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Memorandum

Prepared for: File
Project Title: Florence Copper
Project No.: 149050

Subject: Florence Copper Project, Temporary APP and UIC Permits, Ambient Event 4
Date: May 15, 2018
To: Ian Ream
From: Barb Sylvester

Groundwater sampling at the Florence Copper Project site took place October 23 through October 25, 2017. Ten Point-of-Compliance (POC) and Supplemental wells were sampled as part of the ambient monitoring program for the Temporary APP and UIC permits. Two of the twelve new APP/UIC wells (MW-01-O, MW-01-LBF) had not been installed at this time. Eleven total samples were collected, including one duplicate sample. Table 1 summarizes the sampling activities.

Ambient samples were to be analyzed for metals, inorganics, organics, and radionuclides (Table 2). Samples for metal analysis were filtered in the field.

Table 1. Summary of October 2017 Ambient Event

Date	Sample Identification	Pump Style	Analyses
October 23, 2017	M54-LBF	Low-Flow	Level II
	M54-O	Low-Flow	Level II
	M61-LFB	Low-Flow	Level II
October 24, 2017	M58-O	Low-Flow	Level II
	M59-O	Low-Flow	Level II
	M60-O	Low-Flow	Level II
October 25, 2017	M52-UBF M63.0 (Duplicate)	Low-Flow	Level II
	M55-UBF	Low-Flow	Level II
	M56-LBF	Low-Flow	Level II

Table 1. Summary of October 2017 Ambient Event			
Date	Sample Identification	Pump Style	Analyses
October 25, 2017	M57-O	Low-Flow	Level II
	MW-01-LFB		Not Constructed
	MW-01-O		Not Constructed

Table 2. Analytical Parameters		
Analysis	Method	Preservative
Inorganic Common Ions		
pH (lab)	SM 4500H+	None
Electroconductivity (EC) (lab)	SM 2510B	None
Bicarbonate Alkalinity	SM 2320B	None
Carbonate Alkalinity	SM 2320B	None
Hydroxide Alkalinity	SM 2320B	None
Total Alkalinity	SM 2320B	None
Chloride	EPA 300.0	None
Fluoride (Level I)	EPA 300.0	None
Nitrate as N	EPA 300.0	None
Nitrite as N	EPA 300.0	None
Sulfate (Level I)	EPA 300.0	None
Total Dissolved Solids (Level I)	SM 2540C	None
Cation/Anion Balance	Calculation	-
Cyanide	EPA 335.4	NaOH
Formation-Related Radiochemicals		
Gross Alpha	600/00-02	None
Gross Beta	900.0	None
Radium 226	903/GammaRay HPGE	None
Radium 228	904/GammaRay HPGE	None
Total Uranium Isotopes (if G. Alpha >12.0)	ASTM 6239	None
Radon 222	7500-Rn	None (Voas)
Total Uranium (unfiltered total as mg/L)	EPA 200.8	HNO3
Process-Related Organics		
Extractable Fuel Hydrocarbons (Diesel Range Organics)	EPA 8015D	None
Benzene	EPA 8260B	HCl Voas
Ethylbenzene	EPA 8260B	HCl Voas
Toluene	EPA 8260B	HCl Voas
Total Xylene	EPA 8260B	HCl Voas

Table 2. Analytical Parameters		
Analysis	Method	Preservative
Carbon Disulfide	EPA 8260B	HCl Voas
Napthalene	EPA 8260B	HCl Voas
Octane	EPA 8260B	HCl Voas
Trace Metals and Cations (Filtered-Dissolved)		
Aluminum	EPA 200.8	HNO3
Antimony	EPA 200.8	HNO3
Arsenic	EPA 200.8	HNO3
Barium	EPA 200.8	HNO3
Beryllium	EPA 200.8	HNO3
Calcium	EPA 200.7	HNO3
Cadmium	EPA 200.8	HNO3
Chromium	EPA 200.8	HNO3
Cobalt	EPA 200.8	HNO3
Copper	EPA 200.8	HNO3
Iron	EPA 200.7	HNO3
Lead	EPA 200.8	HNO3
Magnesium (Level I)	EPA 200.7	HNO3
Manganese	EPA 200.8	HNO3
Mercury	EPA 245.1	HNO3
Nickel	EPA 200.8	HNO3
Potassium	EPA 200.7	HNO3
Selenium	EPA 200.8	HNO3
Sodium	EPA 200.7	HNO3
Thallium	EPA 200.8	HNO3
Zinc	EPA 200.8	HNO3

Observations/Problems

None.

Table 3. Summary of Water Levels						
Sample Event:	Ambient Event 4				Measured By:	M. Orcutt
Well ID	Sample Date	Depth to Water (feet bls)	Description of Measuring Point	Elevation of Measuring Point (feet amsl)	Water Level Elevation (feet amsl)	Comments
M52-UBF	10/25/2017	231.05	TOC	1485.04	1253.99	
M54-LBF	10/23/2017	230.67	TOC	1481.89	1251.22	
M54-O	10/23/2017	230.71	TOC	1482.40	1251.69	
M55-UBF	10/25/2017	226.18	TOC	1479.21	1253.03	
M56-LBF	10/25/2017	226.55	TOC	1478.69	1252.14	
M57-O	10/25/2017	226.35	TOC	1478.75	1252.40	
M58-O	10/24/2017	229.20	TOC	1481.16	1251.96	
M59-O	10/24/2017	228.15	TOC	1480.26	1252.11	
M60-O	10/24/2017	225.00	TOC	1477.45	1252.45	
M61-LBF	10/23/2017	228.28	TOC	1480.80	1252.52	
MW-01-LBF	Not Constructed					
MW-01-O	Not Constructed					

