March 26, 2018

Barbara Sylvester
Brown & Caldwell
201 E. Washington Suite 500
Phoenix, AZ 85004

TEL (602) 567-3894
FAX -

Work Order No.: 18C0198
Order Name: Florence Copper

RE: Ground Water Monitoring 1

Dear Barbara Sylvester,

Turner Laboratories, Inc. received 4 sample(s) on 03/07/2018 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Max DiSante
Laboratory Director

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

Order: Florence Copper

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
18C0198-01	M54-O	Ground Water	03/06/2018 0918
18C0198-02	M58-O	Ground Water	03/06/2018 1117
18C0198-03	M57-O	Ground Water	03/06/2018 1345
18C0198-04	Trip Blank	Trip Blank	03/06/2018 0000

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

Case Narrative

S10: 8260: Dibromofluoromethane Surrogate recovery was high in the matrix spike. Target analyte recoveries were acceptable. All surrogate recoveries in all other QC and samples were acceptable.

The radiochemistry analysis was performed by Radiation Safety Engineering, Inc. in Chandler, AZ.

The 8015D analysis was performed by TestAmerica Laboratories, Inc. in Phoenix, AZ.

E4	Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.
S10	Surrogate recovery was above laboratory and method acceptance limits. See case narrative.
T2	Cited ADHS Licensed method does not contain this analyte as part of the method compound list.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

ND	Not Detected at or above the PQL
PQL	Practical Quantitation Limit
DF	Dilution Factor
PRL	Project Reporting Limit

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-01

Client Sample ID: M54-O
Collection Date/Time: 03/06/2018 0918
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Nitrate + Nitrite Sum-Calculation									
Nitrate and Nitrite Sum	ND		0.10		mg/L	1	03/07/2018 0942	03/07/2018 1220	AP
ICP Dissolved Metals-E 200.7 (4.4)									
Calcium	27		4.0		mg/L	1	03/07/2018 1105	03/21/2018 1322	MH
Iron	0.15	0.0031	0.30	E4	mg/L	1	03/07/2018 1105	03/22/2018 1324	MH
Magnesium	5.6		3.0		mg/L	1	03/07/2018 1105	03/21/2018 1322	MH
Potassium	6.9		5.0		mg/L	1	03/07/2018 1105	03/21/2018 1322	MH
Sodium	120		5.0		mg/L	1	03/07/2018 1105	03/21/2018 1618	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Aluminum	ND		0.0400	V1	mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Antimony	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Arsenic	0.0024		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Barium	0.015		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Beryllium	ND		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Cadmium	ND		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Chromium	0.0018		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Cobalt	0.00069		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Copper	0.048		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Lead	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Manganese	0.13		0.0025		mg/L	10	03/07/2018 1105	03/12/2018 1258	MH
Nickel	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Selenium	ND		0.0025		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Thallium	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
Zinc	ND		0.040		mg/L	1	03/07/2018 1105	03/12/2018 1225	MH
CVAA Dissolved Mercury-E 245.1									
Mercury	ND	0.000079	0.0010	E8	mg/L	1	03/09/2018 1328	03/09/2018 1603	MH
pH-E150.1									
pH (pH Units)	7.9			H5	-	1	03/07/2018 1550	03/07/2018 1555	AP
Temperature (°C)	23			H5	-	1	03/07/2018 1550	03/07/2018 1555	AP

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-01

Client Sample ID: M54-O
Collection Date/Time: 03/06/2018 0918
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
ICP/MS Total Metals-E200.8 (5.4)									
Uranium	0.0095		0.00050		mg/L	1	03/07/2018 1105	03/09/2018 1159	MH
Anions by Ion Chromatography-E300.0 (2.1)									
Chloride	130		10		mg/L	10	03/07/2018 0942	03/07/2018 1316	AP
Fluoride	0.62		0.50		mg/L	1	03/07/2018 0942	03/07/2018 1220	AP
Nitrogen, Nitrate (As N)	ND		0.50		mg/L	1	03/07/2018 0942	03/07/2018 1220	AP
Nitrogen, Nitrite (As N)	ND		0.10		mg/L	1	03/07/2018 0942	03/07/2018 1220	AP
Sulfate	42		5.0		mg/L	1	03/07/2018 0942	03/07/2018 1220	AP
Cyanide-E335.4									
Cyanide	ND		0.10		mg/L	1	03/09/2018 0830	03/13/2018 1525	AP
Calculation-Ion Balance									
Anion	7.37				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Cation	7.22				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Cation/Anion, % Difference	6.16				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Alkalinity-SM2320B									
Alkalinity, Bicarbonate (As CaCO3)	140		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Carbonate (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Hydroxide (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Phenolphthalein (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Total (As CaCO3)	140		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Specific Conductance-SM2510 B									
Conductivity	760		0.10		µmhos/cm	1	03/08/2018 1510	03/08/2018 1515	AP
Total Dissolved Solids (Residue, Filterable)-SM2540 C									
Total Dissolved Solids (Residue, Filterable)	440		20		mg/L	1	03/07/2018 0900	03/08/2018 1630	EJ
Silica-SM4500-SiO2 C									

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-01

Client Sample ID: M54-O
Collection Date/Time: 03/06/2018 0918
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Silica	30		10		mg/L	5	03/12/2018 1035	03/12/2018 1130	EJ
Volatile Organic Compounds by GC/MS-SW8260B									
Benzene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1721	KP
Carbon disulfide	ND		2.0		ug/L	1	03/19/2018 1231	03/19/2018 1721	KP
Ethylbenzene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1721	KP
Naphthalene	ND		2.0		ug/L	1	03/19/2018 1231	03/19/2018 1721	KP
n-octane	ND		0.50	T2	ug/L	1	03/19/2018 1231	03/19/2018 1721	KP
Toluene	0.53		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1721	KP
Xylenes, Total	ND		1.5		ug/L	1	03/19/2018 1231	03/19/2018 1721	KP
Surr: 4-Bromofluorobenzene	*101*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1721*	*KP*
Surr: Dibromofluoromethane	*107*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1721*	*KP*
Surr: Toluene-d8	*107*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1721*	*KP*

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-02

Client Sample ID: M58-O
Collection Date/Time: 03/06/2018 1117
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Nitrate + Nitrite Sum-Calculation									
Nitrate and Nitrite Sum	6.9		0.10		mg/L	1	03/07/2018 0942	03/07/2018 1239	AP
ICP Dissolved Metals-E 200.7 (4.4)									
Calcium	120		4.0		mg/L	1	03/07/2018 1105	03/21/2018 1326	MH
Iron	0.0055	0.0031	0.30	E4	mg/L	1	03/07/2018 1105	03/22/2018 1328	MH
Magnesium	24		3.0		mg/L	1	03/07/2018 1105	03/21/2018 1326	MH
Potassium	7.0		5.0		mg/L	1	03/07/2018 1105	03/21/2018 1326	MH
Sodium	180		5.0		mg/L	1	03/07/2018 1105	03/21/2018 1622	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Aluminum	ND		0.0400		mg/L	1	03/07/2018 1105	03/13/2018 1234	MH
Antimony	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Arsenic	0.0026		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Barium	0.060		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Beryllium	ND		0.00025		mg/L	1	03/07/2018 1105	03/13/2018 1234	MH
Cadmium	ND		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Chromium	0.0030		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Cobalt	0.00026		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Copper	0.0025		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Lead	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Manganese	0.0019		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Nickel	0.0094		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Selenium	0.0027		0.0025		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Thallium	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
Zinc	ND		0.040		mg/L	1	03/07/2018 1105	03/12/2018 1242	MH
CVAA Dissolved Mercury-E 245.1									
Mercury	ND	0.000079	0.0010	E8	mg/L	1	03/09/2018 1328	03/09/2018 1605	MH
pH-E150.1									
pH (pH Units)	7.7			H5	-	1	03/07/2018 1550	03/07/2018 1556	AP
Temperature (°C)	23			H5	-	1	03/07/2018 1550	03/07/2018 1556	AP
ICP/MS Total Metals-E200.8 (5.4)									
Uranium	0.040		0.00050		mg/L	1	03/07/2018 1105	03/09/2018 1204	MH

