



Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Wednesday, March 17, 2004

REVISED 03/17/2004

Barb Sylvester
Brown & Caldwell
201 East Washington Street
Suite 500
Phoenix, AZ 85004
TEL: (602) 567-3894
FAX: (602) 567-4001
RE: Florence Copper/21622.008

Order No.: 04010435

Dear Barb Sylvester:

This report was revised on 3/17/04 to report total xylenes by EPA Method 8260.

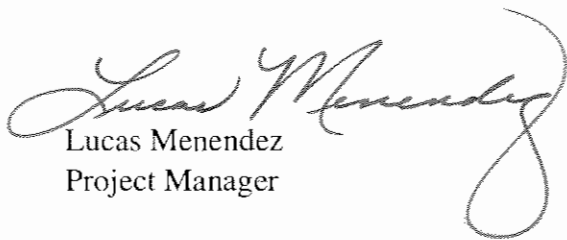
Aerotech Environmental received 1 sample(s) on 1/5/2004 for the analyses presented in the following report.

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: 17-Mar-04

CLIENT: Brown & Caldwell
Project: Florence Copper/21622.008
Lab Order: 04010435

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.

Samples for Method 8260B were submitted in glass jars and extracted into methanol within 48 hours by the laboratory.

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.

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



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CASE NARRATIVE

- M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
- 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.
- R9 Sample RPD exceeded the laboratory control limit.
- S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.
- S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample was acceptable.



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Analytical Report

Date: 17-Mar-04

CLIENT: Brown & Caldwell
Lab Order: 04010435
Project: Florence Copper/21622.008
Lab ID: 04010435-01A

Client Sample ID: Pond Sediment
Tag Number:
Collection Date: 1/5/2004 9:00:00 AM
Matrix: SEDIMENT

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FUEL HYDROCARBONS, 8015AZR1		8015AZR1		Analyst: JH		
Diesel Hydrocarbons: C10-C22	< 300	300		mg/Kg	1	1/9/2004
Oil Hydrocarbons: C22-C32	< 1000	1000		mg/Kg	1	1/9/2004
Fuel Hydrocarbons, C10-C32	< 1300	1300		mg/Kg	1	1/9/2004
Surr: O-Terphenyl	94.4	70-130		%REC	1	1/9/2004
ICP METALS		SW6010B		Analyst: HK		
Aluminum	5800	10		mg/Kg	1	1/9/2004
Antimony	< 5.0	5.0		mg/Kg	1	1/9/2004
Arsenic	< 5.0	5.0		mg/Kg	1	1/9/2004
Barium	28	5.0		mg/Kg	1	1/9/2004
Beryllium	0.64	0.50		mg/Kg	1	1/9/2004
Cadmium	< 0.50	0.50		mg/Kg	1	1/9/2004
Chromium	3.4	2.0		mg/Kg	1	1/9/2004
Cobalt	15	2.0		mg/Kg	1	1/9/2004
Copper	5400	5.0		mg/Kg	1	1/9/2004
Lead	< 5.0	5.0		mg/Kg	1	1/9/2004
Manganese	130	2.0		mg/Kg	1	1/9/2004
Nickel	23	2.0		mg/Kg	1	1/9/2004
Selenium	< 10	10		mg/Kg	1	1/9/2004
Thallium	< 5.0	5.0		mg/Kg	1	1/9/2004
Zinc	44	10		mg/Kg	1	1/9/2004
MERCURY, TOTAL		SW7471A		Analyst: CU		
Mercury	< 0.099	0.099		mg/Kg	1	1/7/2004 2:38:31 PM
VOLATILES BY GC/MS		SW8260B		Analyst: JR		
Benzene	< 0.050	0.050		mg/Kg	1	1/12/2004
Ethylbenzene	< 0.050	0.050		mg/Kg	1	1/12/2004
m,p-Xylene	< 0.10	0.10		mg/Kg	1	1/12/2004
o-Xylene	< 0.050	0.050		mg/Kg	1	1/12/2004
Toluene	< 0.050	0.050		mg/Kg	1	1/12/2004
Xylenes, Total	< 0.15	0.15		mg/Kg	1	1/12/2004
Surr: 4-Bromofluorobenzene	65.1	63-121		%REC	1	1/12/2004
Surr: Dibromofluoromethane	54.6	52-128		%REC	1	1/12/2004
Surr: Toluene-d8	56.5	65-121	S6	%REC	1	1/12/2004
ANIONS BY ION CHROMATOGRAPHY		E300		Analyst: LB		
Chloride	750	20		mg/Kg	1	1/14/2004 4:27:00 PM
Nitrogen, Nitrate (As N)	< 2.0	2.0		mg/Kg	1	1/14/2004 4:27:00 PM
Sulfate	16000	990	D2	mg/Kg	50	1/16/2004 1:06:00 PM
CORROSIVITY BY PH		SW9045C		Analyst: DN		