amsl = Above Mean Sea Level

TOC = Top of Casing

TOM = Top of Monument

NM = Not Measured

Table 4. Summary of Field Parameters						
Sample Event:	Ambient Event 4		Measured By:	M. Orcutt		
Well ID	Sample Date	Temperature (°C)	pH	Conductivity (µmhos/cm)	Turbidity (NTU)	Comments
M52-UBF	10/25/2017	23.5	7.41	1,439	0.80	
M54-LBF	10/23/2017	23.3	7.39	1,512	0.44	
M54-O	10/23/2017	23.7	8.22	767	0.68	
M55-UBF	10/25/2017	24.2	7.31	1,503	4.20	
M56-LBF	10/25/2017	23.6	7.36	1,435	3.09	
M57-O	10/25/2017	22.8	7.78	883	0.62	
M58-O	10/24/2017	23.6	7.66	1,367	1.25	
M59-O	10/24/2017	24.3	7.86	824	0.80	
M60-O	10/24/2017	24.5	7.59	1264	3.46	
M61-LBF	10/23/2017	24.8	8.21	801	0.60	
MW-01-LBF	Not Constructed					
MW-01-O	Not Constructed					

°C = degrees Celsius

°F = degrees Fahrenheit

µmhos/cm = Micromhos per Centimeter

NTU = Nephlometric Tubidity Units

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SITE VISITATION

JOB NAME: Florence Copper **JOB NUMBER:** 150342

PERSONNEL: M. Orcutt **DATE:** 10/23/2017

COMMENTS: PCC Clear, Warm, LT. Wind.

0805 On site, signed in at front office and picked up cooler and QED equipment. Spoke with Ian and mob to wells, warm up BC's WQ meters for calibration.

0948 Sampled MS4-O

11:22 Sampled MS4-LBF

1215 Sampled S4-O for Total Uranium

1230 Short lunch.

1356 Sampled M61-LBF

1445 Load up and mob to shop. Returned equip and ~~hand~~ hand over samples to Ian.

1502 OFF Site.

Samples w/ TB to Turner Labs Tucson, via Ian.

Brown AND Caldwell

SITE VISITATION

JOB NAME: Florence Copper **JOB NUMBER:** 150342

PERSONNEL: M. Orwin **DATE:** 10/24/2017

COMMENTS: PCC warm, windy, clear

0740 On site, signed in at office.
Picked up QED and & mob to wells.
Switched out Nitrogen cyl.
Spoke w/ Ian and picked up coolers.
Mob to PCC wells and warmed up YSI WQ
Meters for calibration
0918 Sampled M58-0
11:10 Sampled M59-0

12:10 Short lunch and return.

1350 Sampled M60-0
1435 Mob back to shop.
Returned QED equipment and hand off samples to Ian for Turner labs Tucson, Az.

1500 Signed out, off site

Brown AND Caldwell

SITE VISITATION

JOB NAME: Florence Copper **JOB NUMBER:** 150342

PERSONNEL: M. Orcutt **DATE:** 10/25/2017

COMMENTS: Warm, Windy, Clear

0730 On site, signed in and picked up QED equipment.
Mob to wells to warm up RC's WQ meters for Calibration.

0904 Sampled MS7-O

1040 Sampled MS6-LBF
1135 Short lunch and pick up remaining coolers.

1300 Sampled MS5-UBF
mob to last well MS2_UBF

1420 Sampled MS2-UBF with Dup
1435 MG3.0 deep, duplicate of MS2 UBF.

1530 Met with Ian to hand off samples, Returned new well key and QED equipment

1600 Signed out

2 1/2 (200g) Nitrogen remaining.

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M52-UBF

SAMPLED BY: M. Orcutt

DATE : 10/25/2017

WELL INFORMATION

TD Casing: 275 feet

Static Depth to Water: 231.05 feet

System Purge before Params 2.6 liters

Time Purge Start: 1400 hours

Time Sample Start: 1420 hours

Time Purged: 20 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 237.5'
1409	23.9	7.39	1439	6.29	0.47	0.33	3.0	0.0	Clear, no odors
1412	23.7	7.40	1440	6.43	0.61	0.33	4.0	0.00	
1415	23.6	7.41	1442	6.49	0.79	0.33	5.0	↓	
1418	23.5	7.41	1439	6.40	0.80	0.33	6.0		Low flow VOC*
									Time issue
									for Lab.
									NO X Tra Purge

Sample ID: M52-UBF Sample Time, 1420 Duplicate (ID = M63.0, Time 1435) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M54-LBF

SAMPLED BY: M. Orcutt

DATE : 10/22/2017

WELL INFORMATION

TD Casing: 630 feet

Static Depth to Water: 230.67 feet

System Purge before Params 3.9 liters

Time Purge Start: 10:44 hours

Time Sample Start: 11:22 hours

Time Purged: 38 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 470'
1056	23.4	7.39	1518	4.66	4.71	0.33	4.0	0.00	Clear, No odors
1100	23.4	7.41	1517	4.70	2.10	0.25	5.0	0.00	
1104	23.4	7.40	1517	4.88	1.31	0.25	6.0	0.00	
1108	23.3	7.41	1517	4.96	0.86	0.25	7.0		
1112	23.4	7.40	1514	4.90	0.43	0.25	8.0		
1116	23.3	7.40	1514	4.99	0.45	0.25	9.0		
1120	23.3	7.39	1512	5.10	0.44	0.25	10.0		Low flow for VOC's
									2.4