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-02

Client Sample ID: M58-O
Collection Date/Time: 03/06/2018 1117
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Chloride	240		20		mg/L	20	03/07/2018 0942	03/07/2018 1334	AP
Fluoride	ND	0.40	0.50	E4	mg/L	1	03/07/2018 0942	03/07/2018 1239	AP
Nitrogen, Nitrate (As N)	6.9		0.50		mg/L	1	03/07/2018 0942	03/07/2018 1239	AP
Nitrogen, Nitrite (As N)	ND		0.10		mg/L	1	03/07/2018 0942	03/07/2018 1239	AP
Sulfate	200		100		mg/L	20	03/07/2018 0942	03/07/2018 1334	AP
Cyanide-E335.4									
Cyanide	ND		0.10		mg/L	1	03/09/2018 0830	03/13/2018 1525	AP
Calculation-Ion Balance									
Anion	14.8				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Cation	16.0				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Cation/Anion, % Difference	0.960				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Alkalinity-SM2320B									
Alkalinity, Bicarbonate (As CaCO3)	170		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Carbonate (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Hydroxide (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Phenolphthalein (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Total (As CaCO3)	170		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Specific Conductance-SM2510 B									
Conductivity	1700		0.20		µmhos/cm	2	03/08/2018 1510	03/08/2018 1515	AP
Total Dissolved Solids (Residue, Filterable)-SM2540 C									
Total Dissolved Solids (Residue, Filterable)	890		20		mg/L	1	03/07/2018 0900	03/08/2018 1630	EJ
Silica-SM4500-SiO2 C									
Silica	32		10		mg/L	5	03/12/2018 1035	03/12/2018 1130	EJ
Volatile Organic Compounds by GC/MS-SW8260B									

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-02

Client Sample ID: M58-O
Collection Date/Time: 03/06/2018 1117
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Benzene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1801	KP
Carbon disulfide	ND		2.0		ug/L	1	03/19/2018 1231	03/19/2018 1801	KP
Ethylbenzene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1801	KP
Naphthalene	ND		2.0		ug/L	1	03/19/2018 1231	03/19/2018 1801	KP
n-octane	ND		0.50	T2	ug/L	1	03/19/2018 1231	03/19/2018 1801	KP
Toluene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1801	KP
Xylenes, Total	ND		1.5		ug/L	1	03/19/2018 1231	03/19/2018 1801	KP
Surr: 4-Bromofluorobenzene	*99*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1801*	*KP*
Surr: Dibromofluoromethane	*116*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1801*	*KP*
Surr: Toluene-d8	*101*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1801*	*KP*

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-03

Client Sample ID: M57-O
Collection Date/Time: 03/06/2018 1345
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Nitrate + Nitrite Sum-Calculation									
Nitrate and Nitrite Sum	1.3		0.10		mg/L	1	03/07/2018 0942	03/07/2018 1257	AP
ICP Dissolved Metals-E 200.7 (4.4)									
Calcium	47		4.0		mg/L	1	03/07/2018 1105	03/21/2018 1330	MH
Iron	0.018	0.0031	0.30	E4	mg/L	1	03/07/2018 1105	03/22/2018 1332	MH
Magnesium	9.9		3.0		mg/L	1	03/07/2018 1105	03/21/2018 1330	MH
Potassium	ND		5.0		mg/L	1	03/07/2018 1105	03/21/2018 1330	MH
Sodium	110		5.0		mg/L	1	03/07/2018 1105	03/21/2018 1626	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Aluminum	ND		0.0400	V1	mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Antimony	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Arsenic	0.0015		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Barium	0.018		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Beryllium	ND		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Cadmium	ND		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Chromium	0.0030		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Cobalt	0.00026		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Copper	0.0022		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Lead	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Manganese	0.0013		0.00025		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Nickel	0.012		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Selenium	ND		0.0025		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Thallium	ND		0.00050		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
Zinc	ND		0.040		mg/L	1	03/07/2018 1105	03/12/2018 1314	MH
CVAA Dissolved Mercury-E 245.1									
Mercury	ND	0.000079	0.0010	E8	mg/L	1	03/09/2018 1328	03/09/2018 1608	MH
pH-E150.1									
pH (pH Units)	7.8			H5	-	1	03/07/2018 1550	03/07/2018 1558	AP
Temperature (°C)	23			H5	-	1	03/07/2018 1550	03/07/2018 1558	AP
ICP/MS Total Metals-E200.8 (5.4)									
Uranium	0.0042		0.00050		mg/L	1	03/07/2018 1105	03/09/2018 1209	MH

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-03

Client Sample ID: M57-O
Collection Date/Time: 03/06/2018 1345
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anions by Ion Chromatography-E300.0 (2.1)									
Chloride	170		10		mg/L	10	03/07/2018 0942	03/07/2018 1353	AP
Fluoride	ND	0.40	0.50	E4	mg/L	1	03/07/2018 0942	03/07/2018 1257	AP
Nitrogen, Nitrate (As N)	1.3		0.50		mg/L	1	03/07/2018 0942	03/07/2018 1257	AP
Nitrogen, Nitrite (As N)	ND		0.10		mg/L	1	03/07/2018 0942	03/07/2018 1257	AP
Sulfate	62		10		mg/L	2	03/07/2018 0942	03/07/2018 1411	AP
Cyanide-E335.4									
Cyanide	ND		0.10		mg/L	1	03/09/2018 0830	03/13/2018 1525	AP
Calculation-Ion Balance									
Anion	8.18				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Cation	7.95				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Cation/Anion, % Difference	12.7				meq/L	1	03/26/2018 1427	03/26/2018 1428	KB
Alkalinity-SM2320B									
Alkalinity, Bicarbonate (As CaCO3)	100		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Carbonate (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Hydroxide (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Phenolphthalein (As CaCO3)	ND		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Alkalinity, Total (As CaCO3)	100		2.0		mg/L	1	03/09/2018 1045	03/09/2018 1205	EJ
Specific Conductance-SM2510 B									
Conductivity	850		0.10		µmhos/cm	1	03/08/2018 1510	03/08/2018 1515	AP
Total Dissolved Solids (Residue, Filterable)-SM2540 C									
Total Dissolved Solids (Residue, Filterable)	480		20		mg/L	1	03/07/2018 0900	03/09/2018 1630	EJ
Silica-SM4500-SiO2 C									
Silica	79		10		mg/L	5	03/12/2018 1035	03/12/2018 1130	EJ
Volatile Organic Compounds by GC/MS-SW8260B									