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

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory



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Aerotech Environmental

Analytical Report

Date: 17-Mar-04

CLIENT: Brown & Caldwell
Lab Order: 04010435
Project: Florence Copper/21622.008
Lab ID: 04010435-01A

Client Sample ID: Pond Sediment
Tag Number:
Collection Date: 1/5/2004 9:00:00 AM
Matrix: SEDIMENT

Analyses	Result	Limit	Qnal	Units	DF	Date Analyzed
CORROSIVITY BY PH						Analyst: D N
pH	7.59	2.00		pH Units	1	1/9/2004 9:00:00 AM

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

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Aerotech Environmental

Date: 17-Mar-04

CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_S

Sample ID	MB-16074	SampType:	MBLK	TestCode:	300_S	Units:	mg/Kg	Prep Date:	1/13/2004	RunNo:	43030			
Client ID:		Batch ID:	16074	TestNo:	E300			Analysis Date:	1/14/2004	SeqNo:	509000			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		< 20		20										
Nitrogen, Nitrate (As N)		< 2.0		2.0										

Sample ID	MB-16074	SampType:	MBLK	TestCode:	300_S	Units:	mg/Kg	Prep Date:	1/13/2004	RunNo:	43097			
Client ID:		Batch ID:	16074	TestNo:	E300			Analysis Date:	1/16/2004	SeqNo:	509889			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate		< 20		20										

Sample ID	LCS-16074	SampType:	LCS	TestCode:	300_S	Units:	mg/Kg	Prep Date:	1/13/2004	RunNo:	43030			
Client ID:		Batch ID:	16074	TestNo:	E300			Analysis Date:	1/14/2004	SeqNo:	509001			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		96.80		20	100	0		96.8	90	110				
Nitrogen, Nitrate (As N)		19.50		2.0	20	0		97.5	90	110				

Sample ID	LCS-16074	SampType:	LCS	TestCode:	300_S	Units:	mg/Kg	Prep Date:	1/13/2004	RunNo:	43097			
Client ID:		Batch ID:	16074	TestNo:	E300			Analysis Date:	1/16/2004	SeqNo:	509890			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate		105.5		20	100	0		106	90	110				

Sample ID	LCSD-16074	SampType:	LCSD	TestCode:	300_S	Units:	mg/Kg	Prep Date:	1/13/2004	RunNo:	43030		
Client ID:		Batch ID:	16074	TestNo:	E300			Analysis Date:	1/14/2004	SeqNo:	509006		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		98.60		20	100	0	98.6	90	110	96.80	1.84	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



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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_S

Sample ID	LCSD-16074	SampType: LCSD	TestCode: 300_S	Units: mg/Kg	Prep Date: 1/13/2004	RunNo: 43030					
Client ID:		Batch ID: 16074	TestNo: E300		Analysis Date: 1/14/2004	SeqNo: 509006					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate (As N)	21.00	2.0	20	0	105	90	110	19.50	7.41	20	
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Sample ID	LCSD-16074	SampType: LCSD	TestCode: 300_S	Units: mg/Kg	Prep Date: 1/13/2004	RunNo: 43097					
Client ID:		Batch ID: 16074	TestNo: E300		Analysis Date: 1/16/2004	SeqNo: 509894					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	106.3	20	100	0	106	90	110	105.5	0.755	20	
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Sample ID	04010435-01AMS	SampType: MS	TestCode: 300_S	Units: mg/Kg	Prep Date: 1/13/2004	RunNo: 43030					
Client ID:	Pond Sediment	Batch ID: 16074	TestNo: E300		Analysis Date: 1/14/2004	SeqNo: 509004					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	866.0	20	98.62	751.6	116	80	120				
Nitrogen, Nitrate (As N)	21.60	2.0	19.72	0	110	80	120				

