

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

**ROGER AMES**  
**ENVIRONMENTAL MANAGER**

**January 27, 2005**

Mr. Barry Rechterovich  
Arizona Department of Environmental Quality  
1110 West Washington Street  
Phoenix, Arizona 85007

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

15-121622.009

Subject: Cessation of Hydraulic Control  
Florence Copper, Florence, Arizona  
Aquifer Protect Permit No. 101704  
Underground Injection Control Permit No. AZ39600001

Gentlemen:

This is to inform you of the final results of sampling that was conducted following cessation of hydraulic control at the Florence Project In-Situ Test Field.

Following your approval, hydraulic control was suspended for 90 days beginning on September 1, 2004, in accordance with the procedure outlined in Chapter 6 of the *Proposed Cessation of Hydraulic Control at the Florence Project In-Situ Test Field*, dated April 21, 2004. Sampling was performed on December 6 and 7, 2004, within 10 days following the 90th day of the suspension. Samples were preserved for analysis of all Aquifer Protection Permit (APP) Part IV, Table III.C constituents, excluding organics, and analyzed for sulfates. Sulfate results from the December 2003 and December 2004 sampling events were presented to you in a letter dated December 29, 2004 and are included as Table 1.

Step 4 of the schedule presented in Section 6 includes the three following paragraphs that prescribe the analyses that are to be performed depending upon the reported sulfate concentrations.

- (a) If the sulfate value does not exceed the 2003 sulfate value by a factor of more than 1.25, the groundwater will be considered to have met the conditions of both the APP and Underground Injection Control (UIC) permit and no further analysis will be required.
- (b) If the sulfate value exceeds the 2003 value by a factor of more than 1.25, but is less than either of the 2000 or 2001 sulfate values, any constituents, excluding gross alpha and radium, from preceding years which exceeded Aquifer Water Quality Standard (AWQS) will be analyzed. If these constituents are found to meet AWQS or if the well has no history of AWQS exceedances other than gross alpha and radium, then groundwater will be considered to have met the conditions of both the APP and UIC permit and no further analysis will be required. If an AWQS exceedance is reported, rinsing will continue.
- (c) If the sulfate value exceeds the 2003 sulfate value by more than a factor of 1.25 and also exceeds the values reported in 2000 and 2001, the sample will be analyzed for all Part IV, Table III.C constituents excluding organics. If the analysis indicates that all constituents other than gross alpha and radium meet the numeric AWQS, the groundwater will be considered to have met the conditions of both the APP and UIC permit and no further work will be required. If any of the constituents, other than gross alpha or radium, exceed the numeric AWQS, rinsing will continue.

Samples from two wells, BHP-4 and OWB-3, had sulfate concentrations that exceeded the 2003 concentrations by more than a factor of 1.25. In both cases, the sulfate values also exceeded the values reported in 2000 and 2001. Therefore, samples from BHP-4 and OWB-3 were analyzed for all Part IV, Table III.C constituents, excluding organics. Organics are excluded because, as explained in Section 6, none have been detected in any of the samples collected during the three previous sampling events. The December 2004 results are compared to previous results in Table 2. All results were below the associated AWQS. Laboratory data for the December 2004 sampling event is included as Attachment 1.

This concludes the 90-day test in accordance with the permit. Florence Copper is therefore requesting permission at this time to abandon the wells in the test field.

Mr. Barry Rechterovich, Mr. Martin Zeleznik

January 27, 2005

Page 3

Please contact me at (480) 596-0605 should you have any questions regarding this letter.

Sincerely,

A handwritten signature in black ink that reads "Roger Ames". The signature is written in a cursive, flowing style.

Roger Ames  
Environmental Manager

BAS:lld  
Attachments

cc: Florence Copper File – Pete Kelm  
Barbara Sylvester, Brown and Caldwell

Florence Copper  
 Florence, Arizona

TABLE 1. TEST FIELD - SULFATE RESULTS

Well ID	Dec-2003	1.25 Factor	Dec-2004
<b>Injection/Pumping Wells</b>			
BHP-6	150	188	130
BHP-7	97	121	85
BHP-8	160	200	150
BHP-9	130	163	110
<b>Recovery Wells</b>			
BHP-1	130	163	110
BHP-2	67	84	58
BHP-3	69	86	66
BHP-4	130	163	<b>180</b>
BHP-5	67	84	68
BHP-10	60	75	55
BHP-11	97	121	95
BHP-12	76	95	70
BHP-13	57	71	51
<b>Observation Wells</b>			
CH1-B	140	175	96
CH1-R	300	375	300
CH2-B	120	150	90
CH2-R	100	125	86
OWB-1	62	78	57
OWB-2	180	225	160
OWB-3	58	73	<b>76</b>
OWB-4	59	74	49
OWB-5	60	75	55
All results are in milligrams per liter (mg/L) NA = Not sampled or not analyzed <b>Bold indicates values that exceeded the 1.25 factor increase threshold</b>			

Florence Copper  
Florence, Arizona

TABLE 2. TEST FIELD RESULTS

Analyte	BHP-4				OWB-3				AWQS	Units
	Sep-00	Jun-01	Dec-03	Dec-04	Sep-00	Jun-01	Dec-03	Dec-04		
<b>Field Parameters</b>										
Temperature	23.5	24.1	22.8	23.3	23.6	23.7	22.2	22.4	NE	C
pH	7.12	7.14	6.96	7.10	6.98	7.53	7.23	7.83	NE	pH
Electroconductivity	918	874	853	982	822	805	775	817	NE	umhos/sec
<b>Metals</b>										
Aluminum	0.043	<0.025	<0.1	<0.20	0.026	<0.025	<0.1	<0.20	NE	mg/L
Antimony	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	mg/L
Arsenic	<0.001	<0.001	0.002	0.0017	0.0014	<0.001	0.0016	0.0015	0.05	mg/L
Barium	0.022	0.017	0.017	0.019	0.017	0.018	0.014	0.016	2	mg/L
Beryllium	<0.0025	<0.002	<0.001	<0.001	<0.0025	<0.002	<0.001	<0.001	0.004	mg/L
Cadmium	<0.002	<0.002	<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	0.005	mg/L
Chromium	<0.005	<0.005	0.0011	<0.001	<0.005	<0.005	0.0013	0.0012	0.1	mg/L
Cobalt	<0.005	<0.005	<0.001	0.0035	<0.005	<0.005	<0.001	<0.001	NE	mg/L
Copper	0.43	0.29	0.22	0.22	0.014	0.011	0.016	0.0083	NE	mg/L
Iron	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NE	mg/L
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.05	mg/L
Manganese	0.053	0.025	0.014	0.014	<0.0025	<0.0025	<0.0025	<0.0025	NE	mg/L
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.002	mg/L
Nickel	<0.02	<0.02	0.0062	0.0072	<0.02	<0.02	0.002	0.0018	0.1	mg/L
Selenium	0.001	0.0015	0.0012	<0.001	0.0014	<0.001	<0.001	<0.001	0.05	mg/L
Thallium	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	0.002	mg/L
Zinc	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NE	mg/L

Florence Copper  
Florence, Arizona

TABLE 2. TEST FIELD RESULTS

Analyte	BHP-4				OWB-3				AWQS	Units
	Sep-00	Jun-01	Dec-03	Dec-04	Sep-00	Jun-01	Dec-03	Dec-04		
<b>Common Ions</b>										
Total Alkalinity	120	120	130	110	140	140	160	140	NE	mg/L
Calcium	85	71	72	89	69	66	61	70	NE	mg/L
Chloride	150	140	140	120	140	120	130	130	NE	mg/L
Fluoride	1.2	1.1	0.88	1.10	0.52	0.53	0.53	0.60	4	mg/L
Magnesium	19	16	16	20	14	13	12	14	NE	mg/L
Nitrate, as N	<0.1	<0.5	0.45	0.66	0.36	<0.5	0.46	0.63	10	mg/L
Potassium	6.1	5.1	7.6	8.6	5.1	5.2	6.7	7.0	NE	mg/L
Sodium	87	76	94	110	85	82	90	97	NE	mg/L
Sulfate	110	93	130	180	57	48	58	76	NE	mg/L
Total Dissolved Solids	493	517	550	710	445	487	480	530	NE	mg/L
Ion Balance	11	7	2	10.4	12	16	3.77	9.95	NE	Calc
<b>Radiochemicals</b>										
Gross Alpha	NA	19.3 ± 2.3	16.0 ± 1.9	14.2 ± 1.9	NA	8.2 ± 1.4	8.7 ± 1.3	9.9 ± 1.6	NE	pCi/L
Uranium	NA	7.2 ± 1.4	7.5 ± 1.0	NA	NA	NA	NA	NA	NE	pCi/L
Adjusted Gross Alpha	NA	12.1 ± 2.7	8.5 ± 2.2	NA	NA	NA	NA	NA	15	pCi/L
Radium 226	NA	2.8 ± 0.5	2.1 ± 0.2	2.9 ± 0.3	NA	1.3 ± 0.2	1.7 ± 0.2	1.5 ± 0.2	NE	pCi/L
Radium 228	NA	2.3 ± 0.3	0.3 ± 0.3	0.7 ± 0.3	NA	0.8 ± 0.3	<0.3	0.6 ± 0.3	NE	pCi/L
Total Radium	NA	<b>5.1 ± 0.6</b>	2.4 ± 0.4	3.6 ± 0.4	NA	2.1 ± 0.4	1.7 ± 0.2	2.1 ± 0.4	5	pCi/L
<p>&lt; = Less than reporting limit            NA = Not Analyzed            AWQS = Aquifer Water Quality Standard            NE = Not Established  <b>Bold</b> indicates values exceeds AWQS</p> <p style="text-align: right;">Uranium is analyzed when Gross Alpha exceeds 15.0            Adjusted Gross Alpha = Gross Alpha - Uranium            Radium 226 and Radium 228 are analyzed when Gross Alpha exceeds 5.0            Total Radium = Radium 226 + Radium 228</p>										

**ATTACHMENT 1**  
**ANALYTICAL REPORTS**



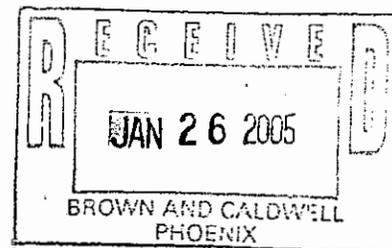
# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Friday, January 21, 2005

Amended 1/21/2005

Barbara Sylvester  
Brown & Caldwell  
201 East Washington Street  
Suite 500  
Phoenix, AZ 85004  
TEL: (602) 567-4000  
FAX: (602) 567-4001



RE: Florence Copper

Order No.: 04120578

Dear Barbara Sylvester:

*This report was amended on 1/21/2005 to add additional analyses.*

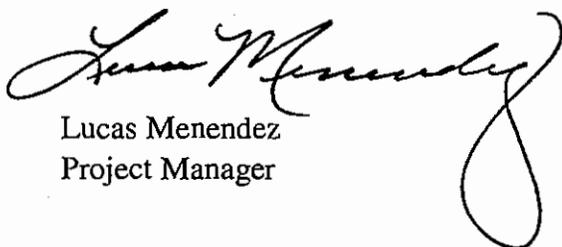
Aerotech Environmental received 13 sample(s) on 12/6/2004 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

  
Lucas Menendez  
Project Manager



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Wednesday, December 22, 2004

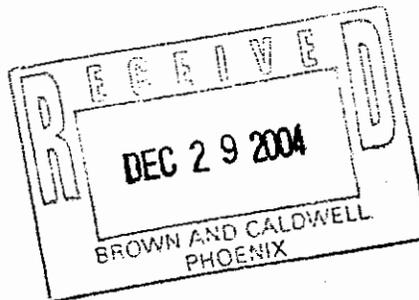
Barbara Sylvester  
Brown & Caldwell  
201 East Washington Street  
Suite 500  
Phoenix, AZ 85004

TEL: (602) 567-4000

FAX (602) 567-4001

RE: Florence Copper

Dear Barbara Sylvester:



Order No.: 04120578

Aerotech Environmental received 13 sample(s) on 12/6/2004 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Lucas Menendez".

Lucas Menendez  
Project Manager



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Project:** Florence Copper  
**Lab Order:** 04120578

## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Laboratories, Inc. (AEL division - Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation. AEL participates in the AIHA Environmental Lead Proficiency Analytical Testing (ELPAT) program for lead in soil, paint chips and dust wipes.

### Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

### Data Qualifiers:

Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

- B1 Target analyte detected in method blank at or above the method reporting limit.
- D2 Sample required dilution due to high concentration of target analyte.
- H1 Sample analysis performed past holding time.
- M6 Matrix spike recovery was high. Data reported per ADEQ policy 0154.000.
- M7 Matrix spike recovery was low. Data reported per ADEQ policy 0154.000.
- N1 The sample selected as the duplicate and matrix spike contained high concentrations of chloride and/or sulfate. The analyte concentration in the sample is disproportionate to the spike level and it was not practical to analyze the sample at a dilution, as the spike would be diluted out. The LCS/LCSD



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

---

**CLIENT:** Brown & Caldwell  
**Project:** Florence Copper  
**Lab Order:** 04120578

## CASE NARRATIVE

---

were recovered acceptably demonstrating that the analytical process was in control.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

<b>CLIENT:</b>	Brown & Caldwell	<b>Client Sample ID:</b>	BHP-8
<b>Lab Order:</b>	04120578	<b>Tag Number:</b>	
<b>Project:</b>	Florence Copper	<b>Collection Date:</b>	12/6/2004 7:50:00 AM
<b>Lab ID:</b>	04120578-01A	<b>Matrix:</b>	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>						Analyst: T S
Sulfate	150	10		mg/L	5	12/6/2004 10:16:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120578  
**Project:** Florence Copper  
**Lab ID:** 04120578-02A

**Client Sample ID:** BHP-9  
**Tag Number:**  
**Collection Date:** 12/6/2004 8:10:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>			<b>E300</b>			<b>Analyst: T S</b>
Sulfate	110	10		mg/L	5	12/6/2004 10:34:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 2 of 14

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

<b>CLIENT:</b>	Brown & Caldwell	<b>Client Sample ID:</b>	BHP-6
<b>Lab Order:</b>	04120578	<b>Tag Number:</b>	
<b>Project:</b>	Florence Copper	<b>Collection Date:</b>	12/6/2004 8:30:00 AM
<b>Lab ID:</b>	04120578-03A	<b>Matrix:</b>	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	130	10		mg/L	5	12/6/2004 10:53:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

- (1) AEL - Tucson Laboratory
- (2) AEL - Knudsen Laboratory

Page 3 of 14

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

**Aerotech Environmental**
**Analytical Report**

Date: 21-Jan-05

<b>CLIENT:</b> Brown & Caldwell	<b>Client Sample ID:</b> BHP-4
<b>Lab Order:</b> 04120578	<b>Tag Number:</b>
<b>Project:</b> Florence Copper	<b>Collection Date:</b> 12/6/2004 8:50:00 AM
<b>Lab ID:</b> 04120578-04A	<b>Matrix:</b> AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Chloride	120	10		mg/L	5	12/6/2004 11:11:00 PM
Fluoride	1.1	0.40		mg/L	1	12/6/2004 5:20:00 PM
Nitrogen, Nitrate (As N)	0.66	0.20		mg/L	1	12/6/2004 5:20:00 PM
Sulfate	180	10		mg/L	5	12/6/2004 11:11:00 PM
<b>ALKALINITY</b>		<b>M2320 B</b>				Analyst: T A
Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	110	2.0	B1;H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	< 2.0	2.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Hydroxide (As CaCO <sub>3</sub> )	< 2.0	2.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Total (As CaCO <sub>3</sub> )	110	6.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
<b>CATION/ANION BALANCE</b>		<b>CALC</b>				Analyst: D N
Cation/Anion Balance	10.4	0		% difference	1	1/6/2005
<b>PH (3)</b>		<b>E150.1</b>				Analyst: D N
pH	7.56	2.00	H1	pH units	1	12/28/2004 3:42:00 PM
<b>RESIDUE, FILTERABLE</b>		<b>M2540 C</b>				Analyst: AC
Total Dissolved Solids	710	10	H1	mg/L	1	12/14/2004

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

- (1) AEL - Tucson Laboratory
- (2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120578  
**Project:** Florence Copper  
**Lab ID:** 04120578-04B

**Client Sample ID:** BHP-4  
**Tag Number:**  
**Collection Date:** 12/6/2004 8:50:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ICP METALS, DISSOLVED</b>		<b>E200.7</b>		Analyst: TD		
Aluminum, Dissolved	< 0.20	0.20		mg/L	1	12/17/2004
Calcium, Dissolved	89	2.0		mg/L	1	12/17/2004
Iron, Dissolved	< 0.050	0.050		mg/L	1	12/17/2004
Magnesium, Dissolved	20	2.0		mg/L	1	12/17/2004
Potassium, Dissolved	8.6	2.0		mg/L	1	12/17/2004
Sodium, Dissolved	110	2.0		mg/L	1	12/17/2004
Zinc, Dissolved	< 0.050	0.050		mg/L	1	12/17/2004
<b>ICP/MS METALS, DISSOLVED</b>		<b>E200.8</b>		Analyst: RF		
Antimony, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Arsenic, Dissolved	0.0017	0.0010		mg/L	1	1/3/2005
Barium, Dissolved	0.019	0		mg/L	1	1/3/2005
Beryllium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Cadmium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Chromium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Cobalt, Dissolved	0.0035	0.0010		mg/L	1	1/3/2005
Copper, Dissolved	0.22	0.0010		mg/L	1	1/3/2005
Lead, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Manganese, Dissolved	0.014	0.0025		mg/L	1	1/3/2005
Nickel, Dissolved	0.0072	0.0010		mg/L	1	1/3/2005
Selenium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Thallium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
<b>DISSOLVED MERCURY IN WATERS</b>		<b>E245.1</b>		Analyst: PC		
Mercury, Dissolved	< 0.00020	0.00020		mg/L	1	12/30/2004

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

<b>CLIENT:</b>	Brown & Caldwell	<b>Client Sample ID:</b>	BHP-3
<b>Lab Order:</b>	04120578	<b>Tag Number:</b>	
<b>Project:</b>	Florence Copper	<b>Collection Date:</b>	12/6/2004 9:10:00 AM
<b>Lab ID:</b>	04120578-05A	<b>Matrix:</b>	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	66	2.0		mg/L	1	12/6/2004 5:38:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 6 of 14



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120578  
**Project:** Florence Copper  
**Lab ID:** 04120578-06A

**Client Sample ID:** BHP-7  
**Tag Number:**  
**Collection Date:** 12/6/2004 9:30:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>						
Sulfate	85	E300 2.0		mg/L	1	Analyst: T S 12/6/2004 5:57:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120578  
**Project:** Florence Copper  
**Lab ID:** 04120578-07A

**Client Sample ID:** BHP-10  
**Tag Number:**  
**Collection Date:** 12/6/2004 9:50:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				<b>Analyst: T S</b>
Sulfate	55	2.0		mg/L	1	12/6/2004 6:15:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

<b>CLIENT:</b> Brown & Caldwell	<b>Client Sample ID:</b> BHP-5
<b>Lab Order:</b> 04120578	<b>Tag Number:</b>
<b>Project:</b> Florence Copper	<b>Collection Date:</b> 12/6/2004 10:10:00 AM
<b>Lab ID:</b> 04120578-08A	<b>Matrix:</b> AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				<b>Analyst: T S</b>
Sulfate	68	2.0		mg/L	1	12/6/2004 6:34:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120578  
**Project:** Florence Copper  
**Lab ID:** 04120578-09A

**Client Sample ID:** OWB-6  
**Tag Number:**  
**Collection Date:** 12/6/2004 10:20:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	67	2.0		mg/L	1	12/6/2004 6:52:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

<b>CLIENT:</b>	Brown & Caldwell	<b>Client Sample ID:</b>	BHP-2
<b>Lab Order:</b>	04120578	<b>Tag Number:</b>	
<b>Project:</b>	Florence Copper	<b>Collection Date:</b>	12/6/2004 10:30:00 AM
<b>Lab ID:</b>	04120578-10A	<b>Matrix:</b>	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	58	2.0		mg/L	1	12/6/2004 7:11:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 11 of 14

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120578  
**Project:** Florence Copper  
**Lab ID:** 04120578-11A

**Client Sample ID:** BHP-12  
**Tag Number:**  
**Collection Date:** 12/6/2004 10:50:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	70	2.0		mg/L	1	12/6/2004 8:43:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

**Aerotech Environmental**

**Analytical Report**

**Date:** 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120578  
**Project:** Florence Copper  
**Lab ID:** 04120578-12A

**Client Sample ID:** OWB-7  
**Tag Number:**  
**Collection Date:** 12/6/2004 11:00:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>						Analyst: T S
Sulfate	70	2.0		mg/L	1	12/6/2004 9:39:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 13 of 14

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120578  
**Project:** Florence Copper  
**Lab ID:** 04120578-13A

**Client Sample ID:** BHP-13  
**Tag Number:**  
**Collection Date:** 12/6/2004 11:10:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	51	2.0		mg/L	1	12/6/2004 9:57:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



Aerotech Environmental

Date: 21-Jan-05

CLIENT: Brown & Caldwell  
Work Order: 04120578  
Project: Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 200.7\_DISS

Sample ID MB-19992	SampType: MBLK	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653715						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum, Dissolved	< 0.20	0.20									
Calcium, Dissolved	< 2.0	2.0									
Iron, Dissolved	< 0.050	0.050									
Magnesium, Dissolved	< 2.0	2.0									
Potassium, Dissolved	< 2.0	2.0									
Sodium, Dissolved	< 2.0	2.0									

Sample ID MB-19992	SampType: MBLK	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/21/2004	SeqNo: 655368						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zinc, Dissolved	< 0.050	0.050									
-----------------	---------	-------	--	--	--	--	--	--	--	--	--

Sample ID LCS-19992	SampType: LCS	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653713						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum, Dissolved	0.9800	0.20	1	0	98.0	85	115				
Calcium, Dissolved	10.50	2.0	10.5	0	100	85	115				
Iron, Dissolved	0.5070	0.050	0.5	0	101	85	115				
Magnesium, Dissolved	10.50	2.0	10.5	0	100	85	115				
Potassium, Dissolved	10.30	2.0	10	0	103	85	115				
Sodium, Dissolved	9.900	2.0	10	0	99.0	85	115				

Qualifiers: E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 200.7\_DISS**

Sample ID	LCS-19992	SampType: LCS	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722					
Client ID:		Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/21/2004	SeqNo: 655369					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc, Dissolved	0.4950	0.050	0.5	0	99.0	85	115				

Sample ID	LCSD-19992	SampType: LCSD	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722					
Client ID:		Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653714					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum, Dissolved	1.020	0.20	1	0	102	85	115	0.9800	4.00	20	
Calcium, Dissolved	10.60	2.0	10.5	0	101	85	115	10.50	0.948	20	
Iron, Dissolved	0.5200	0.050	0.5	0	104	85	115	0.5070	2.53	20	
Magnesium, Dissolved	10.80	2.0	10.5	0	103	85	115	10.50	2.82	20	
Potassium, Dissolved	10.40	2.0	10	0	104	85	115	10.30	0.966	20	
Sodium, Dissolved	10.20	2.0	10	0	102	85	115	9.900	2.99	20	

Sample ID	LCSD-19992	SampType: LCSD	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722					
Client ID:		Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/21/2004	SeqNo: 655370					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc, Dissolved	0.4920	0.050	0.5	0	98.4	85	115	0.4950	0.608	20	

Sample ID	04120697-02B MS	SampType: MS	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722					
Client ID:		Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653711					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum, Dissolved	1.080	0.20	1	0	108	86.8	131				
Calcium, Dissolved	382.0	2.0	10.5	371.0	105	70	130				
Iron, Dissolved	0.4810	0.050	0.5	0	96.2	84.7	117				
Magnesium, Dissolved	57.20	2.0	10.5	47.40	93.3	79	121				
Potassium, Dissolved	23.60	2.0	10	7.860	157	70	130				M6

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.7\_DISS**

Sample ID 04120697-02B MS	SampType: MS	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653711						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium, Dissolved	96.00	2.0	10	82.30	137	70	130				M6

Sample ID 04120697-06B MS	SampType: MS	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 654154						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum, Dissolved	1.080	0.20	1	0	108	86.8	131				
Calcium, Dissolved	378.0	2.0	10.5	363.0	143	70	130				M6
Iron, Dissolved	0.4640	0.050	0.5	0	92.8	84.7	117				
Magnesium, Dissolved	57.90	2.0	10.5	47.70	97.1	79	121				
Potassium, Dissolved	23.30	2.0	10	7.750	156	70	130				M6
Sodium, Dissolved	97.20	2.0	10	81.20	160	70	130				M6
Zinc, Dissolved	0.5340	0.050	0.5	0	107	88.1	117				