Sample ID: M54-LBF Sample Time, 1122 Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M54-O

SAMPLED BY: M. Orcutt

DATE: 10/23/2017

WELL INFORMATION

TD Casing: 1,200 feet

Static Depth to Water: 230.71 feet

System Purge before Params 9.2 liters

Time Purge Start: 0854 hours

Time Sample Start: 0948 hours

Time Purged: 54 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 1000'
0927	23.3	8.16	769	1.59	2.28	0.28	9.5	0.03	Clear, no odors
0931	23.4	8.17	768	1.30	1.85	0.25	10.5	0.03	
0934	23.6	8.19	768	1.27	1.06	0.33	11.5	0.03	
0938	23.6	8.22	768	1.14	1.02	0.25	12.5	0.03	
0941	23.6	8.23	769	1.06	1.18	0.33	13.5	0.03	
0944	23.7	8.21	767	0.95	0.74	0.33	14.5	0.03	
0947	23.7	8.22	767	0.92	0.68	0.33	15.5	0.30	low flow for VOC's
				Returned to grab Total Uranium					
				not filtered					
						@1215			
									2, 4, 6, 8,

Sample ID: M54-O Sample Time, 0948 N/A Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M55-UBF

SAMPLED BY: M. Orcutt

DATE : 10/25/2017

WELL INFORMATION

TD Casing: 260 feet

Static Depth to Water: 226.18 feet

System Purge before Params 2.8 liters

Time Purge Start: 1220 hours

Time Sample Start: 1300 hours

Time Purged: 40 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 250'
1233	24.6	7.20	~~1511~~ 1511	6.38	5.00	0.25	3.0	0.00	Clear, No odors
1237	24.5	7.26	1507	6.73	3.93	0.25	4.0	0.00	
1241	24.3	7.31	1506	6.76	4.20	0.25	5.0	0.02	
1245	24.3	7.31	1504	6.50	4.00	0.25	6.0	0.02	
~~1349~~ 1249	24.2	7.28	1506	6.50	4.39	0.25	7.0	↓	
~~1353~~ 1253	24.2	7.30	1504	6.18	4.40	0.25	8.0		
~~1357~~ 1257	24.2	7.31	1503	6.29	4.20	0.25	9.0		Low flow for VOC's
1249	1249								
1253	1253								
1257	1257								

Sample ID: M55-UBF Sample Time, 1300 Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M56-LBF

SAMPLED BY: M. Orcutt

DATE : 10/25/2017

WELL INFORMATION

TD Casing: 340 feet

Static Depth to Water: 226.55 feet

System Purge before Params 2.4 liters

Time Purge Start: 10:06 hours

Time Sample Start: 1040 hours

Time Purged: 34 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 330'
1015	23.5	7.40	1438	2.54	2.01	0.27	2.5	0.18	Clear, NO ODORS
1018	23.5	7.31	1436	2.44	3.30	0.33	3.5	0.18	
1022	23.5	7.32	1436	2.30	3.47	0.25	4.5	0.19	
1026	23.5	7.33	1436	2.21	3.46	0.25	5.5	0.20	
1030	23.5	7.34	1436	2.19	3.68	0.25	6.5	0.20	
1034	23.6	7.35	1434	2.19	3.30	0.25	7.5	0.20	
1038	23.6	7.36	1435	2.17	3.09	0.25	8.5	0.20	Low flow for VOC's

Sample ID: M56-LFB Sample Time, 1040 Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M57-O

SAMPLED BY: M. Orcutt

DATE : 10/25/2017

WELL INFORMATION

TD Casing: 1,200 feet

Static Depth to Water: 226.35 feet 226.35

System Purge before Params 8.7 liters

Time Purge Start: 0808 hours

Time Sample Start: 0904 hours

Time Purged: 56 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 950'
0841	22.6	7.55	855	1.03	2.50	0.27	9.0	0.00	Clear, no odors
0844	22.6	7.63	869	0.97	1.85	0.33	10.0	0.00	
0847	22.6	7.69	876	0.88	1.45	0.33	11.0	0.00	
0850	22.7	7.72	880	0.84	1.37	0.33	12.0	0.00	
0854	22.7	7.75	882	0.80	0.89	0.25	13.0		
0858	22.8	7.77	882	0.76	0.91	0.25	14.0		
0902	22.8	7.78	883	0.75	0.62	0.25	15.0		Low flow for VOC's
									2,4,6,8

Sample ID: M57-O Sample Time, 0904 Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M58-O

SAMPLED BY: M. Orcutt

DATE : 10/24/2017

WELL INFORMATION

TD Casing: 1,200 feet

Static Depth to Water: 229.20 feet

System Purge before Params 8.7 liters

Time Purge Start: 0822 hours

Time Sample Start: 0918 hours

Time Purged: 56 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 950'
0854	23.0	7.63	1376	1.12	2.43	0.28	9.0	0.00	Clear, NO ODORS
0858	23.1	7.64	1372	1.05	2.22	0.25	10.0	0.00	
0902	23.1	7.66	1369	0.98	2.32	0.25	11.0	0.00	
0906	23.2	7.67	1369	0.92	1.25	0.25	12.0	0.00	
0910	23.3	7.64	1365	0.82	1.06	0.25	13.0		
0913	23.5	7.64	1369	0.83	1.10	0.33	14.0		
0916	23.6	7.66	1367	0.79	1.25	0.33	15.0		Low flow for VOC's
									2, 4, 6, 8