Sample ID	04010435-01AMS	SampType: MS	TestCode: 300_S	Units: mg/Kg	Prep Date: 1/13/2004	RunNo: 43097					
Client ID:	Pond Sediment	Batch ID: 16074	TestNo: E300		Analysis Date: 1/16/2004	SeqNo: 509893					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	21270	990	4931	16460	97.6	80	120				
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Sample ID	04010435-01ADUP	SampType: DUP	TestCode: 300__S	Units: mg/Kg	Prep Date: 1/13/2004	RunNo: 43030					
Client ID:	Pond Sediment	Batch ID: 16074	TestNo: E300		Analysis Date: 1/14/2004	SeqNo: 509003					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chloride	756.6	20						751.6	0.667	20	
Nitrogen, Nitrate (As N)	< 2.0	2.0						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



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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_S

Sample ID	04010435-01ADUP	SampType:	DUP	TestCode:	300_S	Units:	mg/Kg	Prep Date:	1/13/2004	RunNo:	43097	
Client ID:	Pond Sediment	Batch ID:	16074	TestNo:	E300			Analysis Date:	1/16/2004	SeqNo:	509892	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate		16330	990						16460	0.812	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

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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010B_S

Sample ID	MB-16030	SampType:	MBLK		TestCode:	6010B_S		Units:	mg/Kg		Prep Date:	1/8/2004		RunNo:	42799	
Client ID:		Batch ID:	16030		TestNo:	SW6010B					Analysis Date:	1/9/2004		SeqNo:	505948	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual			
Aluminum		< 10	10													
Antimony		< 5.0	5.0													
Arsenic		< 5.0	5.0													
Barium		< 5.0	5.0													
Beryllium		< 0.50	0.50													
Cadmium		< 0.50	0.50													
Chromium		< 2.0	2.0													
Cobalt		< 2.0	2.0													
Copper		< 5.0	5.0													
Lead		< 5.0	5.0													
Manganese		< 2.0	2.0													
Nickel		< 2.0	2.0													
Selenium		< 10	10													
Thallium		< 5.0	5.0													
Zinc		< 10	10													

Sample ID	LCS-16030	SampType: LCS	TestCode: 6010B_S	Units: mg/Kg	Prep Date: 1/8/2004	RunNo: 42799					
Client ID:		Batch ID: 16030	TestNo: SW6010B		Analysis Date: 1/9/2004	SeqNo: 505934					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	54.50	10	50	0	109	80	120				
Antimony	25.10	5.0	25	0	100	80	120				
Arsenic	24.30	5.0	25	0	97.2	80	120				
Barium	28.10	5.0	25	0	112	80	120				
Beryllium	25.40	0.50	25	0	102	80	120				
Cadmium	25.50	0.50	25	0	102	80	120				
Chromium	25.60	2.0	25	0	102	80	120				
Cobalt	25.35	2.0	25	0	101	80	120				
Copper	24.85	5.0	25	0	99.4	80	120				

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010B_S

Sample ID	LCS-16030	SampType:	LCS	TestCode:	6010B_S	Units:	mg/Kg	Prep Date:	1/8/2004	RunNo:	42799		
Client ID:		Batch ID:	16030	TestNo:	SW6010B			Analysis Date:	1/9/2004	SeqNo:	505934		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	24.70	5.0	25	0	98.8	80	120				
Manganese	25.50	2.0	25	0	102	80	120				
Nickel	25.00	2.0	25	0	100	80	120				
Selenium	23.85	10	25	0	95.4	80	120				
Thallium	24.80	5.0	25	0	99.2	80	120				
Zinc	25.20	10	25	0	101	80	120				