Sample ID 04120697-02B MSD	SampType: MSD	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653712						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum, Dissolved	1.080	0.20	1	0	108	86.8	131	1.080	0	9.98	
Calcium, Dissolved	377.0	2.0	10.5	371.0	57.1	63.1	131	382.0	1.32	5.57	M7
Iron, Dissolved	0.4800	0.050	0.5	0	96.0	84.7	117	0.4810	0.208	6.3	
Magnesium, Dissolved	57.80	2.0	10.5	47.40	99.0	79	121	57.20	1.04	4.55	
Potassium, Dissolved	23.80	2.0	10	7.860	159	70	130	23.60	0.844	5.29	M6
Sodium, Dissolved	98.10	2.0	10	82.30	158	70	130	96.00	2.16	7.28	M6

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.7\_DISS**

Sample ID	04120697-06B MSD	SampType: MSD	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722					
Client ID:	Batch ID: 19992	TestNo: E200.7	Analysis Date: 12/17/2004	SeqNo: 654155							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum, Dissolved	1.080	0.20	1	0	108	86.8	131	1.080	0	9.98	
Calcium, Dissolved	377.0	2.0	10.5	363.0	133	63.1	131	378.0	0.265	5.57	M6
Iron, Dissolved	0.4640	0.050	0.5	0	92.8	84.7	117	0.4640	0	6.3	
Magnesium, Dissolved	56.80	2.0	10.5	47.70	86.7	79	121	57.90	1.92	4.55	
Potassium, Dissolved	23.20	2.0	10	7.750	154	70	130	23.30	0.430	5.29	M6
Sodium, Dissolved	95.20	2.0	10	81.20	140	70	130	97.20	2.08	7.28	M6
Zinc, Dissolved	0.5310	0.050	0.5	0	106	88.1	117	0.5340	0.563	5.13	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_DISS**

Sample ID <b>MB-20120</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_DISS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/30/2004</b>	RunNo: <b>55128</b>						
Client ID:	Batch ID: <b>20120</b>	TestNo: <b>E200.8</b>		Analysis Date: <b>1/3/2005</b>	SeqNo: <b>658599</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	< 0.0010	0.0010									
Arsenic, Dissolved	< 0.0010	0.0010									
Barium, Dissolved	< 0.0010	0.0010									
Beryllium, Dissolved	< 0.0010	0.0010									
Cadmium, Dissolved	< 0.0010	0.0010									
Chromium, Dissolved	< 0.0010	0.0010									
Cobalt, Dissolved	< 0.0010	0.0010									
Copper, Dissolved	< 0.0010	0.0010									
Lead, Dissolved	< 0.0010	0.0010									
Manganese, Dissolved	< 0.0050	0.0050									
Nickel, Dissolved	< 0.0010	0.0010									
Selenium, Dissolved	< 0.0010	0.0010									
Thallium, Dissolved	< 0.0010	0.0010									

Sample ID <b>LCS-20120</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_DISS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/30/2004</b>	RunNo: <b>55128</b>						
Client ID:	Batch ID: <b>20120</b>	TestNo: <b>E200.8</b>		Analysis Date: <b>1/3/2005</b>	SeqNo: <b>658600</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	0.1051	0.0010	0.1	0	105	85	115				
Arsenic, Dissolved	0.1077	0.0010	0.1	0	108	85	115				
Barium, Dissolved	0.1055	0.0010	0.1	0	106	85	115				
Beryllium, Dissolved	0.1064	0.0010	0.1	0	106	85	115				
Cadmium, Dissolved	0.1047	0.0010	0.1	0	105	85	115				
Chromium, Dissolved	0.1009	0.0010	0.1	0	101	85	115				
Cobalt, Dissolved	0.1017	0.0010	0.1	0	102	85	115				
Copper, Dissolved	0.09951	0.0010	0.1	0	99.5	85	115				
Lead, Dissolved	0.1007	0.0010	0.1	0	101	85	115				
Manganese, Dissolved	0.1022	0.0050	0.1	0	102	85	115				
Nickel, Dissolved	0.1005	0.0010	0.1	0	101	85	115				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_DISS**

Sample ID	LCS-20120	SampType: LCS	TestCode: 200.8_DISS	Units: mg/L	Prep Date: 12/30/2004	RunNo: 55128					
Client ID:		Batch ID: 20120	TestNo: E200.8		Analysis Date: 1/3/2005	SeqNo: 658600					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium, Dissolved	0.1095	0.0010	0.1	0	109	85	115				
Thallium, Dissolved	0.1042	0.0010	0.1	0	104	85	115				

Sample ID	LCSD-20120	SampType: LCSD	TestCode: 200.8_DISS	Units: mg/L	Prep Date: 12/30/2004	RunNo: 55128					
Client ID:		Batch ID: 20120	TestNo: E200.8		Analysis Date: 1/3/2005	SeqNo: 658610					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	0.1043	0.0010	0.1	0	104	85	115	0.1051	0.745	20	
Arsenic, Dissolved	0.1062	0.0010	0.1	0	106	85	115	0.1077	1.43	20	
Barium, Dissolved	0.1056	0.0010	0.1	0	106	85	115	0.1055	0.0758	20	
Beryllium, Dissolved	0.1061	0.0010	0.1	0	106	85	115	0.1064	0.227	20	
Cadmium, Dissolved	0.1047	0.0010	0.1	0	105	85	115	0.1047	0.0105	20	
Chromium, Dissolved	0.09924	0.0010	0.1	0	99.2	85	115	0.1009	1.67	20	
Cobalt, Dissolved	0.1005	0.0010	0.1	0	100	85	115	0.1017	1.27	20	
Copper, Dissolved	0.09906	0.0010	0.1	0	99.1	85	115	0.09951	0.456	20	
Lead, Dissolved	0.1011	0.0010	0.1	0	101	85	115	0.1007	0.408	20	
Manganese, Dissolved	0.1013	0.0050	0.1	0	101	85	115	0.1022	0.877	20	
Nickel, Dissolved	0.09952	0.0010	0.1	0	99.5	85	115	0.1005	0.981	20	
Selenium, Dissolved	0.1104	0.0010	0.1	0	110	85	115	0.1095	0.823	20	
Thallium, Dissolved	0.1041	0.0010	0.1	0	104	85	115	0.1042	0.139	20	

Sample ID	04120578-04B MS	SampType: MS	TestCode: 200.8_DISS	Units: mg/L	Prep Date: 12/30/2004	RunNo: 55128					
Client ID:	BHP-4	Batch ID: 20120	TestNo: E200.8		Analysis Date: 1/3/2005	SeqNo: 658602					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	0.08708	0.0010	0.1	0	87.1	75.9	121				
Arsenic, Dissolved	0.1008	0.0010	0.1	0.001667	99.1	76.1	124				
Barium, Dissolved	0.1087	0.0010	0.1	0.01861	90.1	76.3	115				
Beryllium, Dissolved	0.09860	0.0010	0.1	0	98.6	70	130				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



CLIENT: Brown & Caldwell  
 Work Order: 04120578  
 Project: Florence Copper

## ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8\_DISS

Sample ID	04120578-04B MS	SampType: MS	TestCode: 200.8_DISS	Units: mg/L	Prep Date: 12/30/2004	RunNo: 55128					
Client ID:	BHP-4	Batch ID: 20120	TestNo: E200.8	Analysis Date: 1/3/2005	SeqNo: 658602						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium, Dissolved	0.08252	0.0010	0.1	0	82.5	74.9	112				
Chromium, Dissolved	0.09833	0.0010	0.1	0	98.3	70	130				
Cobalt, Dissolved	0.09544	0.0010	0.1	0.003494	92.0	74	119				
Copper, Dissolved	0.2834	0.0010	0.1	0.2174	66.0	70	130				M7
Lead, Dissolved	0.09390	0.0010	0.1	0	93.9	70.6	119				
Manganese, Dissolved	0.1131	0.0050	0.1	0.01362	99.5	72.9	127				
Nickel, Dissolved	0.09442	0.0010	0.1	0.007203	87.2	74.5	111				
Selenium, Dissolved	0.09808	0.0010	0.1	0	98.1	74.6	121				
Thallium, Dissolved	0.09699	0.0010	0.1	0	97.0	70.7	121				

Sample ID	04120578-04B MSD	SampType: MSD	TestCode: 200.8_DISS	Units: mg/L	Prep Date: 12/30/2004	RunNo: 55128					
Client ID:	BHP-4	Batch ID: 20120	TestNo: E200.8	Analysis Date: 1/3/2005	SeqNo: 658603						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	0.08716	0.0010	0.1	0	87.2	75.9	121	0.08708	0.0849	10	
Arsenic, Dissolved	0.09951	0.0010	0.1	0.001667	97.8	76.1	124	0.1008	1.28	10	
Barium, Dissolved	0.1091	0.0010	0.1	0.01861	90.5	76.3	115	0.1087	0.401	10	
Beryllium, Dissolved	0.09941	0.0010	0.1	0	99.4	70	130	0.09860	0.817	10	
Cadmium, Dissolved	0.08184	0.0010	0.1	0	81.8	74.9	112	0.08252	0.820	10	
Chromium, Dissolved	0.09660	0.0010	0.1	0	96.6	70	130	0.09833	1.77	10	
Cobalt, Dissolved	0.09386	0.0010	0.1	0.003494	90.4	74	119	0.09544	1.67	10	
Copper, Dissolved	0.2748	0.0010	0.1	0.2174	57.4	70	130	0.2834	3.08	10	M7
Lead, Dissolved	0.09311	0.0010	0.1	0	93.1	70.6	119	0.09390	0.846	10	
Manganese, Dissolved	0.1099	0.0050	0.1	0.01362	96.3	72.9	127	0.1131	2.87	10	
Nickel, Dissolved	0.09318	0.0010	0.1	0.007203	86.0	74.5	111	0.09442	1.33	10	
Selenium, Dissolved	0.09701	0.0010	0.1	0	97.0	74.6	121	0.09808	1.10	10	
Thallium, Dissolved	0.09732	0.0010	0.1	0	97.3	70.7	121	0.09699	0.347	10	

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 245.1\_W\_DISS**

Sample ID MB-20098	SampType: MBLK	TestCode: 245.1_W_DIS	Units: mg/L	Prep Date: 12/29/2004	RunNo: 55074						
Client ID:	Batch ID: 20098	TestNo: E245.1		Analysis Date: 12/30/2004	SeqNo: 657962						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury, Dissolved	< 0.00020	0.00020									

Sample ID LCS-20098	SampType: LCS	TestCode: 245.1_W_DIS	Units: mg/L	Prep Date: 12/29/2004	RunNo: 55074						
Client ID:	Batch ID: 20098	TestNo: E245.1		Analysis Date: 12/30/2004	SeqNo: 657963						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury, Dissolved	0.005100	0.00020	0.005	0	102	85	115				

Sample ID LCSD-20098	SampType: LCSD	TestCode: 245.1_W_DIS	Units: mg/L	Prep Date: 12/29/2004	RunNo: 55074						
Client ID:	Batch ID: 20098	TestNo: E245.1		Analysis Date: 12/30/2004	SeqNo: 657964						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury, Dissolved	0.005110	0.00020	0.005	0	102	85	115	0.005100	0.196	20	

Sample ID 04120578-04BMS	SampType: MS	TestCode: 245.1_W_DIS	Units: mg/L	Prep Date: 12/29/2004	RunNo: 55074						
Client ID: BHP-4	Batch ID: 20098	TestNo: E245.1		Analysis Date: 12/30/2004	SeqNo: 657966						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury, Dissolved	0.005000	0.00020	0.005	0	100	70	130				

Sample ID 04120578-04BMSD	SampType: MSD	TestCode: 245.1_W_DIS	Units: mg/L	Prep Date: 12/29/2004	RunNo: 55074						
Client ID: BHP-4	Batch ID: 20098	TestNo: E245.1		Analysis Date: 12/30/2004	SeqNo: 657967						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury, Dissolved	0.005110	0.00020	0.005	0	102	70	130	0.005000	2.18	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode:** 300\_W

Sample ID <b>MB-R54313</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54313</b>						
Client ID:	Batch ID: <b>R54313</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/6/2004</b>	SeqNo: <b>649055</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	< 0.40	0.40									
Nitrogen, Nitrate (As N)	< 0.20	0.20									
Sulfate	< 2.0	2.0									

Sample ID <b>MB-R54315</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54315</b>						
Client ID:	Batch ID: <b>R54315</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/6/2004</b>	SeqNo: <b>649082</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 2.0	2.0									
Sulfate	< 2.0	2.0									

