ALs (Alert Levels) or Aquifer Quality Limits (AQLs).

**(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 conducted.

**(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 or coreholes 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.

Curis Arizona believes that you will find this report complete and in compliance with all permit conditions. Please contact me at (604) 684-6365 should you have any questions regarding this report.

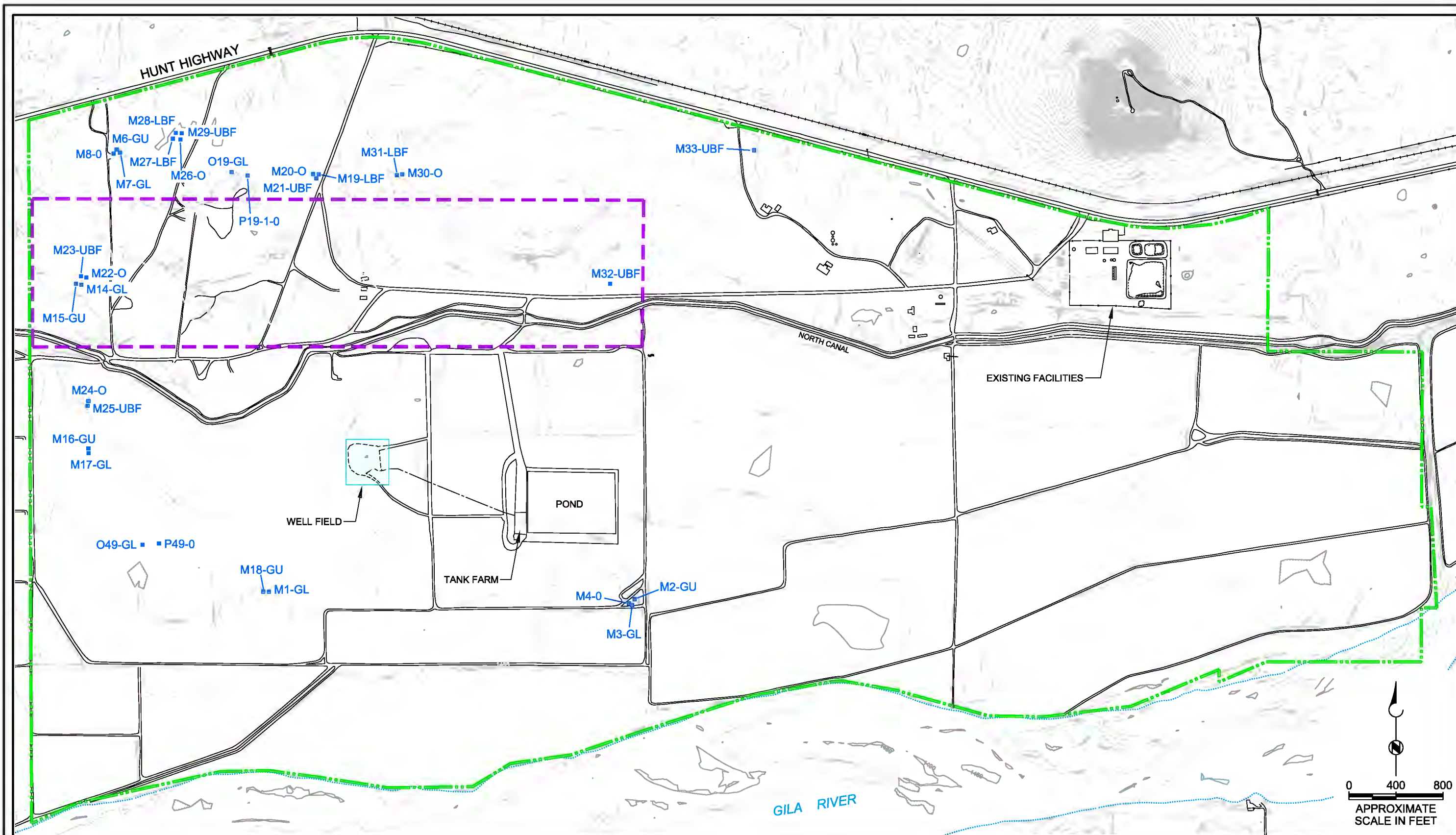
Sincerely,

CURIS RESOURCES (ARIZONA) INC.