Sample ID	LCSD-16030	SampType:	LCSD	TestCode:	6010B_S	Units:	mg/Kg	Prep Date:	1/8/2004	RunNo:	42799			
Client ID:		Batch ID:	16030	TestNo:	SW6010B			Analysis Date:	1/9/2004	SeqNo:	505938			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	54.00	10	50	0	108	80	120	54.50	0.922	20	
Antimony	25.90	5.0	25	0	104	80	120	25.10	3.14	20	
Arsenic	25.55	5.0	25	0	102	80	120	24.30	5.02	20	
Barium	28.00	5.0	25	0	112	80	120	28.10	0.357	20	
Beryllium	25.80	0.50	25	0	103	80	120	25.40	1.56	20	
Cadmium	25.55	0.50	25	0	102	80	120	25.50	0.196	20	
Chromium	25.75	2.0	25	0	103	80	120	25.60	0.584	20	
Cobalt	25.45	2.0	25	0	102	80	120	25.35	0.394	20	
Copper	25.15	5.0	25	0	101	80	120	24.85	1.20	20	
Lead	25.20	5.0	25	0	101	80	120	24.70	2.00	20	
Manganese	25.70	2.0	25	0	103	80	120	25.50	0.781	20	
Nickel	25.15	2.0	25	0	101	80	120	25.00	0.598	20	
Selenium	24.45	10	25	0	97.8	80	120	23.85	2.48	20	
Thallium	25.70	5.0	25	0	103	80	120	24.80	3.56	20	
Zinc	25.40	10	25	0	102	80	120	25.20	0.791	20	

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010B_S

Sample ID	04010435-01A MS	SampType: MS	TestCode: 6010B_S	Units: mg/Kg	Prep Date: 1/8/2004	RunNo: 42799					
Client ID:	Pond Sediment	Batch ID: 16030	TestNo: SW6010B		Analysis Date: 1/9/2004	SeqNo: 505905					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4965	10	50	5850	-1770	75	125				M3
Antimony	13.10	5.0	25	0	52.4	75	125				M7
Arsenic	24.85	5.0	25	0	99.4	75	125				
Barium	50.00	5.0	25	27.85	88.6	75	125				
Beryllium	24.45	0.50	25	0.6450	95.2	75	125				
Cadmium	23.00	0.50	25	0	92.0	75	125				
Chromium	25.90	2.0	25	3.440	89.8	75	125				
Cobalt	37.00	2.0	25	15.15	87.4	75	125				
Copper	4980	5.0	25	5450	-1880	75	125				M3
Lead	< 5.0	5.0	25	0	0	75	125				M7
Manganese	152.0	2.0	25	126.5	102	75	125				
Nickel	43.35	2.0	25	22.85	82.0	75	125				
Selenium	30.85	10	25	0	123	75	125				
Thallium	16.75	5.0	25	0	67.0	75	125				M7
Zinc	64.50	10	25	44.50	80.0	75	125				

Sample ID	04010435-01A MSD	SampType: MSD	TestCode: 6010B_S	Units: mg/Kg	Prep Date: 1/8/2004	RunNo: 42799					
Client ID:	Pond Sediment	Batch ID: 16030	TestNo: SW6010B		Analysis Date: 1/9/2004	SeqNo: 505906					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4030	10	50	5850	-3640	75	125	4965	20.8	20	M3,R9
Antimony	13.45	5.0	25	0	53.8	75	125	13.10	2.64	20	M7
Arsenic	25.60	5.0	25	0	102	75	125	24.85	2.97	20	
Barium	48.20	5.0	25	27.85	81.4	75	125	50.00	3.67	20	
Beryllium	25.05	0.50	25	0.6450	97.6	75	125	24.45	2.42	20	
Cadmium	23.60	0.50	25	0	94.4	75	125	23.00	2.58	20	
Chromium	26.10	2.0	25	3.440	90.6	75	125	25.90	0.769	20	
Cobalt	36.30	2.0	25	15.15	84.6	75	125	37.00	1.91	20	
Copper	4810	5.0	25	5450	-2560	75	125	4980	3.47	20	M3

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

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Aerotech Environmental Laboratories

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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010B_S

Sample ID	04010435-01A MSD	SampType:	MSD	TestCode:	6010B_S	Units:	mg/Kg	Prep Date:	1/8/2004	RunNo:	42799
Client ID:	Pond Sediment	Batch ID:	16030	TestNo:	SW6010B			Analysis Date:	1/9/2004	SeqNo:	505906
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	< 5.0	5.0	25	0	0	75	125	0	0	20	M7
Manganese	173.0	2.0	25	126.5	186	75	125	152.0	12.9	20	M6
Nickel	40.05	2.0	25	22.85	68.8	75	125	43.35	7.91	20	M7
Selenium	31.90	10	25	0	128	75	125	30.85	3.35	20	M6
Thallium	17.40	5.0	25	0	69.6	75	125	16.75	3.81	20	M7
Zinc	58.50	10	25	44.50	56.0	75	125	64.50	9.76	20	M7