Sample ID: M58-O Sample Time, 0918 Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M59-O

SAMPLED BY: M. Orcutt

DATE : 10/24/2017

WELL INFORMATION

TD Casing: 1,200 feet

Static Depth to Water: 228.15 feet

System Purge before Params 8.7 liters

Time Purge Start: 10:20 hours

Time Sample Start: 11:10 hours

Time Purged: 50 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 950'
1051	24.5	7.83	836	0.65	1.91	0.29	9.0	0.05	Clear, NO ODORS
1054	24.3	7.83	826	0.53	1.97	0.33	10.0	0.05	
1057	24.3	7.83	824	0.51	1.52	0.33	11.0	0.05	
1100	24.4	7.84	823	0.51	1.22	0.33	12.0	0.05	
1103	24.4	7.84	823	0.48	1.11	0.33	13.0	0.06	
1106	24.4	7.86	824	0.43	0.87	0.33	14.0	0.05	
1109	24.3	7.86	824	0.44	0.80	0.33	15.0	0.05	Low flow for VOC's
									2,4,6,8

Sample ID: M59-O Sample Time, 11:10 Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M60-O

SAMPLED BY: M. Orcutt

DATE : 10/24/2017

WELL INFORMATION

TD Casing: 1,200 feet

Static Depth to Water: 225.00 feet

System Purge before Params 8.7 liters

Time Purge Start: 12:59 hours

Time Sample Start: 1350 hours

Time Purged: 51 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 950'
1329	24.6	7.42	1119	3.56	8.05	0.30	9.0	0.02	clear, NO ODORS
1332	24.6	7.47	1197	3.55	7.46	0.33	10.0	0.01	
1335	24.7	7.52	1243	3.58	6.69	0.33	11.0	0.00	
1339	24.8	7.55	1248	3.49	5.49	0.25	12.0	0.00	
1342	24.5	7.57	1260	3.44	3.74	0.33	13.0		
1345	24.5	7.58	1262	3.39	3.50	0.33	14.0		
1348	24.5	7.59	1264	3.40	3.46	0.33	15.0		Low flow for VOC's
									2, 4, 6, 8

Sample ID: M60-O Sample Time, 1350 Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: M61-LBF

SAMPLED BY: M. Orcutt

DATE : 10/23/2017

WELL INFORMATION

TD Casing: 635 feet

Static Depth to Water: 228.28 feet

System Purge before Params 4.5 liters

Time Purge Start: 1308 hours

Time Sample Start: 1356 hours

Time Purged: 48 minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) 0.22 <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments QED Bladder Pump Intake 535'
1328	24.9	8.34	800	0.61	0.70	~~0.22~~	4.5	0.68	Clear, no odors
1333	24.9	8.28	801	0.57	0.80	0.20	5.5	0.78	@ 229.06
1338	25.1	8.25	804	0.55	0.88	0.20	6.5	0.86	
1342	25.2	8.24	803	0.53	0.90	0.25	7.5	0.88	
1346	24.9	8.23	802	0.47	0.73	0.25	8.5	0.92	
1350	24.8	8.22	801	0.40	0.68	0.25	9.5	0.95	
1354	24.8	8.21	801	0.35	0.60	0.25	10.5	1.02	Lowered psi to avoid pulldown
									Low flow for 100'
									2.4

Sample ID: M61-LFB Sample Time, 1356 Duplicate (ID = N/A, Time N/A) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: MW-01-LBF

SAMPLED BY: M. Orcutt

DATE : 10 /25/17

WELL INFORMATION

TD Casing: 630 feet

Static Depth to Water: _____ feet

System Purge before Params 5.0 liters

Time Purge Start: _____ hours

Time Sample Start: _____ hours

Time Purged: _____ minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments
									Not yet constructed

Sample ID: MW-01-LBF Sample Time, _____ Duplicate (ID = _____, Time _____) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

GROUNDWATER SAMPLING FIELD DATA

PROJECT: Florence Copper

WELL ID: MW-01-O

SAMPLED BY: M. Orcutt

DATE : 10 /25/17

WELL INFORMATION

TD Casing: 1,200 feet

Static Depth to Water: feet

System Purge before Params 9.2 liters

Time Purge Start: hours

Time Sample Start: hours

Time Purged: minutes

Time	Temperature (°C) +/- 3%	pH +/- 0.1	EC (umhos/cm) +/- 3%	DO (mg/L) 10% or <.5	Turbidity (NTU) 10% or <5	Pump Rate (L/min) <0.5L/min	Purge Volume (L)	Pulldown DTW (feet) <0.5 ft	Comments
									Not yet constructed

Sample ID: MW-01-O Sample Time, _____ Duplicate (ID = _____, Time _____) Analyses Requested: Level II – Metals, Inorgs, Radios, BTEX, TPH-D

pH and TEMP CALIBRATION RECORD

Florence Copper Project

Instrument: YSI 556 (BC's)
SN: 15A102406
Probe SN: 600336

APP Sampling Event.
Month: Sept / OCT
Year: 2017

Calibration Procedures:

-pH calibration/measurement should be performed in accordance with protocols set forth by ***Standard Methods for the Examination of Water and Wastewater – 4500 H pH.*** Gentle agitation or stirring of sample should maintained during pH calibration and sample analysis.

-Temperature measurement should be performed in accordance with protocols set forth by ***Standard Methods for the Examination of Water and Wastewater – 2550 Temperature*** using an NIST traceable thermometer.