Michael McPhie  
President and Chief Executive Officer

BAS:ld  
Attachments  
cc: Florence Copper File



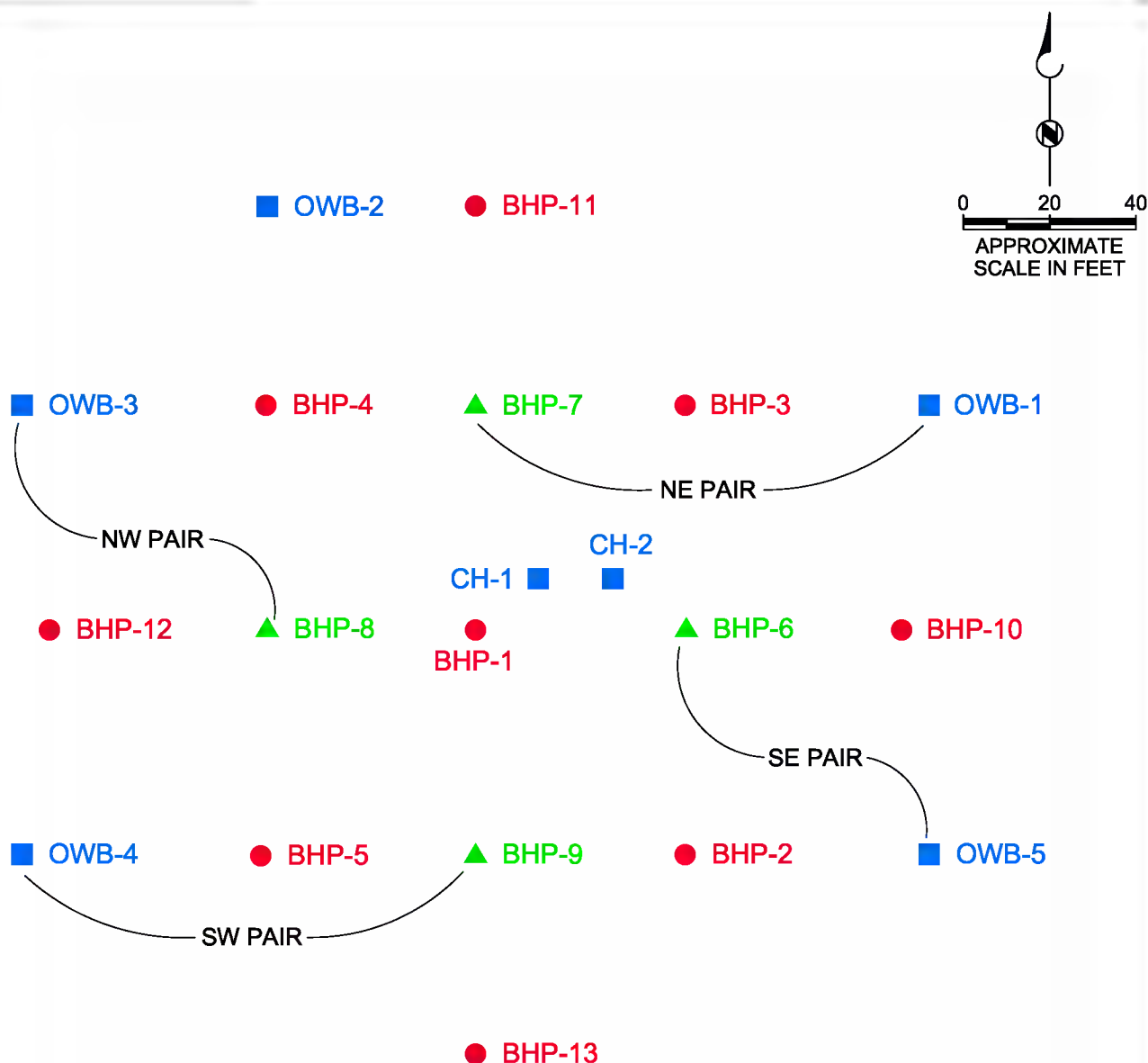
# EXPLANATION

- APPROXIMATE PROPERTY BOUNDARY
- STATE LEASE LAND BOUNDARY
- M3-GL POC MONITORING WELL
- WELL FIELD DETAIL, FIGURE 2

**Brown AND  
Caldwell**

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Figure 1  
**MONITORING AREA**  
FLORENCE COPPER PROJECT  
FLORENCE, ARIZONA