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

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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471A_S

Sample ID	MB-16003	SampType:	MBLK	TestCode:	7471A_S	Units:	mg/Kg	Prep Date:	1/6/2004	RunNo:	42670		
Client ID:		Batch ID:	16003	TestNo:	SW7471A			Analysis Date:	1/7/2004	SeqNo:	504195		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury < 0.10 0.10

Sample ID	LCS-16003	SampType:	LCS	TestCode:	7471A_S	Units:	mg/Kg	Prep Date:	1/6/2004	RunNo:	42670			
Client ID:		Batch ID:	16003	TestNo:	SW7471A			Analysis Date:	1/7/2004	SeqNo:	504196			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.8333 0.10 0.834 0 99.9 85 115

Sample ID	LCSD-16003	SampType:	LCSD	TestCode:	7471A_S	Units:	mg/Kg	Prep Date:	1/6/2004	RunNo:	42670		
Client ID:		Batch ID:	16003	TestNo:	SW7471A			Analysis Date:	1/7/2004	SeqNo:	504197		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.8417 0.10 0.834 0 101 85 115 0.8333 0.995 20

Sample ID	03121274-01AMS	SampType:	MS	TestCode:	7471A_S	Units:	mg/Kg-dry	Prep Date:	1/6/2004	RunNo:	42670		
Client ID:		Batch ID:	16003	TestNo:	SW7471A			Analysis Date:	1/7/2004	SeqNo:	504199		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 1.222 0.11 0.8992 0.6983 58.2 85 115 M7

Sample ID	03121274-01AMSD	SampType:	MSD	TestCode:	7471A_S	Units:	mg/Kg-dry	Prep Date:	1/6/2004	RunNo:	42670		
Client ID:		Batch ID:	16003	TestNo:	SW7471A			Analysis Date:	1/7/2004	SeqNo:	504200		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 1.828 0.11 0.9011 0.6983 125 85 115 1.222 39.7 20 M6,R9

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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015AZ_S

Sample ID MB-16033	SampType: MBLK	TestCode: 8015AZ_S	Units: mg/Kg	Prep Date: 1/8/2004	RunNo: 42800
Client ID:	Batch ID: 16033	TestNo: 8015AZR1		Analysis Date: 1/9/2004	SeqNo: 505955
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Diesel Hydrocarbons: C10-C22	< 30.0	30.0									
Fuel Hydrocarbons: C10-C32	< 130	130									
Oil Hydrocarbons: C22-C32	< 100	100									
Surr: O-Terphenyl	47.93	0	50	0	95.9	70	130				

Sample ID LCS-16033	SampType: LCS	TestCode: 8015AZ_S	Units: mg/Kg	Prep Date: 1/8/2004	RunNo: 42800
Client ID:	Batch ID: 16033	TestNo: 8015AZR1		Analysis Date: 1/9/2004	SeqNo: 505956
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Diesel Hydrocarbons: C10-C22	179.0	30.0	200	0	89.5	70	130				
Surr: O-Terphenyl	47.86	0	50	0	95.7	70	130				

Sample ID LCSD-16033	SampType: LCSD	TestCode: 8015AZ_S	Units: mg/Kg	Prep Date: 1/8/2004	RunNo: 42800
Client ID:	Batch ID: 16033	TestNo: 8015AZR1		Analysis Date: 1/9/2004	SeqNo: 505962
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Diesel Hydrocarbons: C10-C22	193.2	30.0	200	0	96.6	70	130	179.0	7.67	35	
Surr: O-Terphenyl	49.82	0	50	0	99.6	70	130	47.86	0	0	

Sample ID 04010442-01A MS	SampType: MS	TestCode: 8015AZ_S	Units: mg/Kg	Prep Date: 1/8/2004	RunNo: 42822
Client ID:	Batch ID: 16033	TestNo: 8015AZR1		Analysis Date: 1/12/2004	SeqNo: 506291
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Diesel Hydrocarbons: C10-C22	5777	30.0	200	5641	68.1	52	141				
Surr: O-Terphenyl	< 0	0	50	0	0	70	130				S9

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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015AZ_S