Calibration Standards Used:

Standard	Manufacturer	Lot#	Received	Expiration
4.00	Env. Supply	6GL777	8-15-17 / 9/14	Dec 8 Jan/19
7.00	↓	7GB009	9-6-17	Feb 18 / Jan/19
10.00		~~7GG077~~ 7GB647	9-6-17 / 10-12	Feb 18
7.00 Chk		7GG099	9-12-17	Jul/18

pH10 7GA050 10/12/17 Jan/19 pH7 7GB009 10/12/17 Feb/19
pH7chk. 7GG099 10/23/17 Jul/18 4 7GA1211 9-14-17 Jan/19

Calibration Record

Date	Time	Sampler	pH 4.00		pH 7.00		pH 10.00		pH 7.00Chk		Temp Chk*	Notes**
			T (°C)	Cal.	T (°C)	Cal.	T (°C)	Cal.	T (°C)	Cal.	T (°C)	
9-12-17	0840	M. Oacutt	31.1	4.00	30.3	7.00	30.8	10.02	26.8	6.99		
9-12-17	1335	"	—	—	—	—	—	—	31.3	7.02		
9-13-17	0830	↓	29.6	4.00	28.7	7.00	29.2	10.02	29.3	7.02		
9-13-17	1310	↓	—	—	—	—	—	—	33.9	7.01		
9-14-17	0750	"	30.2	4.00	28.3	7.00	28.4	10.02	28.2	7.02		
9-14-17	1100		—	—	—	—	—	—	38.4	7.01		
10-23-17	0905	M. Oacutt	21.5	4.01	21.3	7.00	21.1	10.02	20.3	7.02	21.0 NIST,	
10-23-17	1310	"	—	—	—	—	—	—	30.6	6.99	was 7.06	
10-24-17	0830	"	21.4	4.01	22.2	6.99	21.4	10.02	21.5	7.02		
10-24-17	1305	"	—	—	—	—	—	—	28.9	6.99		
10-25-17	0815	"	23.1	4.00	21.4	7.00	22.0	10.02	22.5	6.99		
10-25-17	1225	"	—	—	—	—	—	—	30.0	6.98		

* Temperature check performed with second NIST thermometer.
** If meter does not provide slope, ensure that the calibration is confirmed with a recheck of pH 7.0 in the column "pH 7.00Chk".
***Perform 7-Check every 10 measurements or if Temperature increases by 15 °F.
**** All maintenance to instrument during the field event should be logged on this form. All maintenance should also be logged on the "Preventative Maintenance" log.

EC and DO CALIBRATION RECORD

Florence Copper Project

Instrument: BC's YSI 556
SN: 15A102406
Probe SN: 600336

APP Sampling Event
Month: Sept/Oct/Nov
Year: 2017

Calibration Procedures:

-EC calibration/measurement should be performed in accordance with protocols set forth by ***Standard Methods for the Examination of Water and Wastewater – 2510 Conductivity.***

-Temperature measurement should be performed in accordance with protocols set forth by ***Standard Methods for the Examination of Water and Wastewater – 2550 Temperature*** using an NIST traceable thermometer.

-DO calibration/measurement should be performed as per manufacturer recommendations.

Calibration Standards Used:

Standard Conc.	Manufacturer	Lot#	Received	Expiration
1413	7GC297	Env. Supply	8-29-17	Mar 18
1413	Env. Supply	7GH324	10/23/17	Aug 18
(check)	N/A			

Calibration Record

Date	Time	Sampler	Specific Conductance						DO calibration performed?	Notes*
			EC 1413		EC 1413		EC 1413 Chk			
			T (°C)	Cal.	T (°C)	Cal.	T (°C)	Cal.	Yes/No	
9-12-17	0850	M.O.-III			32.0	1414	N/A		Yes	100% SAT 768.0 mm/Hg
9-13-17	0840	"			29.6	1413	N/A		Yes	100% SAT 765.7 mm/Hg
9-14-17	0805	"			28.4	1413	N/A		Yes	100% SAT 763.3 "
10-23-17	0918	"			22.7	1413	N/A		Yes	100% SAT 771.1
10-24-17	0840	"			21.9	1414	N/A		Yes	100% SAT 768.7 mm/Hg
10-25-17	0825	"			22.0	1413	N/A		Yes	100% SAT 767.6 mm/Hg
11-20-17	0850	"			15.6	1413	N/A		Yes	100% SAT 766.7 mm/Hg
11-21-17	0855	"			12.4	1413	N/A		Yes	100% SAT 768.0 "
11-22-17	0815	"			22.2	1413	N/A		Yes	100% SAT 770.2

* All maintenance to instrument during the field event should be logged on this form. All maintenance should also be logged on the "Preventative Maintenance" log.

TURBIDITY CALIBRATION RECORD

Florence Copper Project

Instrument: Bc3 LaMotte 2020e
SN: 10769
Probe SN: N/A

APP Sampling Event
Month: Sept, Oct, Nov
Year: 2017

Calibration Procedures:

-Calibration/measurement should be performed in accordance with protocols set forth by ***USEPA Method 180.1*** using an NIST traceable thermometer.

Calibration Standards Used:

Standard	Manufacturer	Lot#	Received	Expiration
0 NTU	Amco	C691307	2-13-17	5-18
1 NTU	↓	C582712B	5-1-17	1-18
10 NTU		C6898408	2-13-17	5-18
1 NTU Chk		C582712B	5-1-17	

Calibration Record

Date	Time	Sampler	0 NTU	1 NTU	10 NTU	1 NTU Chk	Notes**
9-12-17	0900	M. Dicon II	0.00	1.00	10.02	1.01	
9-13-17	0830	"	0.00	0.98	10.02	0.98	
9-14-17	0800	"	0.00	1.02	9.98	0.99	
10-23-17	0910	"	0.00	1.00	10.02	0.98	
10-24-17	0835	"	0.00	0.98	9.98	1.00	
10-25-17	0820	"	0.00	1.01	10.00	1.02	
11-20-17	0845	"	0.00	0.98	9.98	1.00	
11-21-17	0850	"	0.00	0.99	9.98	0.98	

YSI 556 NEW JAN 28, 2015

1/28/15

No Maint. Required

3/26/15

5/4/2015 DO not calibrating -
M. Orcutt Replaced DO Sensor membrane
Recalibration OK. (Florence).

5/7/2015 NIST Thermometer check.
M. Orcutt BC-1A Model 4146 Exp 11/8/2015
1°C from YSI 556 Temp.

8/10/2015
M. Orcutt pH not calibrating.
F.C. Forced readings -
Uncalibrated and pH 7.0
Re Calib. check OK. MV +140
at pH 7.0

8/13/2015 Replaced pH/ORP Sensor
M. Orcutt +0.6 MV - good

Scale: 1 square = _____

2016

Aug 9, - Ernies
M. Orcutt D.O. Fluid Replace
and D.O. Tip replaced

Aug 26 Replaced DO Tip
w/ new fluid.
M. Orcutt Andrews property

Sept. 6 M. Orcutt NWR
YSI pH failure.
Replaced pH/ORP Sensor
Equipco - repair.

Nov 10, 2016 M. Orcutt
Florence
Replaced YSI 556 pH/ORP Sensor

Nov 11, 2016 NIST Thermometer
check @ Florence (W15859378)
18.4°C - YSI / 19.4°C NIST (1°C)

Scale: 1 square = _____

Rite in the Rain

OLD pH Sensor report

pH	mV	Reading	Temp
pH 7	·29	7.00	24.8 °C
4	+85.9	4.00	8524.4 °C
10	-141.4	10.01	24.6

* pH 7 ok,
pH 4, 10 forced,

Changed Sensor (pH, ORP)

Scale: 1 square = _____

Scale: 1 square = _____

Calibration Certificate No. 1750.01

Calibration complies with ISO/IEC 17025, ANSI/NCSL Z540-1, and 9001

Cert. No.: 4353-7200114

Traceable® Certificate of Calibration for Extra-Long-Stem Thermometer

Instrument Identification:

Model: 4353 S/N: 151850378 Manufacturer: Control Company

Standards/Equipment:

Description	Serial Number	Due Date	NIST Traceable Reference
Temperature Calibration Bath TC-179	A45240		
Thermistor Module	A17118	3/03/16	1000371058
Temperature Probe	3039	4/02/16	15--A0P2S-20-1
Temperature Calibration Bath TC-231	A79341		
Digital Thermometer	130070752	2/20/16	4000-6561724

Certificate Information:

Technician: 68 Procedure: CAL-03 Cal Date: 11/10/15 Due Date: 11/10/17

Test Conditions: 24.7°C 46.0 %RH 1018 mBar

Calibration Data: (New Instrument)

Unit(s)	Nominal	As Found	In Tol	Nominal	As Left	In Tol	Min	Max	±U	TUR
°C		N.A.		0.000	0.3	Y	-1.0	1.0	0.10	>4:1
°C		N.A.		100.000	99.9	Y	99.0	101.0	0.059	>4:1

This Instrument was calibrated using Instruments Traceable to National Institute of Standards and Technology.

A Test Uncertainty Ratio of at least 4:1 is maintained unless otherwise stated and is calculated using the expanded measurement uncertainty. Uncertainty evaluation includes the instrument under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor k=2 to approximate a 95% confidence level. In tolerance conditions are based on test results falling within specified limits with no reduction by the uncertainty of the measurement. The results contained herein relate only to the item calibrated. This certificate shall not be reproduced except in full, without written approval of Control Company.

Nominal=Standard's Reading; As Left=Instrument's Reading; In Tol=In Tolerance; Min/Max=Acceptance Range; ±U=Expanded Measurement Uncertainty; TUR=Test Uncertainty Ratio; Accuracy=±(Max-Min)/2; Min = As Left Nominal(Rounded) - Tolerance; Max = As Left Nominal(Rounded) + Tolerance; Date=MM/DD/YY

Nicol Rodriguez, Quality Manager

Aaron Judice, Technical Manager

Maintaining Accuracy:

In our opinion once calibrated your Extra-Long-Stem Thermometer should maintain its accuracy. There is no exact way to determine how long calibration will be maintained. Extra-Long-Stem Thermometers change little, if any at all, but can be affected by aging, temperature, shock, and contamination.

Recalibration:

For factory calibration and re-certification traceable to National Institute of Standards and Technology contact Control Company.

CONTROL COMPANY 4455 Rex Road Friendswood, TX 77546 USA
Phone 281 482-1714 Fax 281 482-9448 service@control3.com www.control3.com

Control Company is an ISO 17025:2005 Calibration Laboratory Accredited by (A2LA) American Association for Laboratory Accreditation, Certificate No. 1750.01.
Control Company is ISO 9001:2008 Quality Certified by (DNV) Det Norske Veritas, Certificate No. CERT-01805-2006-AQ-HOU-RvA.
International Laboratory Accreditation Cooperation (ILAC) - Multilateral Recognition Arrangement (MRA).

Traceable® is a registered trademark of Control Company

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BROWN AND CALDWELL

Acknowledgement Form

Name of Project/Site: Curis/ Florence Copper	**Project No:** 149505
Project/Site Location: Florence, Arizona	**Permit Type (APP, AZPDES):** APP
Employee Completing Form: (Print and Sign): Michael Orcutt	**Date:** 1/31/2017

Employee Acknowledgement:

The following signatures indicate that these personnel have read and/or been briefed on the documents indicated and understand the work to be performed:

- [x] pH by SM 4500 H-B
- [x] temperature by SM 2550B
- [x] specific conductance by SM 2510 B
- [x] dissolved oxygen by SM 4500 O-G
- [x] turbidity by EPA 180.1
- [ ] Manufacturer Info for Instrument _____
- [ ] Manufacturer Info for Instrument _____

Print	Sign
M. Orcutt	

Comments

TURNER LABORATORIES INC.
2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
www.turnerlabs.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 17J0653 DATE 10-23-2017 PAGE 1 OF 1

PROJECT NAME Florence Copper # _____
CONTACT NAME: Barb Sylvester
COMPANY NAME: Brown + Caldwell
ADDRESS: 201 E. Washington #500
CITY Phoenix STATE AZ ZIP CODE 85004
PHONE 602.567.3894 FAX 602.567.4001
SAMPLER'S SIGNATURE _____

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	VOC's/Organics *	Inorganics *	Diss. Metals *	Cyanide (Free)	TPH/DRO	Rad Chem *	Radon	Total Uranium
MS4-0	10-23-17	0948		GW	11	X	X	X	X	X	X	X	
MS4-LBF	10-23-17	11:22		GW	12	X	X	X	X	X	X	X	X
MS4-0	10-23-17	12:25		GW	1								X
M61-LBF	10-23-17	1356		GW	12	X	X	X	X	X	X	X	X
TB	10-23-17	—		DI	2	X							

1. RELINQUISHED BY: Signature _____ Printed Name Michael Orcutt Firm Brown + Caldwell Date/Time 10/23/17 @ 1500

2. RECEIVED BY: Signature _____ Printed Name Ian Ream Firm FC Date/Time 10/23/17 @ 1500

3. RELINQUISHED BY: Signature _____ Printed Name Ian Ream Firm FC Date/Time 10-23-17 / 1616

4. RECEIVED BY: Signature _____ Printed Name _____ Firm TURNER LABORATORIES, INC. Date/Time 10/23/17 1616

TURNAROUND REQUIREMENTS:
- [x] Standard (approx.10 days)*
- ___ Next day ___ 2 Day ___ 5 Day*
- ___ Email Preliminary Results To: _____

* Working Days

REPORT REQUIREMENTS:
- ___ I. Routine Report
- [x] II. Report (includes DUP,MS,MSD, as required, may be charged as samples)
- ___ III. Date Validation Report (Includes All Raw Data)

Add 10% to invoice

INVOICE INFORMATION:
Account [x] Y ___ N
P.O. # _____
Bill to: Florence Direct

SAMPLE RECEIPT:
Total Containers 38
Temperature 94
[x] Wet Ice [ ] Blue Ice

*LEGEND
DW = DRINKING WATER
GW = GROUNDWATER
SD = SOLID
SG = SLUDGE
SL = SOIL
ST = STORMWATER
WW = WASTEWATER

SPECIAL INSTRUCTIONS/COMMENTS:

Compliance Analysis:	[ ] Yes [ ] No	Custody Seals	[ ]	Preservation Confirmation	[x]
ADEQ Forms:	[ ] Yes [ ] No	Container Intact	[x]	Appropriate Head Space	[x]
Mail ADEQ Forms:	[ ] Yes [ ] No	COC/Labels Agree	[x]	Received Within Hold Time	[x]

Diss. Metals field filtered / Watch Holds
* See Ambient Monitoring list w/ COC.

TURNER LABORATORIES INC.
2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
www.turnerlabs.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1750696 DATE 10-24-2017 PAGE 1 OF 1

PROJECT NAME Florence Copper #
CONTACT NAME: Barb Sylvester
COMPANY NAME: Brown + Caldwell
ADDRESS: 201 E. Washington #500
CITY Phoenix STATE Az ZIP CODE 85004
PHONE 602-567-4000 FAX -4001
SAMPLER'S SIGNATURE

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	VOCs (Organic List)	Cyanide (Free)	Inorganics (List)	TPH/DRO	Diss. Metals (List)	Total Uranium	Radio Chem (List)	Radon 222
MS8-0	10-24-17	0918		GW	12	X	X	X	X	X	X	X	X
MS9-0		1110		GW	12	X	X	X	X	X	X	X	X
MG0-0	↓	1350		GW	12	X	X	X	X	X	X	X	X
TB		—		DI	4	X							

1. RELINQUISHED BY: Signature; Michael Orcutt; Printed Name; Brown+Caldwell; Firm; 10-24-17 1500; Date/Time

2. RECEIVED BY: Signature; Ian Ream; Printed Name; FC; Firm; 10-24-17/1500; Date/Time

3. RELINQUISHED BY: Signature; Ian Ream; Printed Name; FC; Firm; 10-24-17/1640; Date/Time

4. RECEIVED BY: Signature; Joseph Catalano; Printed Name; TURNER LABORATORIES, INC.; Firm; 10/24/17 1640; Date/Time

TURNAROUND REQUIREMENTS:
- [x] Standard (approx.10 days)*
- ___ Next day ___ 2 Day ___ 5 Day*
- ___ Email Preliminary Results To:

* Working Days

REPORT REQUIREMENTS:
- ___ I. Routine Report
- [x] II. Report (includes DUP,MS,MSD, as required, may be charged as samples)
- ___ III. Date Validation Report (Includes All Raw Data)

Add 10% to invoice

INVOICE INFORMATION:
Account [x] Y ___ N
P.O. # ___
Bill to: Florence Direct

SAMPLE RECEIPT:
Total Containers 40
Temperature 13.6
[x] Wet Ice [ ] Blue Ice

***LEGEND**
DW = DRINKING WATER
GW = GROUNDWATER
SD = SOLID
SG = SLUDGE
SL = SOIL
ST = STORMWATER
WW = WASTEWATER

SPECIAL INSTRUCTIONS/COMMENTS:

Compliance Analysis:	[ ] Yes	[ ] No	Custody Seals	[ ]	Preservation Confirmation	[x]
ADEQ Forms:	[ ] Yes	[ ] No	Container Intact	[x]	Appropriate Head Space	[x]
Mail ADEQ Forms:	[ ] Yes	[ ] No	COC/Labels Agree	[x]	Received Within Hold Time	[ ]

Diss. Metals Field Filtered / Water Holds
* See Analysis List w/ COC.

TURNER LABORATORIES INC.
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Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
www.turnerlabs.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 17J0713 DATE 10/25/2017 PAGE 1 OF 1

PROJECT NAME Florence Copper#
CONTACT NAME: Barb Sylvester
COMPANY NAME: Brown and Caldwell
ADDRESS: 201 E. Washington #500
CITY Phoenix STATE AZ ZIP CODE 85004
PHONE 602.567-4000 FAX -4001
SAMPLER'S SIGNATURE

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	VOC's 1,3F	Inorganic 1,3F	Cyanide (free)	TPH / DRO	Diss. Metals 1,3F	Total Uranium	Radio Chem 1,3F	Radon 222
MS7-0	10-25-17	0904		GW	12	X	X	X	X	X	X	X	X
MS6-UBF		1040			12	X	X	X	X	X	X	X	X
MS5-UBF		1300			12	X	X	X	X	X	X	X	X
MS2-UBF		1420			12	X	X	X	X	X	X	X	X
MG3.0		1435			12	X	X	X	X	X	X	X	X
TB		—			4	X							

1. RELINQUISHED BY: Signature; Michael Orwall Printed Name; Michael Orwall Firm; BC 10-25-17@ Date/Time 1530

2. RECEIVED BY: Signature; Ian Ream Printed Name; FC Firm; 10-25-17/1530 Date/Time

3. RELINQUISHED BY: Signature; Ian Ream Printed Name; FC Firm; 10-25-17 1650 Date/Time

4. RECEIVED BY: Signature; Joseph Catalano Printed Name; TURNER LABORATORIES, INC. Firm; 10/25/17 1650 Date/Time

TURNAROUND REQUIREMENTS:
X Standard (approx.10 days)*
___ Next day ___ 2 Day ___ 5 Day*
___ Email Preliminary Results To:
* Working Days

REPORT REQUIREMENTS:
___ I. Routine Report
X II. Report (includes DUP,MS,MSD, as required, may be charged as samples)
___ III. Date Validation Report (Includes All Raw Data)
Add 10% to invoice

INVOICE INFORMATION:
Account ___ Y ___ N
P.O. # ___
Bill to: Florence Copper

SAMPLE RECEIPT:
Total Containers 60
Temperature 3.0
☑ Wet Ice ☐ Blue Ice

*LEGEND
DW = DRINKING WATER
GW = GROUNDWATER
SD = SOLID
SG = SLUDGE
SL = SOIL
ST = STORMWATER
WW = WASTEWATER

SPECIAL INSTRUCTIONS/COMMENTS:

Compliance Analysis:	☐ Yes ☐ No	Custody Seals	☐	Preservation Confirmation	☑
ADEQ Forms:	☐ Yes ☐ No	Container Intact	☑	Appropriate Head Space	☑
Mail ADEQ Forms:	☐ Yes ☐ No	COC/Labels Agree	☑	Received Within Hold Time	☑

Diss Metals field Filtered

Florence Copper Project
New POC Wells - Ambient Monitoring

Inorganics - 500 ml Poly Unpreserved

pH (lab)
EC (lab)
Bicarbonate Alkalinity
Carbonate Alkalinity
Hydroxide Alkalinity
Total Alkalinity
Chloride
Fluoride
Nitrate as N (48-hr Hold time)
Nitrite as N (48-hr Hold time)
Sulfate
Total Dissolved Solids
Cation/Anion Balance

500 ml NaOH

Cyanide (free)

Organics

3 HCl Voas

Benzene
Ethylbenzene
Toluene
Total Xylene
Napthalene
Octane
Carbon Disulfide

2 1L Amber to TestAmerica

Extractable Fuel Hydrocarbons
(Diesel Range Organics)

Filtered Dissolved Metals - 250 ml NO3

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Sodium
Thallium
Zinc

UNFiltered Total Metals - 250 ml NO3

Total Urnanium

Radiochems to Radiation Safety

1G unpreserved poly

Gross Alpha
Gross Beta
Radium 226+228

Uranium istotopes (if G. Alpha >12.0)

Adjusted Alpha (if G. Alpha >12.0)

2 blank Voas - 72 Hour Hold Time

Radon