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-03

Client Sample ID: M57-O
Collection Date/Time: 03/06/2018 1345
Matrix: Ground Water
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Benzene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1841	KP
Carbon disulfide	ND		2.0		ug/L	1	03/19/2018 1231	03/19/2018 1841	KP
Ethylbenzene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1841	KP
Naphthalene	ND		2.0		ug/L	1	03/19/2018 1231	03/19/2018 1841	KP
n-octane	ND		0.50	T2	ug/L	1	03/19/2018 1231	03/19/2018 1841	KP
Toluene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1841	KP
Xylenes, Total	ND		1.5		ug/L	1	03/19/2018 1231	03/19/2018 1841	KP
Surr: 4-Bromofluorobenzene	*92*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1841*	*KP*
Surr: Dibromofluoromethane	*102*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1841*	*KP*
Surr: Toluene-d8	*100*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1841*	*KP*

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Lab Sample ID: 18C0198-04

Client Sample ID: Trip Blank
Collection Date/Time: 03/06/2018 0000
Matrix: Trip Blank
Order Name: Florence Copper

Analyses	Result	PRL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS-SW8260B									
Benzene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1920	KP
Carbon disulfide	ND		2.0		ug/L	1	03/19/2018 1231	03/19/2018 1920	KP
Ethylbenzene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1920	KP
Naphthalene	ND		2.0		ug/L	1	03/19/2018 1231	03/19/2018 1920	KP
n-octane	ND		0.50	T2	ug/L	1	03/19/2018 1231	03/19/2018 1920	KP
Toluene	ND		0.50		ug/L	1	03/19/2018 1231	03/19/2018 1920	KP
Xylenes, Total	ND		1.5		ug/L	1	03/19/2018 1231	03/19/2018 1920	KP
Surr: 4-Bromofluorobenzene	*97*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1920*	*KP*
Surr: Dibromofluoromethane	*111*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1920*	*KP*
Surr: Toluene-d8	*108*	*70-130*			*%REC*	*1*	*03/19/2018 1231*	*03/19/2018 1920*	*KP*

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803108 - E200.8 (5.4)										
Blank (1803108-BLK1)				Prepared & Analyzed: 03/09/2018						
Uranium	ND	0.00050	mg/L							
LCS (1803108-BS1)				Prepared & Analyzed: 03/09/2018						
Uranium	0.051	0.00050	mg/L	0.05000		102	85-115			
LCS Dup (1803108-BSD1)				Prepared & Analyzed: 03/09/2018						
Uranium	0.051	0.00050	mg/L	0.05000		102	85-115	0.6	20	
Matrix Spike (1803108-MS1)		**Source: 18C0093-01**		Prepared & Analyzed: 03/09/2018						
Uranium	0.052	0.00050	mg/L	0.05000	0.00089	103	70-130			
Matrix Spike (1803108-MS2)		**Source: 18C0216-01**		Prepared & Analyzed: 03/09/2018						
Uranium	0.057	0.00050	mg/L	0.05000	0.0052	104	70-130			
Batch 1803114 - E 245.1										
Blank (1803114-BLK1)				Prepared & Analyzed: 03/09/2018						
Mercury	ND	0.0010	mg/L							
LCS (1803114-BS1)				Prepared & Analyzed: 03/09/2018						
Mercury	0.0049	0.0010	mg/L	0.005000		98	85-115			
LCS Dup (1803114-BSD1)				Prepared & Analyzed: 03/09/2018						
Mercury	0.0050	0.0010	mg/L	0.005000		100	85-115	1	20	
Matrix Spike (1803114-MS1)		**Source: 18C0140-01**		Prepared & Analyzed: 03/09/2018						
Mercury	0.0048	0.0010	mg/L	0.005000	ND	97	85-115			
Matrix Spike Dup (1803114-MSD1)		**Source: 18C0140-01**		Prepared & Analyzed: 03/09/2018						
Mercury	0.0046	0.0010	mg/L	0.005000	ND	92	85-115	5	20	
Batch 1803127 - E 200.8 (5.4)										
Blank (1803127-BLK1)				Prepared & Analyzed: 03/12/2018						
Aluminum	ND	0.0400	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	ND	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0025	mg/L							
Thallium	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803127 - E 200.8 (5.4)										
LCS (1803127-BS1)				Prepared & Analyzed: 03/12/2018						
Aluminum	0.108	0.0400	mg/L	0.1000		108	85-115			
Antimony	0.051	0.00050	mg/L	0.05000		103	85-115			
Arsenic	0.050	0.00050	mg/L	0.05000		101	85-115			
Barium	0.054	0.00050	mg/L	0.05000		108	85-115			
Beryllium	0.051	0.00025	mg/L	0.05000		103	85-115			
Cadmium	0.050	0.00025	mg/L	0.05000		99	85-115			
Chromium	0.049	0.00050	mg/L	0.05000		98	85-115			
Cobalt	0.049	0.00025	mg/L	0.05000		97	85-115			
Copper	0.051	0.00050	mg/L	0.05000		103	85-115			
Lead	0.050	0.00050	mg/L	0.05000		100	85-115			
Manganese	0.049	0.00025	mg/L	0.05000		97	85-115			
Nickel	0.049	0.00050	mg/L	0.05000		98	85-115			
Selenium	0.049	0.0025	mg/L	0.05000		97	85-115			
Thallium	0.050	0.00050	mg/L	0.05000		100	85-115			
Zinc	0.097	0.040	mg/L	0.1000		97	85-115			
LCS Dup (1803127-BSD1)				Prepared & Analyzed: 03/12/2018						
Aluminum	0.108	0.0400	mg/L	0.1000		108	85-115	0.1	20	
Antimony	0.051	0.00050	mg/L	0.05000		102	85-115	0.5	20	
Arsenic	0.050	0.00050	mg/L	0.05000		101	85-115	0.3	20	
Barium	0.054	0.00050	mg/L	0.05000		109	85-115	0.7	20	
Beryllium	0.052	0.00025	mg/L	0.05000		103	85-115	0.3	20	
Cadmium	0.050	0.00025	mg/L	0.05000		100	85-115	0.5	20	
Chromium	0.049	0.00050	mg/L	0.05000		99	85-115	0.8	20	
Cobalt	0.049	0.00025	mg/L	0.05000		98	85-115	0.6	20	
Copper	0.051	0.00050	mg/L	0.05000		102	85-115	0.6	20	
Lead	0.051	0.00050	mg/L	0.05000		101	85-115	1	20	
Manganese	0.049	0.00025	mg/L	0.05000		98	85-115	1	20	
Nickel	0.049	0.00050	mg/L	0.05000		99	85-115	0.7	20	
Selenium	0.049	0.0025	mg/L	0.05000		97	85-115	0.09	20	
Thallium	0.050	0.00050	mg/L	0.05000		101	85-115	0.9	20	
Zinc	0.097	0.040	mg/L	0.1000		97	85-115	0.8	20	

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803127 - E 200.8 (5.4)										
Matrix Spike (1803127-MS1)		**Source: 18C0140-01**		Prepared & Analyzed: 03/12/2018						
Aluminum	0.0934	0.0800	mg/L	0.1000	ND	93	70-130			
Antimony	0.050	0.00050	mg/L	0.05000	0.000087	99	70-130			
Arsenic	0.055	0.00050	mg/L	0.05000	0.0018	107	70-130			
Barium	0.093	0.00050	mg/L	0.05000	0.041	104	70-130			
Beryllium	0.040	0.00050	mg/L	0.05000	ND	80	70-130			
Cadmium	0.045	0.00025	mg/L	0.05000	ND	89	70-130			
Chromium	0.050	0.00050	mg/L	0.05000	0.0030	94	70-130			
Cobalt	0.044	0.00025	mg/L	0.05000	0.00014	88	70-130			
Copper	0.043	0.00050	mg/L	0.05000	0.0018	83	70-130			
Lead	0.051	0.00050	mg/L	0.05000	0.000087	102	70-130			
Manganese	0.045	0.00025	mg/L	0.05000	0.00019	90	70-130			
Nickel	0.047	0.00050	mg/L	0.05000	0.0037	86	70-130			
Selenium	0.054	0.0025	mg/L	0.05000	0.0019	105	70-130			
Thallium	0.051	0.00050	mg/L	0.05000	0.000033	102	70-130			
Zinc	0.084	0.040	mg/L	0.1000	0.0024	82	70-130			
Batch 1803158 - E 200.7 (4.4)										
Blank (1803158-BLK1)				Prepared & Analyzed: 03/21/2018						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Sodium	ND	5.0	mg/L							
LCS (1803158-BS1)				Prepared & Analyzed: 03/21/2018						
Calcium	9.8	4.0	mg/L	10.00		98	85-115			
Magnesium	10	3.0	mg/L	10.00		101	85-115			
Potassium	9.9	5.0	mg/L	10.00		99	85-115			
Sodium	11	5.0	mg/L	10.00		109	85-115			
LCS Dup (1803158-BSD1)				Prepared & Analyzed: 03/21/2018						
Calcium	10	4.0	mg/L	10.00		104	85-115	6	20	
Magnesium	10	3.0	mg/L	10.00		105	85-115	4	20	
Potassium	10	5.0	mg/L	10.00		105	85-115	6	20	
Sodium	11	5.0	mg/L	10.00		109	85-115	0.6	20	
Matrix Spike (1803158-MS1)		**Source: 18C0141-01**		Prepared & Analyzed: 03/21/2018						
Calcium	98	4.0	mg/L	10.00	88	98	70-130			
Magnesium	31	3.0	mg/L	10.00	20	106	70-130			
Potassium	15	5.0	mg/L	10.00	4.5	105	70-130			
Sodium	120	5.0	mg/L	10.00	110	63	70-130			M3
Batch 1803228 - E 200.7 (4.4)										
Blank (1803228-BLK1)				Prepared & Analyzed: 03/22/2018						
Iron	ND	0.30	mg/L							
LCS (1803228-BS1)				Prepared & Analyzed: 03/22/2018						
Iron	0.97	0.30	mg/L	1.000		97	85-115			

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803228 - E 200.7 (4.4)										
LCS Dup (1803228-BSD1)				Prepared & Analyzed: 03/22/2018						
Iron	1.0	0.30	mg/L	1.000		100	85-115	3	20	
Matrix Spike (1803228-MS1)		**Source: 18C0266-01**		Prepared & Analyzed: 03/22/2018						
Iron	1.0	0.30	mg/L	1.000	0.012	102	70-130			
Matrix Spike (1803228-MS2)		**Source: 18C0267-01**		Prepared & Analyzed: 03/22/2018						
Iron	1.1	0.30	mg/L	1.000	0.084	99	70-130			

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803062 - SM2540 C										
Duplicate (1803062-DUP1)		**Source: 18C0025-01**		Prepared: 03/07/2018 Analyzed: 03/09/2018						
Total Dissolved Solids (Residue, Filterable)	1100	20	mg/L		1100			0.8	5	
Duplicate (1803062-DUP2)		**Source: 18C0037-01**		Prepared: 03/07/2018 Analyzed: 03/08/2018						
Total Dissolved Solids (Residue, Filterable)	340	20	mg/L		360			4	5	
Batch 1803077 - E150.1										
Duplicate (1803077-DUP1)		**Source: 18C0205-01RE1**		Prepared & Analyzed: 03/07/2018						
pH (pH Units)	7.2		-		7.2			0.3	200	H5
Temperature (°C)	24		-		24			0	200	H5
Batch 1803095 - SM2510 B										
LCS (1803095-BS1)				Prepared & Analyzed: 03/08/2018						
Conductivity	150	0.10	µmhos/cm	141.2		109	0-200			
LCS Dup (1803095-BSD1)				Prepared & Analyzed: 03/08/2018						
Conductivity	150	0.10	µmhos/cm	141.2		104	0-200	5	200	
Duplicate (1803095-DUP1)		**Source: 18B0611-03**		Prepared & Analyzed: 03/08/2018						
Conductivity	1500	0.20	µmhos/cm		1500			2	10	
Duplicate (1803095-DUP2)		**Source: 18C0266-04**		Prepared & Analyzed: 03/08/2018						
Conductivity	1400	0.10	µmhos/cm		1400			1	10	
Batch 1803110 - E335.4										
Blank (1803110-BLK1)				Prepared: 03/09/2018 Analyzed: 03/13/2018						
Cyanide	ND	0.10	mg/L							
LCS (1803110-BS1)				Prepared: 03/09/2018 Analyzed: 03/13/2018						
Cyanide	2.1	0.10	mg/L	2.000		107	90-110			
LCS Dup (1803110-BSD1)				Prepared: 03/09/2018 Analyzed: 03/13/2018						
Cyanide	2.1	0.10	mg/L	2.000		105	90-110	2	20	
Matrix Spike (1803110-MS1)		**Source: 18C0140-01**		Prepared: 03/09/2018 Analyzed: 03/13/2018						
Cyanide	2.1	0.10	mg/L	2.000	0.047	103	90-110			
Matrix Spike Dup (1803110-MSD1)		**Source: 18C0140-01**		Prepared: 03/09/2018 Analyzed: 03/13/2018						
Cyanide	2.1	0.10	mg/L	2.000	0.047	104	90-110	1	20	
Batch 1803116 - SM2320B										
LCS (1803116-BS1)				Prepared & Analyzed: 03/09/2018						
Alkalinity, Total (As CaCO3)	240	2.0	mg/L	250.0		94	90-110			
LCS Dup (1803116-BSD1)				Prepared & Analyzed: 03/09/2018						
Alkalinity, Total (As CaCO3)	240	2.0	mg/L	250.0		95	90-110	0.8	10	
Matrix Spike (1803116-MS1)		**Source: 18C0087-01**		Prepared & Analyzed: 03/09/2018						
Alkalinity, Total (As CaCO3)	310	2.0	mg/L	250.0	74	93	85-115			

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803116 - SM2320B										
Matrix Spike Dup (1803116-MSD1)		**Source: 18C0087-01**		Prepared & Analyzed: 03/09/2018						
Alkalinity, Total (As CaCO3)	310	2.0	mg/L	250.0	74	94	85-115	1	10	
Batch 1803128 - SM4500-SiO2 C										
Blank (1803128-BLK1)				Prepared & Analyzed: 03/12/2018						
Silica	ND	2.0	mg/L							
LCS (1803128-BS1)				Prepared & Analyzed: 03/12/2018						
Silica	7.9	2.0	mg/L	8.000		98	90-110			
LCS Dup (1803128-BSD1)				Prepared & Analyzed: 03/12/2018						
Silica	8.5	2.0	mg/L	8.000		106	90-110	8	20	
Matrix Spike (1803128-MS1)		**Source: 18C0331-03**		Prepared & Analyzed: 03/12/2018						
Silica	72	10	mg/L	40.00	28	110	85-115			
Matrix Spike Dup (1803128-MSD1)		**Source: 18C0331-03**		Prepared & Analyzed: 03/12/2018						
Silica	70	10	mg/L	40.00	28	105	85-115	3	20	

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803203 - SW8260B										
Blank (1803203-BLK1)				Prepared & Analyzed: 03/19/2018						
Benzene	ND	0.50	ug/L							
Carbon disulfide	ND	2.0	ug/L							
Ethylbenzene	ND	0.50	ug/L							
Naphthalene	ND	2.0	ug/L							
n-octane	ND	0.50	ug/L							
Toluene	ND	0.50	ug/L							
Xylenes, Total	ND	1.5	ug/L							
Surrogate: 4-Bromofluorobenzene	*25.9*		*ug/L*	*25.00*		*104*	*70-130*			
Surrogate: Dibromofluoromethane	*26.4*		*ug/L*	*25.00*		*106*	*70-130*			
Surrogate: Toluene-d8	*28.2*		*ug/L*	*25.00*		*113*	*70-130*			
LCS (1803203-BS1)				Prepared & Analyzed: 03/19/2018						
1,1-Dichloroethene	23		ug/L	25.00		91	70-130			
Benzene	22		ug/L	25.00		90	70-130			
Chlorobenzene	27		ug/L	25.00		107	70-130			
Toluene	25		ug/L	25.00		100	70-130			
Trichloroethene	24		ug/L	25.00		98	70-130			
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/L*	*25.00*		*98*	*70-130*			
Surrogate: Dibromofluoromethane	*24.1*		*ug/L*	*25.00*		*96*	*70-130*			
Surrogate: Toluene-d8	*26.0*		*ug/L*	*25.00*		*104*	*70-130*			
LCS Dup (1803203-BSD1)				Prepared & Analyzed: 03/19/2018						
1,1-Dichloroethene	22		ug/L	25.00		89	70-130	2	30	
Benzene	23		ug/L	25.00		91	70-130	1	30	
Chlorobenzene	27		ug/L	25.00		107	70-130	0.04	30	
Toluene	25		ug/L	25.00		101	70-130	0.9	30	
Trichloroethene	24		ug/L	25.00		98	70-130	0.1	30	
Surrogate: 4-Bromofluorobenzene	*23.9*		*ug/L*	*25.00*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*24.5*		*ug/L*	*25.00*		*98*	*70-130*			
Surrogate: Toluene-d8	*25.6*		*ug/L*	*25.00*		*102*	*70-130*			
Matrix Spike (1803203-MS1)		**Source: 18C0198-01**		Prepared & Analyzed: 03/19/2018						
1,1-Dichloroethene	29		ug/L	25.00	ND	114	70-130			
Benzene	29		ug/L	25.00	0.030	114	70-130			
Chlorobenzene	31		ug/L	25.00	ND	124	70-130			
Toluene	30		ug/L	25.00	0.53	116	70-130			
Trichloroethene	29		ug/L	25.00	ND	116	70-130			
Surrogate: 4-Bromofluorobenzene	*29.4*		*ug/L*	*25.00*		*118*	*70-130*			
Surrogate: Dibromofluoromethane	*33.1*		*ug/L*	*25.00*		*132*	*70-130*			*S10*
Surrogate: Toluene-d8	*30.5*		*ug/L*	*25.00*		*122*	*70-130*			

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803203 - SW8260B										
Matrix Spike Dup (1803203-MSD1)	**Source: 18C0198-01**			Prepared & Analyzed: 03/19/2018						
1,1-Dichloroethene	24		ug/L	25.00	ND	96	70-130	17	30	
Benzene	25		ug/L	25.00	0.030	99	70-130	15	30	
Chlorobenzene	28		ug/L	25.00	ND	110	70-130	12	30	
Toluene	27		ug/L	25.00	0.53	104	70-130	11	30	
Trichloroethene	25		ug/L	25.00	ND	100	70-130	15	30	
Surrogate: 4-Bromofluorobenzene	*24.1*		*ug/L*	*25.00*		*96*	*70-130*			
Surrogate: Dibromofluoromethane	*26.8*		*ug/L*	*25.00*		*107*	*70-130*			
Surrogate: Toluene-d8	*26.3*		*ug/L*	*25.00*		*105*	*70-130*			

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803059 - E300.0 (2.1)										
Blank (1803059-BLK1)				Prepared & Analyzed: 03/07/2018						
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (1803059-BS1)				Prepared & Analyzed: 03/07/2018						
Chloride	12	1.0	mg/L	12.50		94	90-110			
Fluoride	1.9	0.50	mg/L	2.000		97	90-110			
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000		96	90-110			
Nitrogen, Nitrite (As N)	2.4	0.10	mg/L	2.500		97	90-110			
Sulfate	12	5.0	mg/L	12.50		96	90-110			
LCS Dup (1803059-BSD1)				Prepared & Analyzed: 03/07/2018						
Chloride	12	1.0	mg/L	12.50		93	90-110	0.8	10	
Fluoride	1.9	0.50	mg/L	2.000		97	90-110	0	10	
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000		95	90-110	0.6	10	
Nitrogen, Nitrite (As N)	2.4	0.10	mg/L	2.500		97	90-110	0.5	10	
Sulfate	12	5.0	mg/L	12.50		95	90-110	1	10	
Matrix Spike (1803059-MS1)		**Source: 18C0198-02RE1**		Prepared & Analyzed: 03/07/2018						
Chloride	24		mg/L	12.50	12	94	80-120			
Sulfate	21		mg/L	12.50	9.9	88	80-120			
Matrix Spike (1803059-MS2)		**Source: 18C0205-01**		Prepared & Analyzed: 03/07/2018						
Fluoride	2.6	0.50	mg/L	2.000	0.47	108	80-120			
Nitrogen, Nitrate (As N)	6.0	0.50	mg/L	5.000	0.96	101	80-120			
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500	ND	100	80-120			
Matrix Spike (1803059-MS3)		**Source: 18C0216-01**		Prepared & Analyzed: 03/07/2018						
Chloride	20	1.0	mg/L	12.50	8.5	93	80-120			
Fluoride	2.3	0.50	mg/L	2.000	0.15	114	80-120			
Nitrogen, Nitrate (As N)	5.3	0.50	mg/L	5.000	0.72	92	80-120			
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500	ND	94	80-120			
Sulfate	25	5.0	mg/L	12.50	14	86	80-120			
Matrix Spike Dup (1803059-MSD1)		**Source: 18C0198-02RE1**		Prepared & Analyzed: 03/07/2018						
Chloride	24		mg/L	12.50	12	98	80-120	2	10	
Sulfate	22		mg/L	12.50	9.9	93	80-120	3	10	
Matrix Spike Dup (1803059-MSD2)		**Source: 18C0205-01**		Prepared & Analyzed: 03/07/2018						
Fluoride	2.6	0.50	mg/L	2.000	0.47	107	80-120	0.5	10	
Nitrogen, Nitrate (As N)	6.0	0.50	mg/L	5.000	0.96	101	80-120	0.05	10	
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500	ND	100	80-120	0.04	10	

Turner Laboratories, Inc.

Date: 03/26/2018

Client: Brown & Caldwell
Project: Ground Water Monitoring 1
Work Order: 18C0198
Date Received: 03/07/2018

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1803059 - E300.0 (2.1)										
Matrix Spike Dup (1803059-MSD3)		**Source: 18C0216-01**		Prepared & Analyzed: 03/07/2018						
Chloride	21	1.0	mg/L	12.50	8.5	97	80-120	2	10	
Fluoride	2.4	0.50	mg/L	2.000	0.15	122	80-120	7	10	
Nitrogen, Nitrate (As N)	5.5	0.50	mg/L	5.000	0.72	96	80-120	3	10	
Nitrogen, Nitrite (As N)	2.4	0.10	mg/L	2.500	ND	96	80-120	3	10	
Sulfate	26	5.0	mg/L	12.50	14	92	80-120	3	10	

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 # 18C0198 DATE 3/6/2018 PAGE 1 OF 1

PROJECT NAME Florence Copper #
CONTACT NAME: Barb Sylvester
COMPANY NAME: Brown and Caldwell
ADDRESS: 2 N Central Ave, Suite 1600
CITY Phoenix STATE AZ ZIP CODE 85004
PHONE 602-567-3894 FAX
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 (*)	Diss Metals - list (Field Filtered)	Total Uranium (not Filtered)	Inorganics - list	Cyanide (free)	Organics - list	G.Alpha, Beta, (RadSafety sub)	Uranium activity if G. Alpha >12	Ra226, 228, Ra-Tot (RadsSafety)	Radon 222 (RadSafety sub)	TPH-D (TestAmerica Sub)
MS4-0	3/6/18	0918		GW	12	X	X	X	X	X	X	X	X	X	X
MS8-0	3/6/18	11:17		GW	12	X	X	X	X	X	X	X	X	X	X
MS7-0	3/6/18	13:45		GW	12	X	X	X	X	X	X	X	X	X	X
TB	3/6/18	—		GW	1					X					
				GW											
				GW											
				GW											
				GW											
				GW											
				GW											
				GW											

1. RELINQUISHED BY: Signature; Michael Orcutt; Printed Name; Brown + Caldwell; Firm; 3/6/18 @ 1500; Date/Time

2. RECEIVED BY: Signature; Ian Ream; Printed Name; FL; Firm; 3-6-18/1500; Date/Time

TURNAROUND REQUIREMENTS:
X Standard (approx.10 days)*
___Next day ___2 Day ___5 Day*
___ Email Preliminary Results To:
* Working Days

REPORT REQUIREMENTS:
X I. Routine Report
___ 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 Copper

SAMPLE RECEIPT:
Total Containers 37
Temperature 6.8
☑ Wet Ice ☐ Blue Ice

3. RELINQUISHED BY: Signature; Ian Ream; Printed Name; FL; Firm; 3-7-18/0800; Date/Time

4. RECEIVED BY: Signature; Joseph Catalano; Printed Name; TURNER LABORATORIES, INC.; Firm; 3/7/18 0800; Date/Time

*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 ☒

(*) 3 Bottles to Rad Safety by BC
See Analytical list w/ COC

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

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Turner Laboratories
2445 N. Coyote Drive, Ste. 104
Tucson, AZ 85745

Samples Received: March 06, 2018
Analysis Completed: March 21, 2018

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Uranium Activity Method ASTM 6239 (pCi/L)	Adjusted Gross Alpha (pCi/L)	Gross Beta Activity Method 900.0 (pCi/L)	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
18C0198-01	6.6 ± 0.5	---	---	7.0 ± 1.3	< 0.4	< 0.6	< 0.6
18C0198-02	31.6 ± 1.2	30.2 ± 1.9	1.4 ± 2.2	12.8 ± 1.7	1.0 ± 0.2	1.7 ± 0.3	2.7 ± 0.4
18C0198-03	4.3 ± 0.4	---	---	6.0 ± 1.3	< 0.4	< 0.6	< 0.6

3/21/2018
Jeremy Russell, BSE Date
Laboratory License Number: AZ0462

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Turner Laboratories
2445 N. Coyote Drive, Ste. 104
Tucson, AZ 85745

Samples Received: March 06, 2018
Analysis Completed: March 21, 2018

Sample ID	Radon in Water * Method 7500-Rn (pCi/L)
18C0198-01	1083.6 ± 109.2
18C0198-02	12797.9 ± 1284.7
18C0198-03	18848.2 ± 1889.6

* Not an ADHS compliance item

3/21/2018
Jeremy Russell, BSE Date
Laboratory License Number: AZ0462

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Isotopic Uranium Analysis

Turner Laboratories
2445 N. Coyote Drive, Ste. 104
Tucson, AZ 85745

Sampling Date: March 06, 2018
Sample Received: March 06, 2018
Uranium Analysis Date: March 12, 2018

Sample No.	^{238}U	^{235}U	^{234}U	Total	
18C0198-02	13.7 ± 0.9	0.638 ± 0.006	15.8 ± 1.0	30.2 ± 1.9	Activity (pCi/L)
	40.8 ± 2.7	0.298 ± 0.003	0.00255 ± 0.00016	41.1 ± 2.7	Content (µg/L)
	Comments:				

Jeremy Russell, BSE — 3/21/2018 Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

March 6, 2018 — Sample Date; 9:18 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

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<<<

*****Combined Uranium must be reported in micrograms per liter*****

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	3/7/2018	6.6 ± 0.5	
7500 - Rn			Radon	4004	3/6/2018	1083.6 ± 109.2	
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	3/9/2018	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	3/9/2018	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	3/9/2018	< 0.6	

*****LABORATORY INFORMATION*****

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

Specimen Number: RSE60021

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: 18C0198-01

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

March 6, 2018 (Sample Date) 9:18 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

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<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
900	4 mrem	4 pCi/L	Gross Beta	4100	3/9/2018	< 4 mrem	
906	20,000 pCi/L	1,000 pCi/L	Tritium	4102			
		10 pCi/L	Strontium-89	4172			
	8 pCi/L	2 pCi/L	Strontium-90	4174			
		1 pCi/L	Iodine-131	4264			
		10 pCi/L	Cesium-134	4270			

*****LABORATORY INFORMATION*****

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

Specimen Number: RSE60021

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: 18C0198-01

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6A: 11/2007

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

March 6, 2018 (Sample Date) 11:17 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ (Owner/Contact Fax Number) _____ (Owner/Contact Phone Number)

Sample Collection Point

☐ EPDS # _____

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<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	3/12/2018	1.4 ± 2.2		
600/00-02		3 pCi/L	Gross Alpha	4002	3/7/2018	31.6 ± 1.2		
7500 - Rn			Radon	4004	3/6/2018	12797.9 ± 1284.7		
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	3/12/2018	41.1 ± 2.7	µg/L	X
			Uranium 234	4007	3/12/2018	0.00255 ± 0.00016		
			Uranium 235	4008	3/12/2018	0.298 ± 0.003		
			Uranium 238	4009	3/12/2018	40.8 ± 2.7		
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	3/9/2018	2.7 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	3/9/2018	1.0 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	3/9/2018	1.7 ± 0.3		

*****LABORATORY INFORMATION*****

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

Specimen Number: RSE60022

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: 18C0198-02

Authorized Signature: _____

Date Public Water System Notified: _____

DWAR 6: 11/2007

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

March 6, 2018 (Sample Date) 11:17 (Sample Time) (24 hour clock) _____ (Owner/Contact Person)

_____ Owner/Contact Fax Number _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

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<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
900	4 mrem	4 pCi/L	Gross Beta	4100	3/9/2018	< 4 mrem	
906	20,000 pCi/L	1,000 pCi/L	Tritium	4102			
		10 pCi/L	Strontium-89	4172			
	8 pCi/L	2 pCi/L	Strontium-90	4174			
		1 pCi/L	Iodine-131	4264			
		10 pCi/L	Cesium-134	4270			

*****LABORATORY INFORMATION*****

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

Specimen Number: RSE60022

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: 18C0198-02

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6A: 11/2007

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

March 6, 2018 — Sample Date; 13:45 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

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<<<

*****Combined Uranium must be reported in micrograms per liter*****

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	3/7/2018	4.3 ± 0.4	
7500 - Rn			Radon	4004	3/6/2018	18848.2 ± 1889.6	
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	3/9/2018	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	3/9/2018	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	3/9/2018	< 0.6	

*****LABORATORY INFORMATION*****

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

Specimen Number: RSE60023

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: 18C0198-03

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6: 11/2007

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

March 6, 2018 — Sample Date; 13:45 — Sample Time (24 hour clock); _____ Owner/Contact Person

_____ Owner/Contact Fax Number; _____ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # _____

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<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
900	4 mrem	4 pCi/L	Gross Beta	4100	3/9/2018	< 4 mrem	
906	20,000 pCi/L	1,000 pCi/L	Tritium	4102			
		10 pCi/L	Strontium-89	4172			
	8 pCi/L	2 pCi/L	Strontium-90	4174			
		1 pCi/L	Iodine-131	4264			
		10 pCi/L	Cesium-134	4270			

*****LABORATORY INFORMATION*****

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

Specimen Number: RSE60023

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: 18C0198-03

Authorized Signature: [signature]

Date Public Water System Notified: _____

DWAR 6A: 11/2007

SUBCONTRACT ORDER

Turner Laboratories, Inc.

18C0198

SENDING LABORATORY:

Turner Laboratories, Inc.
2445 N. Coyote Drive, Ste #104
Tucson, AZ 85745
Phone: 520.882.5880
Fax: 520.882.9788
Project Manager: Kevin Brim

RECEIVING LABORATORY:

Radiation Safety Engineering, Inc.
3245 N. Washington St.
Chandler, AZ 85225-1121
Phone :(480) 897-9459
Fax: (480) 892-5446
Please CC Kevin Brim Kbrim@turnerlabs.com

Analysis	Expires	Laboratory ID	Comments
Sample ID: 18C0198-01 Drinking Water Sampled:03/06/2018 09:18			
Radiochemistry, Radon	03/10/2018 09:18		
Radiochemistry, Radium 226/228	04/05/2018 09:18		
Radiochemistry, Gross Alpha Beta	09/02/2018 09:18		Analyze Uranium and Adjusted Alpha if G. Alpha is > 12
Containers Supplied: 60021			
Sample ID: 18C0198-02 Drinking Water Sampled:03/06/2018 11:17			
Radiochemistry, Radon	03/10/2018 11:17		
Radiochemistry, Radium 226/228	04/05/2018 11:17		
Radiochemistry, Gross Alpha Beta	09/02/2018 11:17		Analyze Uranium and Adjusted Alpha if G. Alpha is > 12
Containers Supplied: 60022			
Sample ID: 18C0198-03 Drinking Water Sampled:03/06/2018 13:45			
Radiochemistry, Uranium	09/02/2018 13:45		
Radiochemistry, Radon	03/10/2018 13:45		
Radiochemistry, Radium 226/228	04/05/2018 13:45		
Radiochemistry, Gross Alpha Beta	09/02/2018 13:45		Analyze Uranium and Adjusted Alpha if G. Alpha is > 12
Containers Supplied: 60023			

Released By	Date	Received By	Date
Released By	Date	Received By	Date

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 # _____ DATE 3/6/2018 PAGE 1 OF 1

PROJECT NAME Florence Copper # _____
CONTACT NAME : Barb Sylvester
COMPANY NAME : Brown and Caldwell
ADDRESS : 2 N Central Ave, Suite 1600
CITY Phoenix STATE AZ ZIP CODE 85004
PHONE 602-567-3894 FAX
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 (*)	Diss Metals - list (Field Filtered)	Total Uranium (not Filtered)	Inorganics - list	Cyanide (free)	Organics - list	G.Alpha, Beta, (RadSafety sub)	Uranium activity if G. Alpha >12	Ra226, 228, Ra-Tot (RadsSafety)	Radon 222 (RadSafety sub)	TPH-D (TestAmerica Sub)
MS4-0	3/6/18	0918	60021	GW	12	X	X	X	X	X	X	X	X	X	X
MS8-0	3/6/18	11:17	60022	GW	12	X	X	X	X	X	X	X	X	X	X
MS7-0	3/6/18	13:45	60023	GW	12	X	X	X	X	X	X	X	X	X	X
TB	3/6/18	—		GW	1					X					
				GW											
				GW											
				GW											
				GW											
				GW											
				GW											
				GW											

1. RELINQUISHED BY: Signature _____ Printed Name Michael Orcutt Firm Brown + Caldwell Date/Time 3/6/18 @ 1500

2. RECEIVED BY: Signature Irene Pompetto Printed Name _____ Firm RSF Date/Time 3-6-18 16:00

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

REPORT REQUIREMENTS:
X I. Routine Report
___ 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 Copper

SAMPLE RECEIPT:
Total Containers _____
Temperature _____
☑ Wet Ice ☐ Blue Ice

3. RELINQUISHED BY: Signature _____ Printed Name _____ Firm _____ Date/Time _____

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

*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 ☐

(*) 3 Bottles to Rad Safety by BC
See Analytical list w/ COC

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-99181-1
Client Project/Site: 18C0198

For:
Turner Laboratories, Inc.
2445 N. Coyote
Suite 104
Tucson, Arizona 85745

Attn: Kevin Brim

Authorized for release by:
3/14/2018 11:08:13 AM

Jacqueline Dominguez, Project Manager I
(602)437-3340
jacqueline.dominguez@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
Q9	Insufficient sample received to meet method QC requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 550-99181-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-99181-1

Comments
No additional comments.

Receipt
The samples were received on 3/8/2018 12:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.1º C.

GC Semi VOA
Method(s) 8015D: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 550-141415 and analytical batch 550-141413. Affected samples have been added a Q9 flag.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3510C: Insufficient sample(s) volume(s) was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 3510C.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-99181-1	18C0198-01	Water	03/06/18 09:18	03/08/18 12:25
550-99181-2	18C0198-02	Water	03/06/18 11:17	03/08/18 12:25
550-99181-3	18C0198-03	Water	03/06/18 13:45	03/08/18 12:25

Detection Summary

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

Client Sample ID: 18C0198-01 — Lab Sample ID: 550-99181-1

No Detections.

Client Sample ID: 18C0198-02 — Lab Sample ID: 550-99181-2

No Detections.

Client Sample ID: 18C0198-03 — Lab Sample ID: 550-99181-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

Client Sample ID: 18C0198-01

Lab Sample ID: 550-99181-1
Matrix: Water

Date Collected: 03/06/18 09:18
Date Received: 03/08/18 12:25

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ORO (C22-C32)	ND	Q9	0.20	mg/L		03/09/18 11:24	03/09/18 19:25	1
DRO (C10-C22)	ND	Q9	0.10	mg/L		03/09/18 11:24	03/09/18 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*96*		*10 - 150*	*03/09/18 11:24*	*03/09/18 19:25*	*1*

Client Sample ID: 18C0198-02

Lab Sample ID: 550-99181-2
Matrix: Water

Date Collected: 03/06/18 11:17
Date Received: 03/08/18 12:25

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ORO (C22-C32)	ND	Q9	0.20	mg/L		03/09/18 11:24	03/09/18 19:46	1
DRO (C10-C22)	ND	Q9	0.10	mg/L		03/09/18 11:24	03/09/18 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*102*		*10 - 150*	*03/09/18 11:24*	*03/09/18 19:46*	*1*

Client Sample ID: 18C0198-03

Lab Sample ID: 550-99181-3
Matrix: Water

Date Collected: 03/06/18 13:45
Date Received: 03/08/18 12:25

Method: 8015D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
ORO (C22-C32)	ND	Q9	0.20	mg/L		03/09/18 11:24	03/09/18 20:07	1
DRO (C10-C22)	ND	Q9	0.10	mg/L		03/09/18 11:24	03/09/18 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*95*		*10 - 150*	*03/09/18 11:24*	*03/09/18 20:07*	*1*

Surrogate Summary

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**OTPH (10-150)**							
550-99181-1	18C0198-01	96							
550-99181-2	18C0198-02	102							
550-99181-3	18C0198-03	95							
LCS 550-141415/2-A	Lab Control Sample	103							
LCSD 550-141415/3-A	Lab Control Sample Dup	104							
MB 550-141415/1-A	Method Blank	100							

Surrogate Legend

OTPH = o-Terphenyl (Surr)

QC Sample Results

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

Method: 8015D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 550-141415/1-A
Matrix: Water
Analysis Batch: 141413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141415

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
ORO (C22-C32)	ND		0.20		mg/L		03/09/18 11:22	03/09/18 17:20	1
DRO (C10-C22)	ND		0.10		mg/L		03/09/18 11:22	03/09/18 17:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl (Surr)	*100*		*10 - 150*	*03/09/18 11:22*	*03/09/18 17:20*	*1*

Lab Sample ID: LCS 550-141415/2-A
Matrix: Water
Analysis Batch: 141413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141415

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
ORO (C22-C32)			1.60	1.53		mg/L		96	69 - 107		
DRO (C10-C22)			0.400	0.462		mg/L		116	42 - 133		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl (Surr)	*103*		*10 - 150*

Lab Sample ID: LCSD 550-141415/3-A
Matrix: Water
Analysis Batch: 141413

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 141415

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
ORO (C22-C32)			1.60	1.56		mg/L		97	69 - 107	1	20
DRO (C10-C22)			0.400	0.479		mg/L		120	42 - 133	3	22

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl (Surr)	*104*		*10 - 150*

QC Association Summary

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

GC Semi VOA

Analysis Batch: 141413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-99181-1	18C0198-01	Total/NA	Water	8015D	141415
550-99181-2	18C0198-02	Total/NA	Water	8015D	141415
550-99181-3	18C0198-03	Total/NA	Water	8015D	141415
MB 550-141415/1-A	Method Blank	Total/NA	Water	8015D	141415
LCS 550-141415/2-A	Lab Control Sample	Total/NA	Water	8015D	141415
LCSD 550-141415/3-A	Lab Control Sample Dup	Total/NA	Water	8015D	141415

Prep Batch: 141415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-99181-1	18C0198-01	Total/NA	Water	3510C	
550-99181-2	18C0198-02	Total/NA	Water	3510C	
550-99181-3	18C0198-03	Total/NA	Water	3510C	
MB 550-141415/1-A	Method Blank	Total/NA	Water	3510C	
LCS 550-141415/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 550-141415/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Lab Chronicle

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

Client Sample ID: 18C0198-01

Lab Sample ID: 550-99181-1
Matrix: Water

Date Collected: 03/06/18 09:18
Date Received: 03/08/18 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			141415	03/09/18 11:24	REM	TAL PHX
Total/NA	Analysis	8015D		1	141413	03/09/18 19:25	CLL	TAL PHX

Client Sample ID: 18C0198-02

Lab Sample ID: 550-99181-2
Matrix: Water

Date Collected: 03/06/18 11:17
Date Received: 03/08/18 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			141415	03/09/18 11:24	REM	TAL PHX
Total/NA	Analysis	8015D		1	141413	03/09/18 19:46	CLL	TAL PHX

Client Sample ID: 18C0198-03

Lab Sample ID: 550-99181-3
Matrix: Water

Date Collected: 03/06/18 13:45
Date Received: 03/08/18 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			141415	03/09/18 11:24	REM	TAL PHX
Total/NA	Analysis	8015D		1	141413	03/09/18 20:07	CLL	TAL PHX

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

Laboratory: TestAmerica Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0728	06-09-18

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: Turner Laboratories, Inc.
Project/Site: 18C0198

TestAmerica Job ID: 550-99181-1

Method	Method Description	Protocol	Laboratory
8015D	Diesel Range Organics (DRO) (GC)	SW846	TAL PHX

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

99181

SUBCONTRACT ORDER

Turner Laboratories, Inc.

18C0198

SENDING LABORATORY:

Turner Laboratories, Inc.
2445 N. Coyote Drive, Ste #104
Tucson, AZ 85745
Phone: 520.882.5880
Fax: 520.882.9788
Project Manager: Kevin Brim

RECEIVING LABORATORY:

TestAmerica Phoenix
4625 East Cotton Center Boulevard Suite 189
Phoenix, AZ 85540
Phone :(602) 437-3340
Fax:
Please CC Kevin Brim Kbrim@turnerlabs.com

Analysis	Expires	Laboratory ID	Comments
Sample ID: 18C0198-01 Drinking Water Sampled:03/06/2018 09:18		[redacted]	
8015D Sub	03/13/2018 09:18		8015D DRO and ORO Paramaters Only
Containers Supplied:			
Sample ID: 18C0198-02 Drinking Water Sampled:03/06/2018 11:17		[redacted]	
8015D Sub	03/13/2018 11:17		8015D DRO and ORO Paramaters Only
Containers Supplied:			
Sample ID: 18C0198-03 Drinking Water Sampled:03/06/2018 13:45		[redacted]	
8015D Sub	03/13/2018 13:45		8015D DRO and ORO Paramaters Only
Containers Supplied:			

8015D Sub
o-Terphenyl
C10-C32 (Total)
C22-C32 (Oil Range Organics)
C10-C22 (Diesel Range Organics)
C6-C10 (Gasoline Range Organics)
o-Terphenyl
C10-C32 (Total)
C22-C32 (Oil Range Organics)
C10-C22 (Diesel Range Organics)
C6-C10 (Gasoline Range Organics)
o-Terphenyl
C10-C32 (Total)
C22-C32 (Oil Range Organics)
C10-C22 (Diesel Range Organics)
C6-C10 (Gasoline Range Organics)

550-99181 Chain of Custody

5.1°C UPS QR

Released By	Date	Received By	Date
	3/7/18 1600	UPS	3/7/18 16:00
Released By	Date	Received By	Date
			3-8-18 1225

Page 1 of 1

Login Sample Receipt Checklist

Client: Turner Laboratories, Inc.

Job Number: 550-99181-1

Login Number: 99181
List Number: 1
Creator: Vilaboy, Monica

List Source: TestAmerica Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.