Sample ID 04010442-01A MSD	SampType: MSD	TestCode: 8015AZ_S	Units: mg/Kg	Prep Date: 1/8/2004	RunNo: 42822						
Client ID:	Batch ID: 16033	TestNo: 8015AZR1		Analysis Date: 1/12/2004	SeqNo: 506292						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Hydrocarbons: C10-C22	5761	30.0	200	5641	59.9	52	141	5777	0.283	27	
Surr: O-Terphenyl	< 0	0	50	0	0	70	130	0	0	0	S9

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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID	MB-16009	SampType:	MBLK	TestCode:	8260_S	Units:	mg/Kg	Prep Date:	1/6/2004	RunNo:	42801		
Client ID:		Batch ID:	16009	TestNo:	SW8260B			Analysis Date:	1/9/2004	SeqNo:	505963		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	< 0.050	0.050									
Ethylbenzene	< 0.050	0.050									
m,p-Xylene	< 0.10	0.10									
o-Xylene	< 0.050	0.050									
Toluene	< 0.050	0.050									
Surr: 4-Bromofluorobenzene	2.792	0	2.5	0	112	63	121				
Surr: Dibromofluoromethane	2.550	0	2.5	0	102	52	128				
Surr: Toluene-d8	2.622	0	2.5	0	105	65	121				

Sample ID	LCS-16009	SampType:	LCS	TestCode:	8260_S	Units:	mg/Kg	Prep Date:	1/6/2004	RunNo:	42801		
Client ID:		Batch ID:	16009	TestNo:	SW8260B			Analysis Date:	1/9/2004	SeqNo:	505964		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	1.232	0.050	1.25	0	98.5	77	107				
Ethylbenzene	1.267	0.050	1.25	0	101	80	109				
m,p-Xylene	2.550	0.10	2.5	0	102	80	120				
o-Xylene	1.274	0.050	1.25	0	102	80	120				
Toluene	1.246	0.050	1.25	0	99.7	80	120				
Surr: 4-Bromofluorobenzene	2.724	0	2.5	0	109	63	121				
Surr: Dibromofluoromethane	2.554	0	2.5	0	102	52	128				
Surr: Toluene-d8	2.587	0	2.5	0	103	65	121				

Sample ID	LCSD-16009	SampType:	LCSD	TestCode:	8260_S	Units:	mg/Kg	Prep Date:	1/6/2004	RunNo:	42801		
Client ID:		Batch ID:	16009	TestNo:	SW8260B			Analysis Date:	1/9/2004	SeqNo:	505965		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	1.232	0.050	1.25	0	98.6	77	107	1.232	0.0406	25	
Ethylbenzene	1.294	0.050	1.25	0	104	80	109	1.267	2.15	25	
m,p-Xylene	2.599	0.10	2.5	0	104	80	120	2.550	1.92	25	

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID	LCSD-16009	SampType:	LCSD	TestCode:	8260_S	Units:	mg/Kg	Prep Date:	1/6/2004	RunNo:	42801		
Client ID:		Batch ID:	16009	TestNo:	SW8260B			Analysis Date:	1/9/2004	SeqNo:	505965		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

o-Xylene	1.303	0.050	1.25	0	104	80	120	1.274	2.29	25	
Toluene	1.269	0.050	1.25	0	102	80	120	1.246	1.79	25	
Surr: 4-Bromofluorobenzene	2.847	0	2.5	0	114	63	121	2.724	0	0	
Surr: Dibromofluoromethane	2.590	0	2.5	0	104	52	128	2.554	0	0	
Surr: Toluene-d8	2.624	0	2.5	0	105	65	121	2.587	0	0	

Sample ID	04010442-01A MS	SampType: MS	TestCode: 8260_S	Units: mg/Kg	Prep Date: 1/6/2004	RunNo: 42859					
Client ID:		Batch ID: 16009	TestNo: SW8260B		Analysis Date: 1/12/2004	SeqNo: 506774					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	1.157	0.050	1.25	0	92.6	58	114				
Ethylbenzene	1.216	0.050	1.25	0	97.2	49	125				
m,p-Xylene	2.436	0.10	2.5	0	97.5	52	124				
o-Xylene	1.251	0.050	1.25	0	100	48	128				
Toluene	1.196	0.050	1.25	0	95.7	58	118				
Surr: 4-Bromofluorobenzene	2.660	0	2.5	0	106	63	121				
Surr: Dibromofluoromethane	2.437	0	2.5	0	97.5	52	128				
Surr: Toluene-d8	2.497	0	2.5	0	99.9	65	121				