Sample ID <b>LCS-R54313</b>	SampType: <b>LCS</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54313</b>						
Client ID:	Batch ID: <b>R54313</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/6/2004</b>	SeqNo: <b>649056</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	4.108	0.40	4	0	103	90	110				
Nitrogen, Nitrate (As N)	3.913	0.20	4	0	97.8	90	110				
Sulfate	20.08	2.0	20	0	100	90	110				

Sample ID <b>LCS-R54315</b>	SampType: <b>LCS</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54315</b>						
Client ID:	Batch ID: <b>R54315</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/6/2004</b>	SeqNo: <b>649083</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	19.54	2.0	20	0	97.7	90	110				N1
Sulfate	20.02	2.0	20	0	100	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 300\_W**

Sample ID	LCSD-R54313	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54313					
Client ID:		Batch ID: R54313	TestNo: E300		Analysis Date: 12/6/2004	SeqNo: 649066					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	4.108	0.40	4	0	103	90	110	4.108	0	20	
Nitrogen, Nitrate (As N)	3.916	0.20	4	0	97.9	90	110	3.913	0.0766	20	
Sulfate	20.08	2.0	20	0	100	90	110	20.08	0.0199	20	

Sample ID	LCSD-R54315	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54315					
Client ID:		Batch ID: R54315	TestNo: E300		Analysis Date: 12/6/2004	SeqNo: 649093					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	19.52	2.0	20	0	97.6	90	110	19.54	0.138	20	N1
Sulfate	20.01	2.0	20	0	100	90	110	20.02	0.0300	20	

Sample ID	04120578-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54313					
Client ID:	BHP-8	Batch ID: R54313	TestNo: E300		Analysis Date: 12/6/2004	SeqNo: 649059					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	5.381	0.40	4	1.082	107	80	120				
Nitrogen, Nitrate (As N)	4.346	0.20	4	0	109	80	120				

Sample ID	04120578-11AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54315					
Client ID:	BHP-12	Batch ID: R54315	TestNo: E300		Analysis Date: 12/6/2004	SeqNo: 649090					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	87.84	2.0	20	70.08	88.8	80	120				

Sample ID	04120578-01ADUP	SampType: DUP	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54313					
Client ID:	BHP-8	Batch ID: R54313	TestNo: E300		Analysis Date: 12/6/2004	SeqNo: 649058					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 300\_W**

Sample ID	04120578-01ADUP	SampType:	DUP	TestCode:	300_W	Units:	mg/L	Prep Date:		RunNo:	54313
Client ID:	BHP-8	Batch ID:	R54313	TestNo:	E300			Analysis Date:	12/6/2004	SeqNo:	649058
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.079	0.40						1.082	0.278	20	
Nitrogen, Nitrate (As N)	0.7030	0.20						0	200	20	

Sample ID	04120578-11ADUP	SampType:	DUP	TestCode:	300_W	Units:	mg/L	Prep Date:		RunNo:	54315
Client ID:	BHP-12	Batch ID:	R54315	TestNo:	E300			Analysis Date:	12/6/2004	SeqNo:	649089
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	70.07	2.0						70.08	0.0114	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120578  
**Project:** Florence Copper

## ANALYTICAL QC SUMMARY REPORT

**TestCode: ALKALINITY**

Sample ID <b>MB-R55031</b>	SampType: <b>MBLK</b>	TestCode: <b>ALKALINITY</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>55031</b>						
Client ID:	Batch ID: <b>R55031</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>12/29/2004</b>	SeqNo: <b>657359</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	2.000	2.0									B1
Alkalinity, Carbonate (As CaCO3)	< 2.0	2.0									
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2.0									
Alkalinity, Total (As CaCO3)	< 6.0	6.0									

Sample ID <b>LCS-R55031</b>	SampType: <b>LCS</b>	TestCode: <b>ALKALINITY</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>55031</b>						
Client ID:	Batch ID: <b>R55031</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>12/29/2004</b>	SeqNo: <b>657360</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	254.0	6.0	250	0	102	90	110				

Sample ID <b>04120174-01ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>ALKALINITY</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>55031</b>						
Client ID:	Batch ID: <b>R55031</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>12/29/2004</b>	SeqNo: <b>657362</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	126.0	2.0						126.0	0	20	B1
Alkalinity, Carbonate (As CaCO3)	< 2.0	2.0						0	0	20	
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2.0						0	0	20	
Alkalinity, Total (As CaCO3)	126.0	6.0						126.0	0	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



CLIENT: Brown & Caldwell  
Work Order: 04120578  
Project: Florence Copper

### ANALYTICAL QC SUMMARY REPORT

TestCode: PH\_W

Sample ID	LCS-R55011	SampType:	LCS	TestCode:	PH_W	Units:	pH units	Prep Date:		RunNo:	55011		
Client ID:		Batch ID:	R55011	TestNo:	E150.1			Analysis Date:	12/28/2004	SeqNo:	657075		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH 7.010 2.00 7 0 100 99.28 100.72

Sample ID	LCSD-R55011	SampType:	LCSD	TestCode:	PH_W	Units:	pH units	Prep Date:		RunNo:	55011		
Client ID:		Batch ID:	R55011	TestNo:	E150.1			Analysis Date:	12/28/2004	SeqNo:	657079		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH 7.000 2.00 7 0 100 99.28 100.72 7.010 0.143 10

Sample ID	04121383-04ADUP	SampType:	DUP	TestCode:	PH_W	Units:	pH units	Prep Date:		RunNo:	55011		
Client ID:		Batch ID:	R55011	TestNo:	E150.1			Analysis Date:	12/28/2004	SeqNo:	657412		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH 7.110 2.00 7.100 0.141 10

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



**Aerotech Environmental Laboratories Sample Receipt Checklist**

Project checked by: \_\_\_\_\_

Laboratory Number: <u>04-12-0578</u>	Checklist completed by: <u>[Signature]</u> <u>12-6-04</u>
Client Name: <u>BROWN &amp; CALDWELL</u>	Signature/Date
Matrix: <u>AQ</u>	Carrier Name: <u>SARB</u>
Date/Time Rec'd: <u>12-6-04 13:26</u> By: <u>JM</u>	

Temperature of Samples? 1.1 °C Circle one: Blue Ice  Wet Ice  Not Present

	Yes	No*	Not Present	Soil Containers:
Shipping container/cooler in good condition?	x			Brass Sleeve _____
Custody seals intact on shipping container/cooler?			x	Glass Jar _____
Custody seals intact on sample containers?			x	Methanol _____
Chain of Custody present and relinquished/received properly?	x			Plastic Bag _____
Chain of Custody agrees with sample labels?	x			Encore Samplers _____
Samples in proper containers/bottles?	x			
Sample containers intact?	x			
All samples received within holding time?	x			
Is there sufficient sample volume to perform the tests?	x			
40mL vials for volatiles & SOCs received with zero headspace?			x	

Total number of bottles received: 39 | IH sample media: \_\_\_\_\_  
 If applicable, how many sample bottles were shipped from AEL-Tucson? N/A

Number of containers received by preservative and by sample number. (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4															
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfit															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes  No  N/A

Preservative & pH	pH of samples upon receipt	If sample received with improper pH, list sample number and adjustments
Metals <2	<2	
Nutrients <2	<2	
Total Phenols <2		
413 (O&G) <2		
418 (TPH) <2		
Cyanide >12		
Sulfide >9		

\*Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.

\*\*The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.

Comments: \_\_\_\_\_

Corrective Action: \_\_\_\_\_









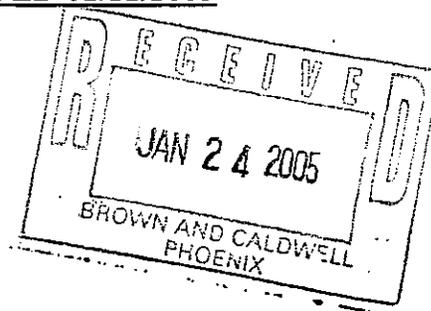
# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Friday, January 21, 2005

AMENDED 01/21/2005

Barbara Sylvester  
Brown & Caldwell  
201 East Washington Street  
Suite 500  
Phoenix, AZ 85004  
TEL: (602) 567-4000  
FAX: (602) 567-4001



RE: Florence Copper

Order No.: 04120624

Dear Barbara Sylvester:

*This report was amended on 1/21/05 to add additional analyses.*

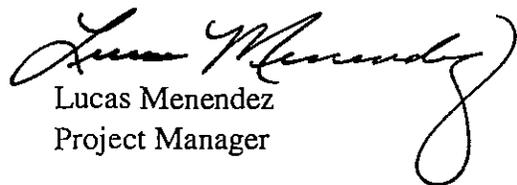
Aerotech Environmental received 12 sample(s) on 12/7/2004 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

  
Lucas Menendez  
Project Manager

Wednesday, December 22, 2004

Barbara Sylvester  
Brown & Caldwell  
201 East Washington Street  
Suite 500  
Phoenix, AZ 85004

TEL: (602) 567-4000  
FAX (602) 567-4001

RE: Florence Copper

Order No.: 04120624

Dear Barbara Sylvester:

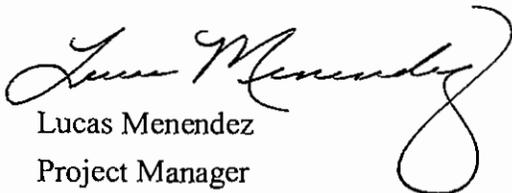
Aerotech Environmental received 12 sample(s) on 12/7/2004 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,



Lucas Menendez  
Project Manager

## Aerotech Environmental

Date: 21-Jan-05

CLIENT: Brown & Caldwell  
Project: Florence Copper  
Lab Order: 04120624

## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Laboratories, Inc. (AEL division - Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation. AEL participates in the AIHA Environmental Lead Proficiency Analytical Testing (ELPAT) program for lead in soil, paint chips and dust wipes.

### Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

### Data Qualifiers:

Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

- B1 Target analyte detected in method blank at or above the method reporting limit.
- D2 Sample required dilution due to high concentration of target analyte.
- H1 Sample analysis performed past holding time.
- M6 Matrix spike recovery was high. Data reported per ADEQ policy 0154.000.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

---

**CLIENT:** Brown & Caldwell  
**Project:** Florence Copper  
**Lab Order:** 04120624

## CASE NARRATIVE

---

M7 Matrix spike recovery was low. Data reported per ADEQ policy 0154.000.

N1 See case narrative.

### N1- Method 300 (Chloride & Sulfate):

The sample selected as the duplicate and matrix spike contained high concentrations of chloride and/or sulfate. The analyte concentration in the sample is disproportionate to the spike level and it was not practical to analyze the sample at a dilution, as the spike would be diluted out. The LCS/LCSD were recovered acceptably demonstrating that the analytical process was in control.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-01A

**Client Sample ID:** BHP-1  
**Tag Number:**  
**Collection Date:** 12/7/2004 7:40:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	110	10	D2	mg/L	5	12/9/2004 11:21:00 AM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

- (1) AEL - Tucson Laboratory
- (2) AEL - Knudsen Laboratory

Page 1 of 14

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-02A

**Client Sample ID:** BHP-11  
**Tag Number:**  
**Collection Date:** 12/7/2004 8:00:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>			<b>E300</b>			Analyst: T S
Sulfate	95	2.0		mg/L	1	12/8/2004 10:52:00 AM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 2 of 14



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-03A

**Client Sample ID:** OWB-4  
**Tag Number:**  
**Collection Date:** 12/7/2004 8:20:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>			<b>E300</b>			<b>Analyst: T S</b>
Sulfate	49	2.0		mg/L	1	12/8/2004 11:11:00 AM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 3 of 14



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

**Date:** 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-04A

**Client Sample ID:** OWB-8  
**Tag Number:**  
**Collection Date:** 12/7/2004 8:30:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>			<b>E300</b>			<b>Analyst: T S</b>
Sulfate	49	2.0		mg/L	1	12/8/2004 11:29:00 AM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 4 of 14



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-05A

**Client Sample ID:** OWB-1  
**Tag Number:**  
**Collection Date:** 12/7/2004 8:50:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>						Analyst: T S
Sulfate	57	E300 2.0		mg/L	1	12/8/2004 11:48:00 AM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

**Date:** 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-06A

**Client Sample ID:** OWB-5  
**Tag Number:**  
**Collection Date:** 12/7/2004 9:20:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>			<b>E300</b>			<b>Analyst: T S</b>
Sulfate	55	2.0		mg/L	1	12/8/2004 12:06:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 6 of 14

**Aerotech Environmental**
**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-07A

**Client Sample ID:** OWB-3  
**Tag Number:**  
**Collection Date:** 12/7/2004 9:50:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>		Analyst: T S		
Chloride	130	10	D2	mg/L	5	12/28/2004 4:46:00 PM
Fluoride	0.60	0.40		mg/L	1	12/8/2004 12:25:00 PM
Nitrogen, Nitrate (As N)	0.63	0.20		mg/L	1	12/8/2004 12:25:00 PM
Sulfate	76	2.0		mg/L	1	12/8/2004 12:25:00 PM
<b>ALKALINITY</b>		<b>M2320 B</b>		Analyst: T A		
Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	140	2.0	B1;H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	< 2.0	2.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Hydroxide (As CaCO <sub>3</sub> )	< 2.0	2.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Total (As CaCO <sub>3</sub> )	140	6.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
<b>CATION/ANION BALANCE</b>		<b>CALC</b>		Analyst: D N		
Cation/Anion Balance	8.77	0		% difference	1	1/6/2005
<b>PH (3)</b>		<b>E150.1</b>		Analyst: D N		
pH	8.00	2.00	H1	pH units	1	12/28/2004 3:42:00 PM
<b>RESIDUE, FILTERABLE</b>		<b>M2540 C</b>		Analyst: AC		
Total Dissolved Solids	520	10		mg/L	1	12/14/2004

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 7 of 14



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-07B

**Client Sample ID:** OWB-3  
**Tag Number:**  
**Collection Date:** 12/7/2004 9:50:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ICP METALS, DISSOLVED</b>		<b>E200.7</b>				Analyst: TD
Aluminum, Dissolved	< 0.20	0.20		mg/L	1	12/17/2004
Calcium, Dissolved	70	2.0		mg/L	1	12/17/2004
Iron, Dissolved	< 0.050	0.050		mg/L	1	12/17/2004
Magnesium, Dissolved	14	2.0		mg/L	1	12/17/2004
Potassium, Dissolved	7.0	2.0		mg/L	1	12/17/2004
Sodium, Dissolved	97	2.0		mg/L	1	12/17/2004
Zinc, Dissolved	< 0.050	0.050		mg/L	1	12/17/2004
<b>ICP/MS METALS, DISSOLVED</b>		<b>E200.8</b>				Analyst: RF
Antimony, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Arsenic, Dissolved	0.0015	0.0010		mg/L	1	1/3/2005
Barium, Dissolved	0.016	0.0010		mg/L	1	1/3/2005
Beryllium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Cadmium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Chromium, Dissolved	0.0012	0.0010		mg/L	1	1/3/2005
Cobalt, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Copper, Dissolved	0.0083	0.0010		mg/L	1	1/3/2005
Lead, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Manganese, Dissolved	< 0.0025	0.0025		mg/L	1	1/3/2005
Nickel, Dissolved	0.0018	0.0010		mg/L	1	1/3/2005
Selenium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Thallium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
<b>DISSOLVED MERCURY IN WATERS</b>		<b>E245.1</b>				Analyst: PC
Mercury, Dissolved	< 0.00020	0.00020		mg/L	1	12/30/2004

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

CLIENT: Brown & Caldwell  
 Lab Order: 04120624  
 Project: Florence Copper  
 Lab ID: 04120624-08A

Client Sample ID: OWB-9  
 Tag Number:  
 Collection Date: 12/7/2004 10:00:00 AM  
 Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Chloride	130	10	D2	mg/L	5	12/28/2004 5:41:00 PM
Fluoride	0.60	0.40		mg/L	1	12/8/2004 12:43:00 PM
Nitrogen, Nitrate (As N)	0.63	0.20		mg/L	1	12/8/2004 12:43:00 PM
Sulfate	76	2.0		mg/L	1	12/8/2004 12:43:00 PM
<b>ALKALINITY</b>		<b>M2320 B</b>				Analyst: T A
Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	140	2.0	B1;H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	< 2.0	2.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Hydroxide (As CaCO <sub>3</sub> )	< 2.0	2.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
Alkalinity, Total (As CaCO <sub>3</sub> )	140	6.0	H1	mg/L CaCO <sub>3</sub>	1	12/29/2004
<b>CATION/ANION BALANCE</b>		<b>CALC</b>				Analyst: D N
Cation/Anion Balance	9.95	0		% difference	1	1/6/2005
<b>PH (3)</b>		<b>E150.1</b>				Analyst: D N
pH	8.01	2.00	H1	pH units	1	12/28/2004 3:42:00 PM
<b>RESIDUE, FILTERABLE</b>		<b>M2540 C</b>				Analyst: AC
Total Dissolved Solids	530	10		mg/L	1	12/14/2004

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-08B

**Client Sample ID:** OWB-9  
**Tag Number:**  
**Collection Date:** 12/7/2004 10:00:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ICP METALS, DISSOLVED</b>		<b>E200.7</b>				Analyst: TD
Aluminum, Dissolved	< 0.20	0.20		mg/L	1	12/17/2004
Calcium, Dissolved	71	2.0		mg/L	1	12/17/2004
Iron, Dissolved	< 0.050	0.050		mg/L	1	12/17/2004
Magnesium, Dissolved	15	2.0		mg/L	1	12/17/2004
Potassium, Dissolved	7.0	2.0		mg/L	1	12/17/2004
Sodium, Dissolved	99	2.0		mg/L	1	12/17/2004
Zinc, Dissolved	< 0.050	0.050		mg/L	1	12/17/2004
<b>ICP/MS METALS, DISSOLVED</b>		<b>E200.8</b>				Analyst: RF
Antimony, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Arsenic, Dissolved	0.0014	0.0010		mg/L	1	1/3/2005
Barium, Dissolved	0.015	0.0010		mg/L	1	1/3/2005
Beryllium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Cadmium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Chromium, Dissolved	0.0013	0.0010		mg/L	1	1/3/2005
Cobalt, Dissolved	0.0022	0.0010		mg/L	1	1/3/2005
Copper, Dissolved	0.0079	0.0010		mg/L	1	1/3/2005
Lead, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Manganese, Dissolved	0.0038	0.0025		mg/L	1	1/3/2005
Nickel, Dissolved	0.0020	0.0010		mg/L	1	1/3/2005
Selenium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
Thallium, Dissolved	< 0.0010	0.0010		mg/L	1	1/3/2005
<b>DISSOLVED MERCURY IN WATERS</b>		<b>E245.1</b>				Analyst: PC
Mercury, Dissolved	< 0.00020	0.00020		mg/L	1	12/30/2004

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

- (1) AEL - Tucson Laboratory
- (2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell

**Client Sample ID:** CH1-R

**Lab Order:** 04120624

**Tag Number:**

**Project:** Florence Copper

**Collection Date:** 12/7/2004 10:15:00 AM

**Lab ID:** 04120624-09A

**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	300	20	D2	mg/L	10	12/8/2004 4:07:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-10A

**Client Sample ID:** CH1-B  
**Tag Number:**  
**Collection Date:** 12/7/2004 10:30:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
----------	--------	-------	------	-------	----	---------------

**ANIONS BY ION CHROMATOGRAPHY**

**E300**

Analyst: T S

Sulfate	98	10	D2	mg/L	5	12/8/2004 4:25:00 PM
---------	----	----	----	------	---	----------------------

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

- (1) AEL - Tucson Laboratory
- (2) AEL - Knudsen Laboratory

Page 12 of 14

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

## Aerotech Environmental

## Analytical Report

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-11A

**Client Sample ID:** CH2-R  
**Tag Number:**  
**Collection Date:** 12/7/2004 10:40:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>			<b>E300</b>			Analyst: T S
Sulfate	86	2.0		mg/L	1	12/8/2004 2:34:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Page 13 of 14



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04120624  
**Project:** Florence Copper  
**Lab ID:** 04120624-12A

**Client Sample ID:** CH2-B  
**Tag Number:**  
**Collection Date:** 12/7/2004 10:45:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>						Analyst: T S
Sulfate	90	2.0		mg/L	1	12/8/2004 3:30:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

- (1) AEL - Tucson Laboratory
- (2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



Aerotech Environmental

Date: 21-Jan-05

**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 200.7\_DISS

Sample ID: MB-19992	SampType: MBLK	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653715						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum, Dissolved	< 0.20	0.20									
Calcium, Dissolved	< 2.0	2.0									
Iron, Dissolved	< 0.050	0.050									
Magnesium, Dissolved	< 2.0	2.0									
Potassium, Dissolved	< 2.0	2.0									
Sodium, Dissolved	< 2.0	2.0									

Sample ID: MB-19992	SampType: MBLK	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/21/2004	SeqNo: 655368						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc, Dissolved	< 0.050	0.050									

Sample ID: LCS-19992	SampType: LCS	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653713						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum, Dissolved	0.9800	0.20	1	0	98.0	85	115				
Calcium, Dissolved	10.50	2.0	10.5	0	100	85	115				
Iron, Dissolved	0.5070	0.050	0.5	0	101	85	115				
Magnesium, Dissolved	10.50	2.0	10.5	0	100	85	115				
Potassium, Dissolved	10.30	2.0	10	0	103	85	115				
Sodium, Dissolved	9.900	2.0	10	0	99.0	85	115				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.7\_DISS**

Sample ID	LCS-19992	SampType:	LCS	TestCode:	200.7_DISS	Units:	mg/L	Prep Date:	12/16/2004	RunNo:	54722			
Client ID:		Batch ID:	19992	TestNo:	E200.7			Analysis Date:	12/21/2004	SeqNo:	655369			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zinc, Dissolved 0.4950 0.050 0.5 0 99.0 85 115

Sample ID	LCSD-19992	SampType:	LCSD	TestCode:	200.7_DISS	Units:	mg/L	Prep Date:	12/16/2004	RunNo:	54722			
Client ID:		Batch ID:	19992	TestNo:	E200.7			Analysis Date:	12/17/2004	SeqNo:	653714			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum, Dissolved 1.020 0.20 1 0 102 85 115 0.9800 4.00 20  
 Calcium, Dissolved 10.60 2.0 10.5 0 101 85 115 10.50 0.948 20  
 Iron, Dissolved 0.5200 0.050 0.5 0 104 85 115 0.5070 2.53 20  
 Magnesium, Dissolved 10.80 2.0 10.5 0 103 85 115 10.50 2.82 20  
 Potassium, Dissolved 10.40 2.0 10 0 104 85 115 10.30 0.966 20  
 Sodium, Dissolved 10.20 2.0 10 0 102 85 115 9.900 2.99 20

Sample ID	LCSD-19992	SampType:	LCSD	TestCode:	200.7_DISS	Units:	mg/L	Prep Date:	12/16/2004	RunNo:	54722			
Client ID:		Batch ID:	19992	TestNo:	E200.7			Analysis Date:	12/21/2004	SeqNo:	655370			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zinc, Dissolved 0.4920 0.050 0.5 0 98.4 85 115 0.4950 0.608 20

Sample ID	04120697-02B MS	SampType:	MS	TestCode:	200.7_DISS	Units:	mg/L	Prep Date:	12/16/2004	RunNo:	54722			
Client ID:		Batch ID:	19992	TestNo:	E200.7			Analysis Date:	12/17/2004	SeqNo:	653711			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum, Dissolved 1.080 0.20 1 0 108 86.8 131  
 Calcium, Dissolved 382.0 2.0 10.5 371.0 105 70 130  
 Iron, Dissolved 0.4810 0.050 0.5 0 96.2 84.7 117  
 Magnesium, Dissolved 57.20 2.0 10.5 47.40 93.3 79 121  
 Potassium, Dissolved 23.60 2.0 10 7.860 157 70 130 M6

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



CLIENT: Brown & Caldwell

Work Order: 04120624

Project: Florence Copper

## ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7\_DISS

Sample ID 04120697-02B MS	SampType: MS	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653711						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sodium, Dissolved	96.00	2.0	10	82.30	137	70	130				M6
-------------------	-------	-----	----	-------	-----	----	-----	--	--	--	----

Sample ID 04120697-06B MS	SampType: MS	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 654154						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum, Dissolved	1.080	0.20	1	0	108	86.8	131				
Calcium, Dissolved	378.0	2.0	10.5	363.0	143	70	130				M6
Iron, Dissolved	0.4640	0.050	0.5	0	92.8	84.7	117				
Magnesium, Dissolved	57.90	2.0	10.5	47.70	97.1	79	121				
Potassium, Dissolved	23.30	2.0	10	7.750	156	70	130				M6
Sodium, Dissolved	97.20	2.0	10	81.20	160	70	130				M6
Zinc, Dissolved	0.5340	0.050	0.5	0	107	88.1	117				

Sample ID 04120697-02B MSD	SampType: MSD	TestCode: 200.7_DISS	Units: mg/L	Prep Date: 12/16/2004	RunNo: 54722						
Client ID:	Batch ID: 19992	TestNo: E200.7		Analysis Date: 12/17/2004	SeqNo: 653712						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum, Dissolved	1.080	0.20	1	0	108	86.8	131	1.080	0	9.98	
Calcium, Dissolved	377.0	2.0	10.5	371.0	57.1	63.1	131	382.0	1.32	5.57	M7
Iron, Dissolved	0.4800	0.050	0.5	0	96.0	84.7	117	0.4810	0.208	6.3	
Magnesium, Dissolved	57.80	2.0	10.5	47.40	99.0	79	121	57.20	1.04	4.55	
Potassium, Dissolved	23.80	2.0	10	7.860	159	70	130	23.60	0.844	5.29	M6
Sodium, Dissolved	98.10	2.0	10	82.30	158	70	130	96.00	2.16	7.28	M6

Qualifiers: E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode:** 200.7\_DISS

Sample ID	04120697-06B MSD	SampType:	MSD	TestCode:	200.7_DISS	Units:	mg/L	Prep Date:	12/16/2004	RunNo:	54722
Client ID:		Batch ID:	19992	TestNo:	E200.7			Analysis Date:	12/17/2004	SeqNo:	654155
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum, Dissolved	1.080	0.20	1	0	108	86.8	131	1.080	0	9.98	
Calcium, Dissolved	377.0	2.0	10.5	363.0	133	63.1	131	378.0	0.265	5.57	M6
Iron, Dissolved	0.4640	0.050	0.5	0	92.8	84.7	117	0.4640	0	6.3	
Magnesium, Dissolved	56.80	2.0	10.5	47.70	86.7	79	121	57.90	1.92	4.55	
Potassium, Dissolved	23.20	2.0	10	7.750	154	70	130	23.30	0.430	5.29	M6
Sodium, Dissolved	95.20	2.0	10	81.20	140	70	130	97.20	2.08	7.28	M6
Zinc, Dissolved	0.5310	0.050	0.5	0	106	88.1	117	0.5340	0.563	5.13	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_DISS**

Sample ID <b>MB-20120</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8_DISS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/30/2004</b>	RunNo: <b>55128</b>						
Client ID:	Batch ID: <b>20120</b>	TestNo: <b>E200.8</b>		Analysis Date: <b>1/3/2005</b>	SeqNo: <b>658599</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	< 0.0010	0.0010									
Arsenic, Dissolved	< 0.0010	0.0010									
Barium, Dissolved	< 0.0010	0.0010									
Beryllium, Dissolved	< 0.0010	0.0010									
Cadmium, Dissolved	< 0.0010	0.0010									
Chromium, Dissolved	< 0.0010	0.0010									
Cobalt, Dissolved	< 0.0010	0.0010									
Copper, Dissolved	< 0.0010	0.0010									
Lead, Dissolved	< 0.0010	0.0010									
Manganese, Dissolved	< 0.0050	0.0050									
Nickel, Dissolved	< 0.0010	0.0010									
Selenium, Dissolved	< 0.0010	0.0010									
Thallium, Dissolved	< 0.0010	0.0010									

Sample ID <b>LCS-20120</b>	SampType: <b>LCS</b>	TestCode: <b>200.8_DISS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/30/2004</b>	RunNo: <b>55128</b>						
Client ID:	Batch ID: <b>20120</b>	TestNo: <b>E200.8</b>		Analysis Date: <b>1/3/2005</b>	SeqNo: <b>658600</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	0.1051	0.0010	0.1	0	105	85	115				
Arsenic, Dissolved	0.1077	0.0010	0.1	0	108	85	115				
Barium, Dissolved	0.1055	0.0010	0.1	0	106	85	115				
Beryllium, Dissolved	0.1064	0.0010	0.1	0	106	85	115				
Cadmium, Dissolved	0.1047	0.0010	0.1	0	105	85	115				
Chromium, Dissolved	0.1009	0.0010	0.1	0	101	85	115				
Cobalt, Dissolved	0.1017	0.0010	0.1	0	102	85	115				
Copper, Dissolved	0.09951	0.0010	0.1	0	99.5	85	115				
Lead, Dissolved	0.1007	0.0010	0.1	0	101	85	115				
Manganese, Dissolved	0.1022	0.0050	0.1	0	102	85	115				
Nickel, Dissolved	0.1005	0.0010	0.1	0	101	85	115				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 200.8\_DISS**

Sample ID	LCS-20120	SampType: LCS	TestCode: 200.8_DISS	Units: mg/L	Prep Date: 12/30/2004	RunNo: 55128					
Client ID:		Batch ID: 20120	TestNo: E200.8		Analysis Date: 1/3/2005	SeqNo: 658600					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium, Dissolved	0.1095	0.0010	0.1	0	109	85	115				
Thallium, Dissolved	0.1042	0.0010	0.1	0	104	85	115				

Sample ID	LCSD-20120	SampType: LCSD	TestCode: 200.8_DISS	Units: mg/L	Prep Date: 12/30/2004	RunNo: 55128					
Client ID:		Batch ID: 20120	TestNo: E200.8		Analysis Date: 1/3/2005	SeqNo: 658610					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	0.1043	0.0010	0.1	0	104	85	115	0.1051	0.745	20	
Arsenic, Dissolved	0.1062	0.0010	0.1	0	106	85	115	0.1077	1.43	20	
Barium, Dissolved	0.1056	0.0010	0.1	0	106	85	115	0.1055	0.0758	20	
Beryllium, Dissolved	0.1061	0.0010	0.1	0	106	85	115	0.1064	0.227	20	
Cadmium, Dissolved	0.1047	0.0010	0.1	0	105	85	115	0.1047	0.0105	20	
Chromium, Dissolved	0.09924	0.0010	0.1	0	99.2	85	115	0.1009	1.67	20	
Cobalt, Dissolved	0.1005	0.0010	0.1	0	100	85	115	0.1017	1.27	20	
Copper, Dissolved	0.09906	0.0010	0.1	0	99.1	85	115	0.09951	0.456	20	
Lead, Dissolved	0.1011	0.0010	0.1	0	101	85	115	0.1007	0.408	20	
Manganese, Dissolved	0.1013	0.0050	0.1	0	101	85	115	0.1022	0.877	20	
Nickel, Dissolved	0.09952	0.0010	0.1	0	99.5	85	115	0.1005	0.981	20	
Selenium, Dissolved	0.1104	0.0010	0.1	0	110	85	115	0.1095	0.823	20	
Thallium, Dissolved	0.1041	0.0010	0.1	0	104	85	115	0.1042	0.139	20	

Sample ID	04120578-04B MS	SampType: MS	TestCode: 200.8_DISS	Units: mg/L	Prep Date: 12/30/2004	RunNo: 55128					
Client ID:		Batch ID: 20120	TestNo: E200.8		Analysis Date: 1/3/2005	SeqNo: 658602					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony, Dissolved	0.08708	0.0010	0.1	0	87.1	75.9	121				
Arsenic, Dissolved	0.1008	0.0010	0.1	0.001667	99.1	76.1	124				
Barium, Dissolved	0.1087	0.0010	0.1	0.01861	90.1	76.3	115				
Beryllium, Dissolved	0.09860	0.0010	0.1	0	98.6	70	130				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT****TestCode: 200.8\_DISS**

Sample ID	04120578-04B MS	SampType:	MS	TestCode:	200.8_DISS	Units:	mg/L	Prep Date:	12/30/2004	RunNo:	55128
Client ID:		Batch ID:	20120	TestNo:	E200.8			Analysis Date:	1/3/2005	SeqNo:	658602
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium, Dissolved	0.08252	0.0010	0.1	0	82.5	74.9	112				
Chromium, Dissolved	0.09833	0.0010	0.1	0	98.3	70	130				
Cobalt, Dissolved	0.09544	0.0010	0.1	0.003494	92.0	74	119				
Copper, Dissolved	0.2834	0.0010	0.1	0.2174	66.0	70	130				M7
Lead, Dissolved	0.09390	0.0010	0.1	0	93.9	70.6	119				
Manganese, Dissolved	0.1131	0.0050	0.1	0.01362	99.5	72.9	127				
Nickel, Dissolved	0.09442	0.0010	0.1	0.007203	87.2	74.5	111				
Selenium, Dissolved	0.09808	0.0010	0.1	0	98.1	74.6	121				
Thallium, Dissolved	0.09699	0.0010	0.1	0	97.0	70.7	121				

Sample ID	04120578-04B MSD	SampType:	MSD	TestCode:	200.8_DISS	Units:	mg/L	Prep Date:	12/30/2004	RunNo:	55128
Client ID:		Batch ID:	20120	TestNo:	E200.8			Analysis Date:	1/3/2005	SeqNo:	658603
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony, Dissolved	0.08716	0.0010	0.1	0	87.2	75.9	121	0.08708	0.0849	10	
Arsenic, Dissolved	0.09951	0.0010	0.1	0.001667	97.8	76.1	124	0.1008	1.28	10	
Barium, Dissolved	0.1091	0.0010	0.1	0.01861	90.5	76.3	115	0.1087	0.401	10	
Beryllium, Dissolved	0.09941	0.0010	0.1	0	99.4	70	130	0.09860	0.817	10	
Cadmium, Dissolved	0.08184	0.0010	0.1	0	81.8	74.9	112	0.08252	0.820	10	
Chromium, Dissolved	0.09660	0.0010	0.1	0	96.6	70	130	0.09833	1.77	10	
Cobalt, Dissolved	0.09386	0.0010	0.1	0.003494	90.4	74	119	0.09544	1.67	10	
Copper, Dissolved	0.2748	0.0010	0.1	0.2174	57.4	70	130	0.2834	3.08	10	M7
Lead, Dissolved	0.09311	0.0010	0.1	0	93.1	70.6	119	0.09390	0.846	10	
Manganese, Dissolved	0.1099	0.0050	0.1	0.01362	96.3	72.9	127	0.1131	2.87	10	
Nickel, Dissolved	0.09318	0.0010	0.1	0.007203	86.0	74.5	111	0.09442	1.33	10	
Selenium, Dissolved	0.09701	0.0010	0.1	0	97.0	74.6	121	0.09808	1.10	10	
Thallium, Dissolved	0.09732	0.0010	0.1	0	97.3	70.7	121	0.09699	0.347	10	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 245.1\_W\_DISS**

Sample ID <b>MB-20098</b>	SampType: <b>MBLK</b>	TestCode: <b>245.1_W_DIS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/29/2004</b>	RunNo: <b>55074</b>						
Client ID:	Batch ID: <b>20098</b>	TestNo: <b>E245.1</b>		Analysis Date: <b>12/30/2004</b>	SeqNo: <b>657962</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury, Dissolved < 0.00020 0.00020

Sample ID <b>LCS-20098</b>	SampType: <b>LCS</b>	TestCode: <b>245.1_W_DIS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/29/2004</b>	RunNo: <b>55074</b>						
Client ID:	Batch ID: <b>20098</b>	TestNo: <b>E245.1</b>		Analysis Date: <b>12/30/2004</b>	SeqNo: <b>657963</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury, Dissolved 0.005100 0.00020 0.005 0 102 85 115

Sample ID <b>LCSD-20098</b>	SampType: <b>LCSD</b>	TestCode: <b>245.1_W_DIS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/29/2004</b>	RunNo: <b>55074</b>						
Client ID:	Batch ID: <b>20098</b>	TestNo: <b>E245.1</b>		Analysis Date: <b>12/30/2004</b>	SeqNo: <b>657964</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury, Dissolved 0.005110 0.00020 0.005 0 102 85 115 0.005100 0.196 20

Sample ID <b>04120578-04BMS</b>	SampType: <b>MS</b>	TestCode: <b>245.1_W_DIS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/29/2004</b>	RunNo: <b>55074</b>						
Client ID:	Batch ID: <b>20098</b>	TestNo: <b>E245.1</b>		Analysis Date: <b>12/30/2004</b>	SeqNo: <b>657966</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury, Dissolved 0.005000 0.00020 0.005 0 100 70 130

Sample ID <b>04120578-04BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>245.1_W_DIS</b>	Units: <b>mg/L</b>	Prep Date: <b>12/29/2004</b>	RunNo: <b>55074</b>						
Client ID:	Batch ID: <b>20098</b>	TestNo: <b>E245.1</b>		Analysis Date: <b>12/30/2004</b>	SeqNo: <b>657967</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury, Dissolved 0.005110 0.00020 0.005 0 102 70 130 0.005000 2.18 20

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT****TestCode: 300\_W**

Sample ID <b>MB-R54400</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54400</b>						
Client ID:	Batch ID: <b>R54400</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/8/2004</b>	SeqNo: <b>650236</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride  
 Fluoride  
 Nitrogen, Nitrate (As N)  
 Sulfate

< 2.0  
 < 0.40  
 < 0.20  
 < 2.0

2.0  
 0.40  
 0.20  
 2.0

Sample ID <b>MB-R54404</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54404</b>						
Client ID:	Batch ID: <b>R54404</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/8/2004</b>	SeqNo: <b>650278</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate < 2.0

2.0

Sample ID <b>MB-R54447</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54447</b>						
Client ID:	Batch ID: <b>R54447</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/9/2004</b>	SeqNo: <b>650713</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate < 2.0

2.0

Sample ID <b>MB-R54997</b>	SampType: <b>MBLK</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54997</b>						
Client ID:	Batch ID: <b>R54997</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/28/2004</b>	SeqNo: <b>656880</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride < 2.0

2.0

Sample ID <b>LCS-R54400</b>	SampType: <b>LCS</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54400</b>						
Client ID:	Batch ID: <b>R54400</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/8/2004</b>	SeqNo: <b>650237</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride 19.84 2.0 20 0 99.2 90 110 N1

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 300\_W**

Sample ID	LCS-R54400	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54400					
Client ID:	Batch ID: R54400	TestNo: E300	Analysis Date: 12/8/2004	SeqNo: 650237							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride	4.183	0.40	4	0	105	90	110				
Nitrogen, Nitrate (As N)	4.051	0.20	4	0	101	90	110				
Sulfate	20.25	2.0	20	0	101	90	110				

Sample ID	LCS-R54404	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54404					
Client ID:	Batch ID: R54404	TestNo: E300	Analysis Date: 12/8/2004	SeqNo: 650279							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	20.30	2.0	20	0	101	90	110				N1
---------	-------	-----	----	---	-----	----	-----	--	--	--	----

Sample ID	LCS-R54447	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54447					
Client ID:	Batch ID: R54447	TestNo: E300	Analysis Date: 12/9/2004	SeqNo: 650714							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	20.27	2.0	20	0	101	90	110				
---------	-------	-----	----	---	-----	----	-----	--	--	--	--

Sample ID	LCS-R54997	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54997					
Client ID:	Batch ID: R54997	TestNo: E300	Analysis Date: 12/28/2004	SeqNo: 656881							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	20.46	2.0	20	0	102	90	110				
----------	-------	-----	----	---	-----	----	-----	--	--	--	--

Sample ID	LCSD-R54400	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54400					
Client ID:	Batch ID: R54400	TestNo: E300	Analysis Date: 12/8/2004	SeqNo: 650250							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	19.83	2.0	20	0	99.2	90	110	19.84	0.0605	20	N1
Fluoride	4.186	0.40	4	0	105	90	110	4.183	0.0717	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT****TestCode: 300\_W**

Sample ID <b>LCSD-R54400</b>	SampType: <b>LCSD</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54400</b>						
Client ID:	Batch ID: <b>R54400</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/8/2004</b>	SeqNo: <b>650250</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	3.976	0.20	4	0	99.4	90	110	4.051	1.87	20	
Sulfate	20.25	2.0	20	0	101	90	110	20.25	0.00494	20	

Sample ID <b>LCSD-R54404</b>	SampType: <b>LCSD</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54404</b>						
Client ID:	Batch ID: <b>R54404</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/8/2004</b>	SeqNo: <b>650287</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	20.25	2.0	20	0	101	90	110	20.30	0.217	20	N1

Sample ID <b>LCSD-R54447</b>	SampType: <b>LCSD</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54447</b>						
Client ID:	Batch ID: <b>R54447</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/9/2004</b>	SeqNo: <b>650718</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	20.30	2.0	20	0	102	90	110	20.27	0.143	20	

Sample ID <b>LCSD-R54997</b>	SampType: <b>LCSD</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54997</b>						
Client ID:	Batch ID: <b>R54997</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/28/2004</b>	SeqNo: <b>656886</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	20.40	2.0	20	0	102	90	110	20.46	0.284	20	

Sample ID <b>04120624-01AMS</b>	SampType: <b>MS</b>	TestCode: <b>300_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>54400</b>						
Client ID: <b>BHP-1</b>	Batch ID: <b>R54400</b>	TestNo: <b>E300</b>		Analysis Date: <b>12/8/2004</b>	SeqNo: <b>650240</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	4.972	0.40	4	0.9660	100	80	120				
Nitrogen, Nitrate (As N)	4.478	0.20	4	0.8130	91.6	80	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



CLIENT: Brown & Caldwell  
Work Order: 04120624  
Project: Florence Copper

## ANALYTICAL QC SUMMARY REPORT

TestCode: 300\_W

Sample ID	04120624-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54447					
Client ID:	BHP-1	Batch ID: R54447	TestNo: E300	Analysis Date: 12/9/2004	SeqNo: 650717						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 224.2 10 100 114.4 110 80 120

Sample ID	04120624-07AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54997					
Client ID:	OWB-3	Batch ID: R54997	TestNo: E300	Analysis Date: 12/28/2004	SeqNo: 656884						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride 229.9 10 20 126.4 517 80 120 M6

Sample ID	04120624-01ADUP	SampType: DUP	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54400					
Client ID:	BHP-1	Batch ID: R54400	TestNo: E300	Analysis Date: 12/8/2004	SeqNo: 650239						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride 0.9660 0.40 0.9660 0 20  
Nitrogen, Nitrate (As N) 0.8040 0.20 0.8130 1.11 20

Sample ID	04120624-11ADUP	SampType: DUP	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54404					
Client ID:	CH2-R	Batch ID: R54404	TestNo: E300	Analysis Date: 12/8/2004	SeqNo: 650284						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 86.19 2.0 86.28 0.0997 20

Sample ID	04120624-01ADUP	SampType: DUP	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 54447					
Client ID:	BHP-1	Batch ID: R54447	TestNo: E300	Analysis Date: 12/9/2004	SeqNo: 650716						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 114.5 10 114.4 0.00874 20

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 300\_W**

Sample ID	04120624-07ADUP	SampType:	DUP	TestCode:	300_W	Units:	mg/L	Prep Date:		RunNo:	54997		
Client ID:	OWB-3	Batch ID:	R54997	TestNo:	E300			Analysis Date:	12/28/2004	SeqNo:	656883		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		127.1		10						126.4	0.532	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** ALKALINITY

Sample ID <b>MB-R55031</b>	SampType: <b>MBLK</b>	TestCode: <b>ALKALINITY</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>55031</b>						
Client ID:	Batch ID: <b>R55031</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>12/29/2004</b>	SeqNo: <b>657359</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Alkalinity, Bicarbonate (As CaCO3)	2.000	2.0									B1
Alkalinity, Carbonate (As CaCO3)	< 2.0	2.0									
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2.0									
Alkalinity, Total (As CaCO3)	< 6.0	6.0									

Sample ID <b>LCS-R55031</b>	SampType: <b>LCS</b>	TestCode: <b>ALKALINITY</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>55031</b>						
Client ID:	Batch ID: <b>R55031</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>12/29/2004</b>	SeqNo: <b>657360</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Alkalinity, Total (As CaCO3)	254.0	6.0	250	0	102	90	110				
------------------------------	-------	-----	-----	---	-----	----	-----	--	--	--	--

Sample ID <b>04120174-01ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>ALKALINITY</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>55031</b>						
Client ID:	Batch ID: <b>R55031</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>12/29/2004</b>	SeqNo: <b>657362</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Alkalinity, Bicarbonate (As CaCO3)	126.0	2.0						126.0	0	20	B1
Alkalinity, Carbonate (As CaCO3)	< 2.0	2.0						0	0	20	
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2.0						0	0	20	
Alkalinity, Total (As CaCO3)	126.0	6.0						126.0	0	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



**CLIENT:** Brown & Caldwell  
**Work Order:** 04120624  
**Project:** Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

**TestCode:** PH\_W

Sample ID	LCS-R55011	SampType: LCS	TestCode: PH_W	Units: pH units	Prep Date:	RunNo: 55011					
Client ID:		Batch ID: R55011	TestNo: E150.1		Analysis Date: 12/28/2004	SeqNo: 657075					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH 7.010 2.00 7 0 100 99.28 100.72

Sample ID	LCSD-R55011	SampType: LCSD	TestCode: PH_W	Units: pH units	Prep Date:	RunNo: 55011					
Client ID:		Batch ID: R55011	TestNo: E150.1		Analysis Date: 12/28/2004	SeqNo: 657079					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH 7.000 2.00 7 0 100 99.28 100.72 7.010 0.143 10

Sample ID	04121383-04ADUP	SampType: DUP	TestCode: PH_W	Units: pH units	Prep Date:	RunNo: 55011					
Client ID:		Batch ID: R55011	TestNo: E150.1		Analysis Date: 12/28/2004	SeqNo: 657412					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH 7.110 2.00 7.100 0.141 10

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



**Aerotech Environmental Laboratories Sample Receipt Checklist**

Project checked by: *[Signature]*

Laboratory Number: <u>04-12-0624</u>	Checklist completed by: <u>Tracy</u>	<u>12-7-04</u>
Client Name: <u>Brown &amp; Caldwell</u>	Signature/Date	
Matrix: <u>AQ</u>	Carrier Name: <u>Barb</u>	Date/Time Rec'd: <u>12-7-04 1237</u> By: <u>TA</u>

Temperature of Samples? 1.4 °C Circle one: Blue Ice  **Wet Ice**  Not Present

	Yes	No*	Not Present	Soil Containers:
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Brass Sleeve <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Glass Jar <input type="checkbox"/>
Custody seals intact on sample containers?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Methanol <input type="checkbox"/>
Chain of Custody present and relinquished/received properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plastic Bag <input type="checkbox"/>
Chain of Custody agrees with sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Encore Samplers <input type="checkbox"/>
Samples in proper containers/bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample containers intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	**See Comment about Chlorine and pH
Is there sufficient sample volume to perform the tests?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
40mL vials for volatiles & SOCs received with zero headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Total number of bottles received: 36 IH sample media: \_\_\_\_\_  
 If applicable, how many sample bottles were shipped from AEL-Tucson? N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4															
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes  No  N/A

Preservative & pH	pH of samples upon receipt	If sample received with improper pH, list sample number and adjustments
Metals <2	<u>2.2</u>	
Nutrients <2	<u>2.2</u>	
Total Phenols <2		
413 (O&G) <2		
418 (TPH) <2		
Cyanide >12		
Sulfide >9		

\*Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.

\*\*The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.

Comments:

Corrective Action:





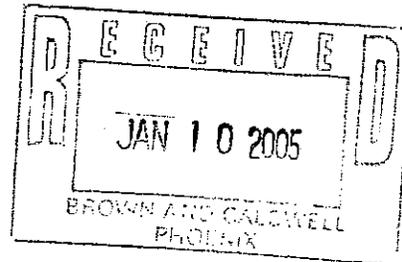




# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Thursday, December 30, 2004



Barbara Sylvester  
Brown & Caldwell  
201 East Washington Street  
Suite 500  
Phoenix, AZ 85004

TEL: (602) 567-4000

FAX (602) 567-4001

RE: Florence Copper

Order No.: 04121262

Dear Barbara Sylvester:

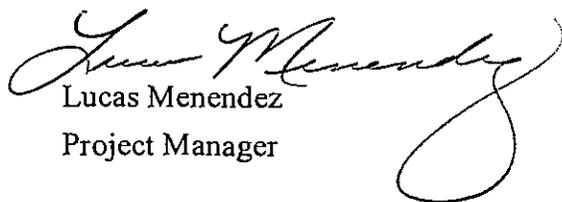
Aerotech Environmental received 1 sample(s) on 12/22/2004 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

  
Lucas Menendez  
Project Manager



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

Date: 05-Jan-05

**CLIENT:** Brown & Caldwell  
**Project:** Florence Copper  
**Lab Order:** 04121262

## CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Laboratories, Inc. (AEL division - Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation. AEL participates in the AIHA Environmental Lead Proficiency Analytical Testing (ELPAT) program for lead in soil, paint chips and dust wipes.

### Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

D2 Sample required dilution due to high concentration of target analyte.



# Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

**Aerotech Environmental**

**Analytical Report**

Date: 30-Dec-04

**CLIENT:** Brown & Caldwell  
**Lab Order:** 04121262  
**Project:** Florence Copper  
**Lab ID:** 04121262-01A

**Client Sample ID:** OWB 2  
**Tag Number:**  
**Collection Date:** 12/21/2004 5:10:00 PM  
**Matrix:** DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>ANIONS BY ION CHROMATOGRAPHY</b>		<b>E300</b>				Analyst: T S
Sulfate	160	10	D2	mg/L	5	12/27/2004 5:54:00 PM

**Footnotes:** All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

- (1) AEL - Tucson Laboratory
- (2) AEL - Knudsen Laboratory

Page 1 of 1

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.



Aerotech Environmental

Date: 30-Dec-04

CLIENT: Brown & Caldwell  
Work Order: 04121262  
Project: Florence Copper

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 300\_W

Sample ID: MB-R55010	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 55010						
Client ID:	Batch ID: R55010	TestNo: E300		Analysis Date: 12/27/2004	SeqNo: 657068						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	< 2.0	2.0									

Sample ID: LCS-R55010	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 55010						
Client ID:	Batch ID: R55010	TestNo: E300		Analysis Date: 12/27/2004	SeqNo: 657069						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	20.38	2.0	20	0	102	90	110				

Sample ID: LCSD-R55010	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 55010						
Client ID:	Batch ID: R55010	TestNo: E300		Analysis Date: 12/27/2004	SeqNo: 657074						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	20.39	2.0	20	0	102	90	110	20.38	0.0540	20	

Sample ID: 04121345-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 55010						
Client ID:	Batch ID: R55010	TestNo: E300		Analysis Date: 12/27/2004	SeqNo: 657073						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	88.48	2.0	20	68.68	99.0	80	120				

Sample ID: 04121345-01ADUP	SampType: DUP	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 55010						
Client ID:	Batch ID: R55010	TestNo: E300		Analysis Date: 12/27/2004	SeqNo: 657072						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	68.76	2.0						68.68	0.125	20	

Qualifiers: E Value above quantitation range      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

Laboratory Number: <u>04-12-1262</u>	Checklist completed by: <u>[Signature]</u> <u>12-22-04</u>
Client Name: <u>BROWN &amp; CALDWELL</u>	Signature/Date
Matrix: <u>DW</u> Carrier Name: _____	Date/Time Rec'd: <u>12-22-04 11:30</u> By: <u>CMC</u>

Temperature of Samples? 2-6 °C Circle one: Blue Ice  **Wet Ice**  Not Present

	Yes	No*	Not Present	Soil Containers:
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>			Brass Sleeve _____
Custody seals intact on shipping container/cooler?			<input checked="" type="checkbox"/>	Glass Jar _____
Custody seals intact on sample containers?			<input checked="" type="checkbox"/>	Methanol _____
Chain of Custody present and relinquished/received properly?	<input checked="" type="checkbox"/>			Plastic Bag _____
Chain of Custody agrees with sample labels?	<input checked="" type="checkbox"/>			Encore Samplers _____
Samples in proper containers/bottles?	<input checked="" type="checkbox"/>			
Sample containers intact?	<input checked="" type="checkbox"/>			
All samples received within holding time?	<input checked="" type="checkbox"/>			
Is there sufficient sample volume to perform the tests?	<input checked="" type="checkbox"/>			
40mL vials for volatiles & SOCs received with zero headspace?			<input checked="" type="checkbox"/>	

Total number of bottles received: 3 IH sample media: \_\_\_\_\_  
 If applicable, how many sample bottles were shipped from AEL-Tucson? N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General	1														
B-HNO3	1														
C-H2SO4	1														
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes  No  N/A

Preservative & pH	pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals <2	<u>&lt;2</u>	
Nutrients <2	<u>&lt;2</u>	
Total Phenols <2		
413 (O&G) <2		
418 (TPH) <2		
Cyanide >12		
Sulfide >9		

\*Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.

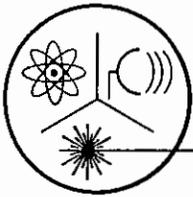
\*\*The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.

Comments: \_\_\_\_\_

Corrective Action: \_\_\_\_\_



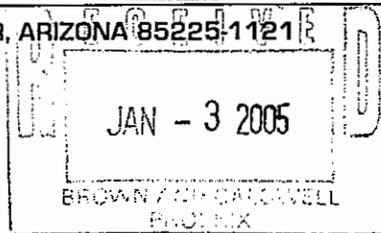




# Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121  
Website: www.radsafe.com

(480) 897-9459  
FAX (480) 892-5446

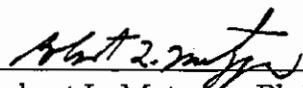


## Radiochemical Activity in Water (pCi/L)

Brown & Caldwell  
201 East Washington Street, Suite 500  
Phoenix, AZ 85024

Sample Received: December 16, 2004  
Analysis Completed: December 29, 2004

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Uranium Activity Method 00-07 (pCi/L)	Adjusted Gross Alpha (pCi/L)	Radium 226 Activity Method 903.1 (pCi/L)	Radium 228 Activity Method 904 (pCi/L)	Total Radium (pCi/L)
BHP-4	14.2 ± 1.9	---	---	2.9 ± 0.3	0.7 ± 0.3	3.6 ± 0.4
OWB-3	9.9 ± 1.6	---	---	1.5 ± 0.2	0.6 ± 0.3	2.1 ± 0.4
OWB-9	8.9 ± 1.5	---	---	1.7 ± 0.2	<0.4	1.7 ± 0.2

  
Robert L. Metzger, Ph.D., C.H.P.

Arizona Department of Environmental Quality  
**Drinking Water Additional Radiochemical Analysis Report**  
 \*\*\*Samples To Be Taken At POE Only\*\*\*

System ID \_\_\_\_\_ System Name \_\_\_\_\_  
 12/06/2004 08:50

Sample Date \_\_\_\_\_ Sample Time \_\_\_\_\_ Owner/Contact Person \_\_\_\_\_

POE# \_\_\_\_\_ Owner/Contact Fax Number \_\_\_\_\_

**COMPLIANCE SAMPLE TYPE**

- Reduced Monitoring Date Q1 Collected \_\_\_\_\_  
 Quarterly Date Q2 Collected \_\_\_\_\_  
 Composite of four quarterly samples Date Q3 Collected \_\_\_\_\_  
 Date Q4 Collected \_\_\_\_\_

**\*\*\*RADIOCHEMICAL ANALYSIS\*\*\***

>>>To be filled out by laboratory personnel<<<

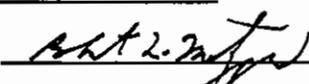
Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002	12/17/2004	14.2±1.9	
7500 - Rn			Radon	4004			
00-07	30 µg/L	(reserved)	Combined Uranium	4006			
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	12/28/2004	3.6 ± 0.4	
903.1		1 pCi/L	Radium 226	4020	12/28/2004	2.9±0.3	
904.0		1 pCi/L	Radium 228	4030	12/28/2004	0.7±0.3	

**\*\*\*LABORATORY INFORMATION\*\*\***

>>>To be filled out by laboratory personnel<<<

Specimen Number: BHP-4

Lab ID Number: AZ0462 Lab Name: Radiation Safety Engineering, Inc.

Comments: 24052 Authorized Signature: 

Date Public Water System Notified: \_\_\_\_\_

Arizona Department of Environmental Quality  
**Drinking Water Additional Radiochemical Analysis Report**  
 \*\*\*Samples To Be Taken At POE Only\*\*\*

System ID \_\_\_\_\_ System Name \_\_\_\_\_  
 12/07/2004 09:50

Sample Date \_\_\_\_\_ Sample Time \_\_\_\_\_ Owner/Contact Person \_\_\_\_\_

POE# \_\_\_\_\_ Owner/Contact Fax Number \_\_\_\_\_

**COMPLIANCE SAMPLE TYPE**

- Reduced Monitoring Date Q1 Collected \_\_\_\_\_  
 Quarterly Date Q2 Collected \_\_\_\_\_  
 Composite of four quarterly samples Date Q3 Collected \_\_\_\_\_  
 Date Q4 Collected \_\_\_\_\_

**\*\*\*RADIOCHEMICAL ANALYSIS\*\*\***

>>>To be filled out by laboratory personnel<<<

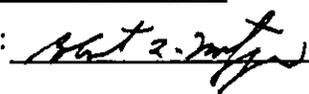
Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002	12/17/2004	9.9±1.6	
7500 - Rn			Radon	4004			
00-07	30 µg/L	(reserved)	Combined Uranium	4006			
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	12/28/2004	2.1±0.4	
903.1		1 pCi/L	Radium 226	4020	12/28/2004	1.5±0.2	
904.0		1 pCi/L	Radium 228	4030	12/28/2004	0.6±0.3	

**\*\*\*LABORATORY INFORMATION\*\*\***

>>>To be filled out by laboratory personnel<<<

Specimen Number: OWB-3

Lab ID Number: AZ0462 Lab Name: Radiation Safety Engineering, Inc.

Comments: 24053 Authorized Signature: 

Date Public Water System Notified: \_\_\_\_\_

Arizona Department of Environmental Quality  
**Drinking Water Additional Radiochemical Analysis Report**  
 \*\*\*Samples To Be Taken At POE Only\*\*\*

System ID 12/07/2004      System Name 10:00

Sample Date \_\_\_\_\_ Sample Time \_\_\_\_\_ Owner/Contact Person \_\_\_\_\_

POE# \_\_\_\_\_ Owner/Contact Fax Number \_\_\_\_\_

**COMPLIANCE SAMPLE TYPE**

- Reduced Monitoring      Date Q1 Collected \_\_\_\_\_
- Quarterly      Date Q2 Collected \_\_\_\_\_
- Composite of four quarterly samples      Date Q3 Collected \_\_\_\_\_
- Date Q4 Collected \_\_\_\_\_

\*\*\***RADIOCHEMICAL ANALYSIS**\*\*\*  
 >>>To be filled out by laboratory personnel<<<

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
<u>600/00-02</u>		3 pCi/L	Gross Alpha	4002	<u>12/17/2004</u>	<u>8.9±1.5</u>	
<u>7500 - Rn</u>			Radon	4004			
<u>00-07</u>	30 µg/L	(reserved)	Combined Uranium	4006			
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	<u>12/28/2004</u>	<u>1.7±0.2</u>	
<u>903.1</u>		1 pCi/L	Radium 226	4020	<u>12/28/2004</u>	<u>1.7±0.2</u>	
<u>904.0</u>		1 pCi/L	Radium 228	4030	<u>12/28/2004</u>	<u>&lt;0.4</u>	

\*\*\***LABORATORY INFORMATION**\*\*\*  
 >>>To be filled out by laboratory personnel<<<

Specimen Number: OWB-9

Lab ID Number: AZ0462      Lab Name: Radiation Safety Engineering, Inc.

Comments: 24054

Authorized Signature: \_\_\_\_\_

*[Handwritten Signature]*

Date Public Water System Notified: \_\_\_\_\_

**Client Information**

Name Barb Sylvester

Company Brown & Caldwell

Address 201 E. Washington St. Suite 500

Phone Phoenix, Arizona 85024  
602-567-3894

PWS# \_\_\_\_\_

Sampler Sig. Phone # \_\_\_\_\_

**Radiation Safety Engineering, Inc.**

3245 North Washington Street  
Chandler, Arizona 85225

**Analysis Request**

Sample ID & Location (DWR#)	Collection		Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
	Date	Time													
BWP 4	12-6-04	0850	DW	✓		240	52								
DWB 3	12-7-04	0950	DW	✓		240	53								
DWB 9	12-7-04	1000	DW	✓		240	54								

**Sample Receipt**

Total No. of Containers \_\_\_\_\_

Chain of Custody Seals \_\_\_\_\_

Container Condition \_\_\_\_\_

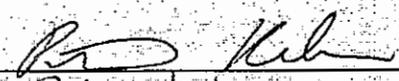
Lab No. \_\_\_\_\_

**Invoice to:**

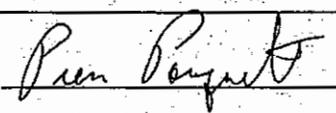
Ungard Properties, Inc  
975 Johnson Ferry Rd.  
Suite 450  
Atlanta, Ga. 30342

**Instructions/Comments**

**Relinquished by:**

Signature   
Printed Name Peter Kelna  
Company Brown & Caldwell  
Date 12-16-04

**Received by:**

Signature   
Printed Name \_\_\_\_\_  
Company Radiation Safety Engineering, Inc.  
Date 12-16-04 16:10

\* DW = Drinking Water, WW = Waste Water.