### EXPLANATION

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

## ATTACHMENT 1

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Mine Operations Monitoring



Well Field Water Level Elevations First Quarter 2011								
Date	BHP-6	BHP-7	BHP-8	BHP-9	OWB-1	OWB-3	OWB-4	OWB-5
01/03/11	1271.7	1271.3	1271.8	1271.9	1271.5	1270.9	1271.8	1272.6
01/10/11	1272.1	1271.6	1272.1	1272.1	1271.9	1271.2	1272.2	1272.9
01/17/11	1272.0	1271.6	1272.1	1272.1	1271.8	1271.2	1272.1	1272.9
01/24/11	1269.7	1269.3	1269.8	1269.8	1269.7	1268.8	1269.7	1270.6
01/31/11	1273.3	1272.7	1273.2	1273.3	1273.0	1272.2	1273.2	1274.0
02/07/11	1266.0	1265.6	1265.4	1265.4	1266.1	1264.4	1264.9	1266.7
02/14/11	1271.0	1270.6	1271.1	1271.0	1270.9	1270.2	1271.0	1271.8
02/21/11	1273.5	1273.1	1273.6	1273.5	1273.3	1272.7	1273.5	1274.4
02/28/11	1274.0	1273.7	1274.2	1274.1	1273.8	1273.1	1274.1	1274.9
03/07/11	1271.3	1270.9	1271.3	1271.2	1271.1	1270.3	1271.2	1272.1
03/14/11	1267.2	1266.9	1266.6	1266.6	1267.4	1265.8	1266.2	1267.9
03/21/11	1271.9	1271.6	1271.9	1271.9	1271.8	1271.0	1271.8	1272.6
03/28/11	1267.6	1267.1	1267.0	1266.8	1267.7	1266.1	1266.5	1268.1

*All Water Level Elevations in Feet Above Mean Sea Level*



**Figure 1 - Well Field Water Level Elevations  
First Quarter 2011**

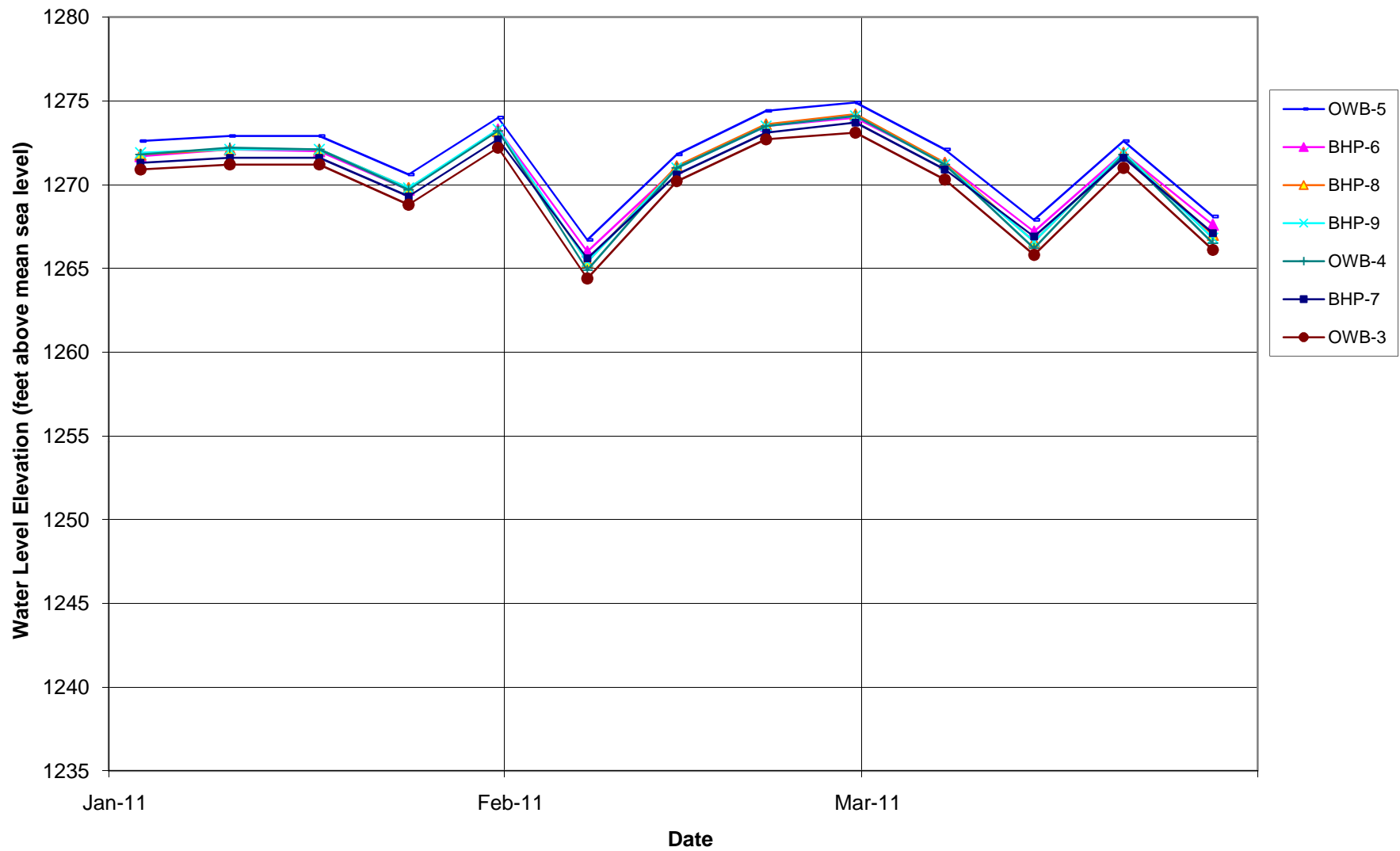
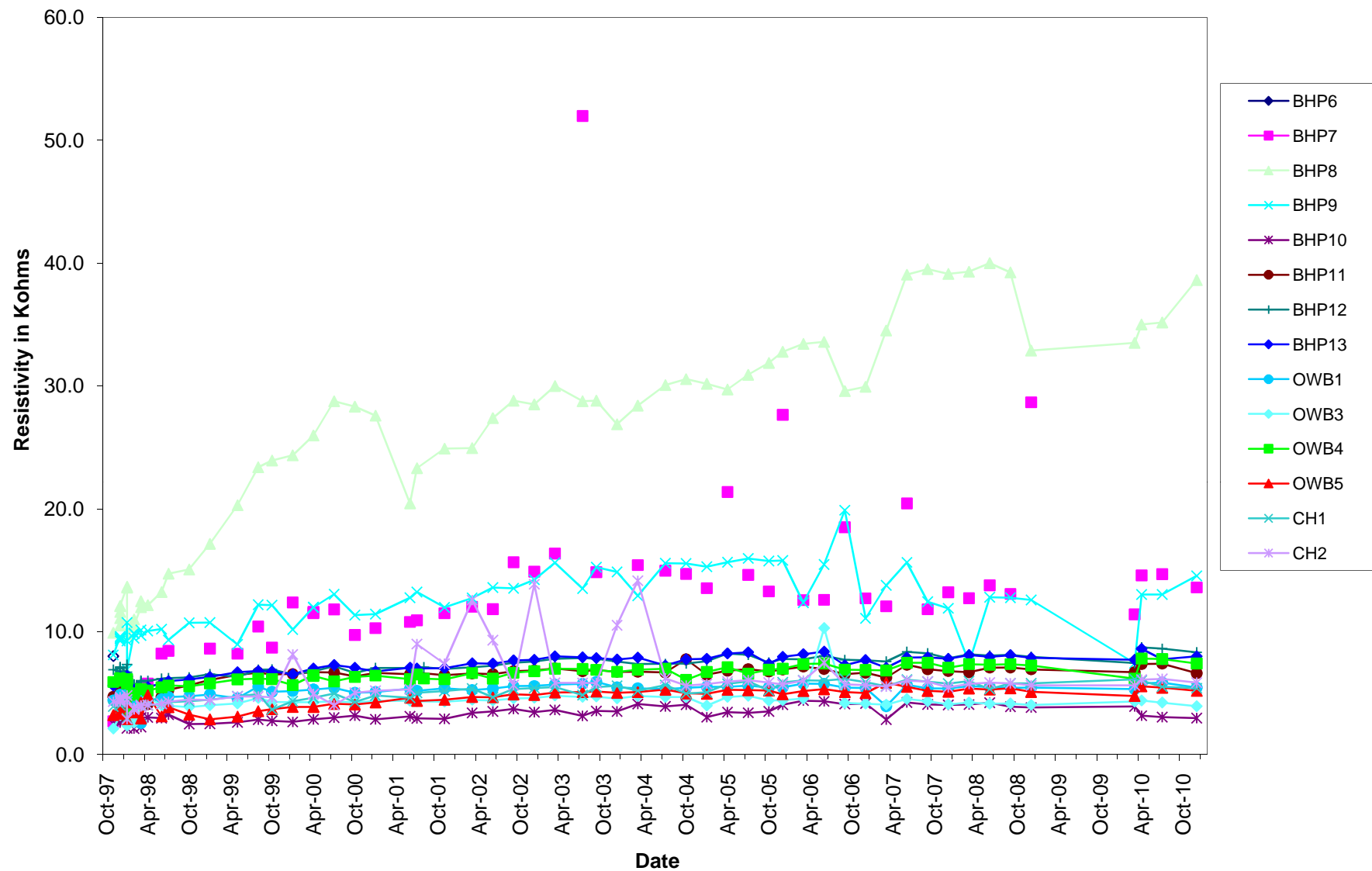


Figure 2 - Well Field Annular Resistivity



## ATTACHMENT 2

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### POC Quarterly Compliance Monitoring Report

# FLORENCE COPPER PROJECT QUARTERLY COMPLIANCE MONITORING REPORT FIRST QUARTER 2011

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## *Sampling Activities*

Quarterly compliance monitoring was conducted for the Florence Copper Project on January 25 through January 28, 2011 (First Quarter 2011). Groundwater sampling and analysis was conducted in accordance with the requirements of Aquifer Protection Permit (APP) No. 101704, Part II.E.3.d (Compliance Monitoring) and Underground Injection Control (UIC) Permit No. AZ396000001 Part II.F. 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 analytical parameters are magnesium, sulfate, fluoride, and total dissolved solids (TDS) in addition to field pH, temperature, and specific conductance.

During the First Quarter 2011 sampling event, 29 POC wells were sampled. Two POC wells (M32-UBF and M33-UBF) were dry and could not be sampled. Analyses of the samples were conducted by TestAmerica Laboratories (TestAmerica). 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.

None of the results exceeded an approved Alert Level (AL).

In the POC network, a downward trend for magnesium and an upward trend for fluoride were observed in the upper aquifer from 2000 to 2008, and stabilizing since 2008. Upward trends were also observed in upgradient wells M2-GU and M18-GU for magnesium, sulfate, and TDS from 2005 to 2007, and declining somewhat since 2008. Site-wide water levels have declined more than 50 feet in all three aquifer zones since the start of monitoring in 1996 to 2004, and have since been relatively stable or have recovered slightly.

## *Contingency Sampling Plans*

No contingency sampling plan was required during the First Quarter 2011. No contingency sampling plan is required for the Second Quarter of 2011.

## *Issues*

There were no other issues to report during the First Quarter 2011.



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 27 2011	19.0	31	103	109	0.68	1.3	640	1028
M2-GU	Jan 27 2011	22.0	39	141	275	0.76	1.4	830	1496
M3-GL	Jan 27 2011	18.0	36	118	187	0.68	1.3	650	1157
M4-O	Jan 27 2011	4.1	15	57	405	2.4	5.1	430	1072
M6-GU	Jan 27 2011	2.8	5.1	52	86	0.58	1.3	380	620
M6-GU (Dup)	Jan 27 2011	2.7	5.1	53	86	0.65	1.3	380	620
M7-GL	Jan 26 2011	<0.25	1	35	82	0.78	1.7	260	464
M8-O	Jan 27 2011	<0.25	1	72	122	1.9	3.6	380	609
M14-GL	Jan 27 2011	2.0	23	59	144	0.58	1.4	420	874
M15-GU	Jan 27 2011	23.0	44	85	126	0.47	1.2	800	1359
M16-GU	Jan 28 2011	26.0	52	182	248	0.51	1.1	950	1635
M17-GL	Jan 28 2011	5.0	9.3	110	209	0.71	1.6	460	831
M17-GL (Dup)	Jan 28 2011	4.8	9.3	110	209	0.71	1.6	460	831
M18-GU	Jan 27 2011	21.0	36	170	288	0.86	1.6	820	1323
M19-LBF	Jan 26 2011	12.0	21	54	89	0.42	1	440	794
M20-O	Jan 26 2011	7.9	14	66	112	0.6	1.7	460	809
M21-UBF	Jan 26 2011	20.0	87	143	487	0.78	1.1	770	2867
M22-O	Jan 27 2011	6.1	8.6	56	86	0.7	1.3	430	1094
M23-UBF	Jan 27 2011	33.0	69	242	411	0.68	1.3	1200	2392
M24-O	Jan 28 2011	8.7	19	765	1364	1.1	2.5	1300	2363
M25-UBF	Jan 28 2011	21.0	76	188	387	0.81	1.6	860	2683
M26-O	Jan 26 2011	<0.25	1	64	105	1.6	3.4	320	556
M27-LBF	Jan 26 2011	31.0	51	161	179	<0.4	1	1100	1745
M28-LBF	Jan 26 2011	1.6	2.6	51	81	0.74	1.6	360	610
M29-UBF	Jan 26 2011	25.0	84	215	465	0.68	1.1	940	2751
M30-O	Jan 26 2011	10.0	18	61	102	0.6	1.6	490	824
M31-LBF	Jan 26 2011	18.0	46	139	330	0.89	1.3	710	1665
O19-GL	Jan 26 2011	8.7	17	59	99	0.52	1.4	460	770
O49-GL	Jan 25 2011	9.2	18	68	159	0.44	1	530	849
P19-1-O	Jan 26 2011	5.8	12	67	107	1.4	2.8	460	767
P49-O	Jan 26 2011	3.6	6.2	105	181	0.85	2	460	801
P49-O (Dup)	Jan 26 2011	3.3	6.2	105	181	0.93	2	460	801
Arizona Aquifer Water Quality Standard									

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 27 2011	22.0	71.6	7.50	1039
M2-GU	Jan 27 2011	20.4	68.7	7.38	1202
M3-GL	Jan 27 2011	21.4	70.5	7.54	981
M4-O	Jan 27 2011	23.4	74.1	7.36	635
M6-GU	Jan 27 2011	24.6	76.3	8.60	672
M7-GL	Jan 26 2011	24.4	75.9	9.41	491
M8-O	Jan 27 2011	29.0	84.2	8.80	659
M14-GL	Jan 27 2011	27.4	81.3	8.60	786
M15-GU	Jan 27 2011	24.7	76.5	7.49	1321
M16-GU	Jan 28 2011	23.9	75.0	7.43	1497
M17-GL	Jan 28 2011	27.6	81.7	8.33	819
M18-GU	Jan 27 2011	20.2	68.4	7.36	1175
M19-LBF	Jan 26 2011	23.4	74.1	7.70	768
M20-O	Jan 26 2011	24.4	75.9	7.59	749
M21-UBF	Jan 26 2011	22.5	72.5	7.36	1209
M22-O	Jan 27 2011	28.9	84.0	8.08	772
M23-UBF	Jan 27 2011	22.1	71.8	7.15	1760
M24-O	Jan 28 2011	29.7	85.5	7.82	1910
M25-UBF	Jan 28 2011	20.7	69.3	7.30	1254
M26-O	Jan 26 2011	28.4	83.1	8.57	573
M27-LBF	Jan 26 2011	22.6	72.7	7.50	1557
M28-LBF	Jan 26 2011	25.6	78.1	8.39	660
M29-UBF	Jan 26 2011	22.0	71.6	7.19	1396
M30-O	Jan 26 2011	23.6	74.5	7.45	770
M31-LBF	Jan 26 2011	22.3	72.1	7.50	1110
O19-GL	Jan 26 2011	24.0	75.2	7.82	759
O49-GL	Jan 25 2011	25.7	78.3	8.09	871
P19-1-O	Jan 26 2011	24.5	76.1	7.60	730
P49-O	Jan 26 2011	27.6	81.7	7.63	767

°C = Degrees Celcius

°F = Degrees Fahrenheit

µmhos/cm = Micromhos per Centimeter