Sample ID	04010442-01A MSD	SampType:	MSD	TestCode:	8260_S	Units:	mg/Kg	Prep Date:	1/6/2004	RunNo:	42859			
Client ID:		Batch ID:	16009	TestNo:	SW8260B			Analysis Date:	1/12/2004	SeqNo:	506775			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	1.168	0.050	1.25	0	93.5	58	114	1.157	0.989	25	
Ethylbenzene	1.278	0.050	1.25	0	102	49	125	1.216	4.97	25	
m,p-Xylene	2.554	0.10	2.5	0	102	52	124	2.436	4.71	25	
o-Xylene	1.290	0.050	1.25	0	103	48	128	1.251	3.03	25	
Toluene	1.210	0.050	1.25	0	96.8	58	118	1.196	1.12	25	
Surr: 4-Bromofluorobenzene	2.654	0	2.5	0	106	63	121	2.660	0	0	

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

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Aerotech Environmental Laboratories

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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID	04010442-01A MSD	SampType: MSD	TestCode: 8260_S	Units: mg/Kg	Prep Date: 1/6/2004	RunNo: 42859					
Client ID:		Batch ID: 16009	TestNo: SW8260B		Analysis Date: 1/12/2004	SeqNo: 506775					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	2.466	0	2.5	0	98.7	52	128	2.437	0	0	
Surr: Toluene-d8	2.504	0	2.5	0	100	65	121	2.497	0	0	

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
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Aerotech Environmental Laboratories

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CLIENT: Brown & Caldwell
Work Order: 04010435
Project: Florence Copper/21622.008

ANALYTICAL QC SUMMARY REPORT

TestCode: PH_S

Sample ID	LCSD-R42786	SampType:	LCSD	TestCode:	PH_S	Units:	pH Units	Prep Date:		RunNo:	42786
Client ID:		Batch ID:	R42786	TestNo:	SW9045C			Analysis Date:	1/9/2004	SeqNo:	505603
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
pH		7.050		2.00	7	0	101	99.22	100.72		

Sample ID	LCSD-R42786	SampType:	LCSD	TestCode:	PH_S	Units:	pH Units	Prep Date:		RunNo:	42786
Client ID:		Batch ID:	R42786	TestNo:	SW9045C			Analysis Date:	1/9/2004	SeqNo:	505607
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
pH		7.040		2.00	7	0	101	99.22	100.72	7.050	0.142 10

Sample ID	04010435-01ADUP	SampType:	DUP	TestCode:	PH_S	Units:	pH Units	Prep Date:		RunNo:	42786
Client ID:	Pond Sediment	Batch ID:	R42786	TestNo:	SW9045C			Analysis Date:	1/9/2004	SeqNo:	505605
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
pH		7.630		2.00						7.590	0.526 10

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits
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Aerotech Environmental Laboratories Sample Receipt Checklist

Project checked by: MV

Accession Number: <u>0-401-0435</u>	Checklist completed by: <u>Ali</u> <u>1-5-04</u>	
Client Name: <u>BROWN & CALDWELL</u>	Signature/Date	
Matrix: <u>SEDIMENT/SLOPE</u>	Carrier Name: <u>PETER K</u>	Date/Time Rec'd: <u>1-5-04</u> ^{13:17} By: <u>OMC</u>

Temperature of Samples? 6.1 °C Circle one: Blue Ice ☐ Wet Ice ☒ Not Present ☐

	Yes	No	Not Present
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Custody seals intact on shipping container/cooler?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Custody seals intact on sample containers?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Chain of Custody present and relinquished/received properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody agrees with sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Samples in proper containers/bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample containers intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
All samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Do different containers of the same sample vary in appearance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If Yes, Contact PM
40mL vials for volatiles & SOCs received with zero headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Containers:

Brass Sleeve _____

Glass Jar ☒

Methanol _____

Plastic Bag _____

Total number of bottles received: 2 IH sample media: _____

Number of containers received by preservative (by sample number):

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

*If more than 15 samples are rec'd, please continue on separate sheet(s)

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		
Nutrients <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. Please continue on back if you run out of space.

Comments:
Corrective Action:

