WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 9/26/17

DEVELOPMENT CREW MEMBERS:

PURGING METHOD: 2" Submersible

SAMPLE NO.: GW-092617-PG-53, GW-092617-PG-54

SAMPLE TIME: → 0945 (R.B.) → 1045

WELL INFORMATION

WELL NUMBER: EW07

WELL TYPE (diameter/material) 4" / steel – 3 " sleeve

MEASURING POINT ELEVATION: 1104.96 ft.

STATIC WATER DEPTH: 107.50 **ELEVATION:**

BOTTOM DEPTH: 129 ft. **ELEVATION:**

WATER COLUMN LENGTH: 21.50

SCREENED INTERVAL: 78-128 ft.

WELL VOLUME: 14.06 (3) = 42.18/5

8.436

Note: For 4-inch diameter well: 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	10	20	30	40	50	
FIELD pH (+/-0.2):		7.20	7.15	7.07	7.05	7.06	
FIELD TEMPERATURE (+/- 1°F):	oF	77.6	79.2	79.3	79.3	79.2	
FIELD CONDUCTIVITY (+/- 15%):		1740	1772	1775	1778	1780	
OXIDATION REDUCTION POTENTIAL							
DISSOLVED OXYGEN							
TURBIDITY							
CLARITY:		CLEAR					
COLOR:		CLEAR					
ODOR:		SULFER					

NOTES:

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 9/26/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: 2" Submersible

SAMPLE NO.: GW-092617-PG - 55

SAMPLE TIME: → ~~1330~~ 1330

WELL INFORMATION

WELL NUMBER: EW06

WELL TYPE (diameter/material) 4" / steel – 3" sleeve

MEASURING POINT ELEVATION: 1097.75ft.

STATIC WATER DEPTH: 104.30 **ELEVATION:**

BOTTOM DEPTH: 112 **ELEVATION:**

WATER COLUMN LENGTH: 7.7

SCREENED INTERVAL: 61-111

WELL VOLUME: 5.03 (3) = 15.10 / 5 = 3.02

Note: For 4-inch diameter well: 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	5	10	15	20	25	
FIELD pH (+/-0.2):		6.93	6.99	6.93	7.00	7.01	
FIELD TEMPERATURE (+/- 1°F):	°F	82.8	81.7	81.7	80.9	80.8	
FIELD CONDUCTIVITY (+/- 15%):		1323	1315	1313	1324	1326	
OXIDATION REDUCTION POTENTIAL		—	—	—	—	—	
DISSOLVED OXYGEN		—	—	—	—	—	
TURBIDITY		—	—	—	—	—	
CLARITY:		CLOUDY	—	CLEAR	—	—	
COLOR:		ORANGE	—	CLEAR	—	—	
ODOR:		NONE	—	NONE	—	—	

NOTES:

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 9/27/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: 2" Submersible

SAMPLE NO.: GW-092717-PG-56

SAMPLE TIME: → 0830

WELL INFORMATION

WELL NUMBER: NW14-D

WELL TYPE (diameter/material) 2" / PVC

MEASURING POINT ELEVATION: 1096.12 ft.

STATIC WATER DEPTH: 103.22 **ELEVATION:**

BOTTOM DEPTH: 235 ft. **ELEVATION:**

WATER COLUMN LENGTH: 131.78

SCREENED INTERVAL: 215-235 ft.

WELL VOLUME: 21.612 (3) = 64.869/5 = 12.97

Note: For 4-inch diameter well: 1 foot = 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	15	30	45	60	75	
FIELD pH (+/-0.2):		7.35	7.34	7.31	7.32	7.41	
FIELD TEMPERATURE (+/- 1°F):	°F	78.1	78.8	79.5	79.4	79.6	
FIELD CONDUCTIVITY (+/- 15%):		1182	1176	1181	1183	1179	
OXIDATION REDUCTION POTENTIAL		—	—	—	—	—	
DISSOLVED OXYGEN		—	—	—	—	—	
TURBIDITY		—	—	—	—	—	
CLARITY:		CLEAR	—	—	—	—	
COLOR:		CLEAR	—	—	—	—	
ODOR:		NONE	—	—	—	—	

NOTES:

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 9/27/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: 2" ~~3~~ Submersible RENTAL

SAMPLE NO.: GW- 092717 - PG - 57

SAMPLE TIME: → 1130

WELL INFORMATION

WELL NUMBER: BC-16

WELL TYPE (diameter/material) 4" / PVC/SS Screen

MEASURING POINT ELEVATION: 1116.02 ft.

STATIC WATER DEPTH: 74.55 **ELEVATION:**

BOTTOM DEPTH: 86 ft. **ELEVATION:**

WATER COLUMN LENGTH: 11.45

SCREENED INTERVAL:

WELL VOLUME: 7.48 (3) = 22.465 / 5 = 4.49

Note: For 4-inch diameter well: 1 foot = 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	6	12	18	24	30	
FIELD pH (+/-0.2):		7.05	7.08	7.06	7.09	7.03	
FIELD TEMPERATURE (+/- 1°F):	°F	82.6	82.1	81.9	81.2	81.8	
FIELD CONDUCTIVITY (+/- 15%):		1543	1547	1544	1541	1546	
OXIDATION REDUCTION POTENTIAL							
DISSOLVED OXYGEN							
TURBIDITY							
CLARITY:		CLOUDY		CLEAR			
COLOR:		ORANGE		CLEAR			
ODOR:		NONE		NONE			

NOTES:

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 9/27/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: 2" Submersible

SAMPLE NO.: GW-092717-PG-58 , GW-092717-PG-59

SAMPLE TIME: → 1420 → 1425

WELL INFORMATION

WELL NUMBER: NW16-D

WELL TYPE (diameter/material) 2" / PVC

MEASURING POINT ELEVATION: 1097.96 ft.

STATIC WATER DEPTH: 103.90 **ELEVATION:**

BOTTOM DEPTH: 230 ft. **ELEVATION:**

WATER COLUMN LENGTH: 126.10 (.654)

SCREENED INTERVAL: 220-230 ft.

WELL VOLUME: 20.68 (3) = 62.04 / 5 = 12.408

Note: For 4-inch diameter well: 1 foot = 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	13	26	39	52	65	
FIELD pH (+/-0.2):		7.25	7.27	7.26	7.26	7.36	
FIELD TEMPERATURE (+/- 1°F):	°F	81.3	80.1	80.0	79.7	79.0	
FIELD CONDUCTIVITY (+/- 15%):		1622	1626	1627	1629	1615	
OXIDATION REDUCTION POTENTIAL		—	—	—	—	—	
DISSOLVED OXYGEN		—	—	—	—	—	
TURBIDITY		—	—	—	—	—	
CLARITY:		CLEAR	—	—	—	—	
COLOR:		CLEAR	—	—	—	—	
ODOR:		NONE	—	—	—	—	

NOTES:

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 9/28/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: 2" Submersible

SAMPLE NO.: GW-092817-PG-60

SAMPLE TIME: L> 1010 (MS/MSD)

WELL INFORMATION

WELL NUMBER: NW16-M

WELL TYPE (diameter/material) 2" / PVC

MEASURING POINT ELEVATION: 1097.92 ft.

STATIC WATER DEPTH: 104.52 **ELEVATION:**

BOTTOM DEPTH: 175 ft. **ELEVATION:**

WATER COLUMN LENGTH: 70.48

SCREENED INTERVAL: 155-175 ft.

WELL VOLUME: 11.558 (3) = 34.67/5 = 6.93

Note: For 4-inch diameter well: 1 foot = 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	10	20	30	40	50	
FIELD pH (+/-0.2):		9.01	8.71	8.26	8.27	7.62	
FIELD TEMPERATURE (+/- 1°F):	°F	81.5	81.4	81.7	81.4	81.3	
FIELD CONDUCTIVITY (+/- 15%):		1340	1377	1411	1412	1422	
OXIDATION REDUCTION POTENTIAL		—	—	—	—	—	
DISSOLVED OXYGEN		—	—	—	—	—	
TURBIDITY		—	—	—	—	—	
CLARITY:		CLEAR	—	—			
COLOR:		CLEAR	—	—			
ODOR:		NONE	—	—			

NOTES:

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 9/20/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: 2" Submersible

SAMPLE NO.: GW-092817-PG-61

SAMPLE TIME: → ~~[illegible]~~ 1400

WELL INFORMATION

WELL NUMBER: PZ01-B

WELL TYPE (diameter/material) 4" / PVC/SS Screen

MEASURING POINT ELEVATION: 1117.05 ft.

STATIC WATER DEPTH: 75.12 **ELEVATION:**

BOTTOM DEPTH: 126 ft. **ELEVATION:**

WATER COLUMN LENGTH: 50.88

SCREENED INTERVAL:

WELL VOLUME: 8.344 (3) = 25.03/5 = 5.006

Note: For 4-inch diameter well: 1 foot = 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	6	12	18	24	30	
FIELD pH (+/-0.2):		7.23	7.22	7.21	7.27	7.24	
FIELD TEMPERATURE (+/- 1°F):	°F	81.7	80.2	79.5	79.1	79.2	
FIELD CONDUCTIVITY (+/- 15%):		1881	1886	1887	1890	1887	
OXIDATION REDUCTION POTENTIAL		—	—	—	—	—	
DISSOLVED OXYGEN		—	—	—	—	—	
TURBIDITY		—	—	—	—	—	
CLARITY:		CLEAR	—	—	—	—	
COLOR:		CLEAR	—	—	—	—	
ODOR:		NONE	—	—	—	—	

NOTES:

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 9/7/17 + 10/3/17

DEVELOPMENT CREW MEMBERS: PG, DH

PURGING METHOD: 3" Submersible + CASCADE PUMP

SAMPLE NO.: ~~3" GRUNDFOS~~ GW-100317-PG-62

SAMPLE TIME: → 1345

96.53

WELL INFORMATION

WELL NUMBER: NW~~10~~12-D

WELL TYPE (diameter/material) 4" / pvc

MEASURING POINT ELEVATION: 1098.91 ft.

STATIC WATER DEPTH: 96.50 **ELEVATION:**

BOTTOM DEPTH: 230.5 ft. **ELEVATION:**

WATER COLUMN LENGTH: 134

FLOW ≈ 3.0 GPM

SCREENED INTERVAL: 210-230 ft.

WELL VOLUME: 87.63 (3) = 262.9/5 = 52.58

Note: For 4-inch diameter well: 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME			NEW 75	200	300	~~400~~	450
VOLUME PURGED (volume/total volume):	Gal	50	~~100~~	~~150~~	~~200~~	~~250~~	
FIELD pH (+/-0.2):		8.92	6.28	6.44	6.48	6.60	
FIELD TEMPERATURE (+/- 1°F):	°F	80.7	79.1	80.5	82.2	81.9	
FIELD CONDUCTIVITY (+/- 15%):		2924	3724	3605	3611	3496	
OXIDATION REDUCTION POTENTIAL							
DISSOLVED OXYGEN							
TURBIDITY							
CLARITY:		CLEAR	CLOUDY				
COLOR:		CLEAR	BLACKISH				
ODOR:		~~NONE~~	SULFER				

NOTES: WELL DRY @ 90 GALLONS
WELL NOT RECOVERING
.10' EVERY 10 MIN
9/11/17 WATER LEVEL STILL BELOW 200' NO
10/3 → SET PUMP AFTER WELL REHAB. BEGIN NEW PURGE.

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 10/4/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: ~~Disposable Bailer~~

SAMPLE NO.: GW - 100417 - PG - 63

SAMPLE TIME: → 0950

WELL INFORMATION

WELL NUMBER: NW03

WELL TYPE (diameter/material) 4" /PVC/ SS Screen

MEASURING POINT ELEVATION: ~~1117.04~~ ft. TOC

STATIC WATER DEPTH: 103.35 **ELEVATION:**

BOTTOM DEPTH: 142 **ELEVATION:**

WATER COLUMN LENGTH: 38.65

SCREENED INTERVAL: 120 - 140

WELL VOLUME: 25.278 GAL

* RESAMPLE AFTER WELL REHAB

Note: For 4-inch diameter well: 1 foot = 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	50	100	150	200	250	
FIELD pH (+/-0.2):		7.20	7.03	7.06	7.08	7.01	
FIELD TEMPERATURE (+/- 1°F):	oF	80.7	81.6	81.3	81.4	81.4	
FIELD CONDUCTIVITY (+/- 15%):		1753	1653	1654	1659	1653	
OXIDATION REDUCTION POTENTIAL							
DISSOLVED OXYGEN							
TURBIDITY							
CLARITY:		SL. CLOUDY	—	CLEAR	—	—	
COLOR:		CLEAR	—	—	—	—	
ODOR:		NONE	—	—	—	—	

NOTES:

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 10/5/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: Disposable Bailer

SAMPLE NO.: GW1 - 100517 - PG - 64

SAMPLE TIME: 1300

WELL INFORMATION

WELL NUMBER: EW22-S

WELL TYPE (diameter/material) 4" / steel

MEASURING POINT ELEVATION: 1095.72 ft.

STATIC WATER DEPTH: 106.05 **ELEVATION:**

BOTTOM DEPTH: 112 ft. **ELEVATION:**

WATER COLUMN LENGTH: 5.95

SCREENED INTERVAL: 58-108 ft.

WELL VOLUME: 3.89 (3) = 11.67

= 2.3

Note: For 4-inch diameter well: 1 foot = 0.66 gallons (us)
1 meter = 2 liters Note:

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	2	4	6	8	10	
FIELD pH (+/-0.2):		7.11	7.05	7.07	7.06	7.04	
FIELD TEMPERATURE (+/- 1°F):	°F	83.0	82.3	82.2	82.4	82.7	
FIELD CONDUCTIVITY (+/- 15%):		2173	2152	2147	2130	2124	
OXIDATION REDUCTION POTENTIAL							
DISSOLVED OXYGEN							
TURBIDITY							
CLARITY:		CLOUDY					
COLOR:		BROWN					
ODOR:		NONE					

NOTES: BAILER SAMPLE

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: 52nd Street OU2 **PROJECT NO.:** 013932-130

DATE OF WELL DEVELOPMENT: 10/16/17

DEVELOPMENT CREW MEMBERS: PG

PURGING METHOD: Smeal Rig (Cascade)

SAMPLE NO.: GW-101617-PG-65, GW-101617-PG-66

SAMPLE TIME: → 0900 (R.B.) → ~~1300~~ ~~1240~~ 1246

WELL INFORMATION

WELL NUMBER: EW22-D

WELL TYPE (diameter/material) 4" / steel

MEASURING POINT ELEVATION: 1095.75ft.

STATIC WATER DEPTH: 98.22 **ELEVATION:**

BOTTOM DEPTH: 430 **ELEVATION:**

WATER COLUMN LENGTH: 331.78

SCREENED INTERVAL: 407-427

WELL VOLUME: 216.98 (3) = 650.95/5 = 130.19

Note: For 4-inch diameter well: 1 foot = 0.66 gallons (us)
1 meter = 2 liters

	UNITS	1	2	3	4	5	TOTAL/ AVERAGE
TIME							
VOLUME PURGED (volume/total volume):	Gal	150	300	450	600	750	
FIELD pH (+/-0.2):		6.60	7.14	7.02	7.19	7.23	
FIELD TEMPERATURE (+/- 1°F):	°F	83.4	82.1	83.5	83.1	82.2	
FIELD CONDUCTIVITY (+/- 15%):		1836	1874	1891	1899	1882	
OXIDATION REDUCTION POTENTIAL							
DISSOLVED OXYGEN							
TURBIDITY							
CLARITY:		Clear					
COLOR:		Clear					
ODOR:		None					

NOTES:

Field Sample Key

52nd Street Superfund Site, OU2 Area
Phoenix, Arizona
July 6, 2017

Sample ID	Location	Sample Date (mm/dd/yy)	Sample Type	Sample Matrix	Hold (Y/N/P)	VOCs (8260B)	VOCs (624)	Boron (200.7)	Temperature (Deg. F)	Conductivity (µs/cm)	pH (s.u.)
PS-70617-MM-01	Combined Influent	07/06/17	--	Treatment System	--	X	--	--	78.9	2032	7.18
PS-70617-MM-02	GAC Vessel 4B	07/06/17	--	Treatment System	--	X	--	--	78.7	2075	7.11
PS-70617-MM-03	GAC Vessel 5B	07/06/17	--	Treatment System	--	X	--	--	78.7	2065	7.10
PS-70617-MM-04	GAC Vessel 6B	07/06/17	--	Treatment System	--	X	--	--	77.8	2062	7.06
PS-70617-MM-05	GAC Vessel 8B	07/06/17	--	Treatment System	--	X	--	--	78.8	2059	7.09
PS-70617-MM-06	Facility Effluent	07/06/17	--	Treatment System	--	X	--	--	79.8	2048	7.04
PS-70617-MM-07	Facility Effluent Duplicate	07/06/17	--	Treatment System QC	--	X	--	--	79.8	2048	7.04
PS-70617-MM-08	SRP Downstream	07/06/17	--	Treatment System	--	X	--	--	79.2	1456	8.16
PS-70617-MM-09	Field Blank	07/06/17	--	Treatment System QC	--	X	--	--	--	--	--
PS-70617-MM-10	Trip Blank	07/06/17	--	Treatment System QC	--	X	--	--	--	--	--

Notes:

Deg. F - degrees Fahrenheit
µs/cm - microsiemens per centimeter
s.u. - standard unit
Treatment System - Calibrated Water Quality Meter (CRA control #7783) Prior to Use
GAC - Granular Activated Carbon
QC - quality control
SRP - Salt River Project
UV Out of Service
GAC Pairs - 1,2,3,7,9 - Out of service during sampling

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Automated Report

Technical Report for

GHD Services Inc.

52nd Street Superfund Site - OU2 Area, Phoenix, AZ

013932

SGS Accutest Job Number: TD5918

Sampling Date: 07/06/17

Report to:

GHD Services Inc.
4747 N. 22nd Street Second Floor
Phoenix, AZ 85016
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ATTN: Manfred Plaschke

Total number of pages in report: **26**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Anita Patel 713-271-4700

Certifications: TX (T104704220-17-27) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2016-170) VA (8999)

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SGS Accutest

Sample Summary

GHD Services Inc.

Job No: TD5918

52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Project No: 013932

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD5918-1	07/06/17	08:30		07/07/17	AQ	Ground Water	PS-070617-MM-01
TD5918-2	07/06/17	08:35		07/07/17	AQ	Ground Water	PS-070617-MM-02
TD5918-3	07/06/17	08:40		07/07/17	AQ	Ground Water	PS-070617-MM-03
TD5918-4	07/06/17	08:45		07/07/17	AQ	Ground Water	PS-070617-MM-04
TD5918-5	07/06/17	08:50		07/07/17	AQ	Ground Water	PS-070617-MM-05
TD5918-6	07/06/17	08:55		07/07/17	AQ	Ground Water	PS-070617-MM-06
TD5918-7	07/06/17	08:58		07/07/17	AQ	Ground Water	PS-070617-MM-07
TD5918-8	07/06/17	09:30		07/07/17	AQ	Ground Water	PS-070617-MM-08
TD5918-9	07/06/17	10:00		07/07/17	AQ	Ground Water	PS-070617-MM-09
TD5918-10	07/06/17	00:00		07/07/17	AQ	Trip Blank Water	PS-070617-MM-10 TRIP BLANK

Summary of Hits

Job Number: TD5918
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 07/06/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD5918-1	**PS-070617-MM-01**					
Chloroform		2.1	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.3	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		6.0	1.0		ug/l	SW846 8260C
Tetrachloroethylene		2.2	1.0		ug/l	SW846 8260C
Trichloroethylene		34.4	0.50		ug/l	SW846 8260C
TD5918-2	**PS-070617-MM-02**					
Chloroform		3.3	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.1	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		8.4	1.0		ug/l	SW846 8260C
TD5918-3	**PS-070617-MM-03**					
Chloroform		3.6	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.0	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		11.3	1.0		ug/l	SW846 8260C
TD5918-4	**PS-070617-MM-04**					
Chloroform		2.4	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.7	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		8.0	1.0		ug/l	SW846 8260C
Trichloroethylene		5.0	0.50		ug/l	SW846 8260C
TD5918-5	**PS-070617-MM-05**					
Chloroform		3.7	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		7.1	1.0		ug/l	SW846 8260C
TD5918-6	**PS-070617-MM-06**					
Chloroform		2.2	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		1.2	1.0		ug/l	SW846 8260C
TD5918-7	**PS-070617-MM-07**					
Chloroform		2.2	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		1.2	1.0		ug/l	SW846 8260C
TD5918-8	**PS-070617-MM-08**					

No hits reported in this sample.

Summary of Hits

Job Number: TD5918
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 07/06/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method

TD5918-9 **PS-070617-MM-09**

No hits reported in this sample.

TD5918-10 **PS-070617-MM-10 TRIP BLANK**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PS-070617-MM-01		
Lab Sample ID:	TD5918-1	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274467.D	1	07/10/17 13:01	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.1	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.3	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	2.2	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	34.4	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-02		
Lab Sample ID:	TD5918-2	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274468.D	1	07/10/17 13:27	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.3	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.1	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	8.4	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	97%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-03		
Lab Sample ID:	TD5918-3	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274469.D	1	07/10/17 13:52	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.6	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	11.3	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-04		
Lab Sample ID:	TD5918-4	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274470.D	1	07/10/17 14:16	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.4	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.7	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	8.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	5.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	105%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-05		
Lab Sample ID:	TD5918-5	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274471.D	1	07/10/17 14:40	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.7	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	7.1	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-06		
Lab Sample ID:	TD5918-6	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274472.D	1	07/10/17 15:05	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.2	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-07		
Lab Sample ID:	TD5918-7	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274473.D	1	07/10/17 15:29	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.2	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-122%
17060-07-0	1,2-Dichloroethane-D4	97%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-08		
Lab Sample ID:	TD5918-8	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274474.D	1	07/10/17 15:53	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-09		
Lab Sample ID:	TD5918-9	**Date Sampled:**	07/06/17
Matrix:	AQ - Ground Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274475.D	1	07/10/17 16:18	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-070617-MM-10 TRIP BLANK		
Lab Sample ID:	TD5918-10	**Date Sampled:**	07/06/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/07/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0274464.D	1	07/10/17 11:47	ZQ	n/a	n/a	VG2371
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	97%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Arizona Qualifiers
- Chain of Custody

Arizona Qualifiers

Job Number: TD5918
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

The following Arizona qualifiers have been applied to data and/or QC in this report.

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

SGS PHOENIX ACCUTEST

CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking # 7795 7284 8583
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # TD5918

Client / Reporting Information

Company Name: GHD
Street Address: 4747 N 22nd ST #200
City: Phoenix State: AZ Zip: 85016
Project Contact: eric.mannlein@ghd.com E-mail:
Phone #: 602 216-7600 Fax #:
Sampler(s) Name(s): Mike McNeil Phone #: 602 708-6365

Project Information

Project Name: OUZ
Street: 12 N 20th ST
City: Phoenix State: AZ
Project #: 013932-131
Client Purchase Order #:
Project Manager: Manfred Phaschke

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analyses: 8260B

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260B	LAB USE ONLY
-1	PS-070617-MM-01	7/6/17	0830	MMC	GW	3	✓												X	
-2	02		0835				✓												X	
-3	03		0840				✓												X	
-4	04		0845				✓												X	
-5	05		0850				✓												X	
-6	06		0855				✓												X	
-7	07		0858				✓												X	
-8	08		0930				✓												X	
-9	09	✓	1000	✓	✓	✓	✓												X	
-10	✓ ✓ ✓ 10	TRIP BLANK				2	✓												X	

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Form: SM021-0

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler	Date Time	Received By	Date Time	Relinquished By	Date Time	Received By	Date Time
1 Mike McNeil 7/6/17	1405	1 [illegible]	7/6/17 1425	2 [illegible]	7/6/17 1500	2 Fedex	
Relinquished by Sampler	Date Time	Received By	Date Time	Relinquished By	Date Time	Received By	Date Time
3 Fedex		3 [illegible] 7/7/17	9:30	4		4	
Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice ✓ Cooler Temp 1.4
5		5					

4.2
4

TD5918: Chain of Custody
Page 1 of 5

SGS ACCUTEST

COOLER TEMP FORM

TC# TD5918

Delivered by (circle one): FedEx/UPS ALGC Driver Client

Date: 7-7-17

Client: C.H.D

Cooler Number: 1

Thermometer ID: IR4 CF, °C 00 Corrected Temp, °C 1.4C

SAMPLES CONTAINED IN COOLER

(3) VIALS 1 W HCL

PS-07JUL17-MH

3

4

5

6

7

8

9

10

(2) TRIP BLANK

ORIGIN ID:MSCA (480) 275-8931
SETH PROFFITT
ACCUTEST TEMPE SERVICE CENTER
741 W. UNIVERSITY DR.
SUITE 149
TEMPE, AZ 85281
UNITED STATES US

SHIP DATE: 06JUL17
ACTWGT: 25.00 LB
CAD: 104685527/INET3850
DIMS: 15x10x15 IN

BILL RECIPIENT

TO SAMPLE RECEIVING
ACCUTEST LABORATORIES
10555 S SAM HOUSTON PKY W

HOUSTON TX 77071
(713) 271-4700 REF: SAMPLES GHD
INV.
PO: DEPT:

546J1/0DC2/53C1

FedEx Express

FRI - 07 JUL HOLD
PRIORITY OVERNIGHT
HLD
SGRA
IAH

TRK# 0201 7795 7284 8583

AB SGRA TX-US

TD5918: Chain of Custody

Page 2 of 5

SGS Accutest Sample Receipt Summary

Job Number: TD5918 **Client:** GHD **Project:** OU2

Date / Time Received: **Delivery Method:** **Airbill #'s:** 779572848583

No. Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (1.4/1.4);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	Ice (Bag)	

Quality Control Preservation	Y	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑	☐	☐	☑	☐
2. Trip Blank listed on COC:	☑	☐	☐		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☑	☐	☐		

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Sample Receipt Log

Job #: TD5918 **Date / Time Received:** 7/7/2017 9:30:00 AM **Initials:** DS

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD5918-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-3	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-3	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-3	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-4	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-5	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-5	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-5	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-6	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-6	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-6	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-7	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-7	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-7	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-8	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-8	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4

Sample Receipt Log

Job #: TD5918 **Date / Time Received:** 7/7/2017 9:30:00 AM **Initials:** DS

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD5918-8	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-9	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-9	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-9	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-10	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4
1	TD5918-10	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.4	0	1.4

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD5918
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG2371-MB	G0274463.D	1	07/10/17	ZQ	n/a	n/a	VG2371

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD5918-1, TD5918-2, TD5918-3, TD5918-4, TD5918-5, TD5918-6, TD5918-7, TD5918-8, TD5918-9, TD5918-10

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	ug/l	
67-66-3	Chloroform	ND	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	ug/l	
74-83-9	Methyl bromide	ND	0.50	ug/l	
74-87-3	Methyl chloride	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.5	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	68-124%
2037-26-5	Toluene-D8	102%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD5918
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG2371-BS	G0274460.D	1	07/10/17	ZQ	n/a	n/a	VG2371
VG2371-BSD [a]	G0274461.D	1	07/10/17	ZQ	n/a	n/a	VG2371

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD5918-1, TD5918-2, TD5918-3, TD5918-4, TD5918-5, TD5918-6, TD5918-7, TD5918-8, TD5918-9, TD5918-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	25.4	102	25.2	101	1	68-119/30
75-27-4	Bromodichloromethane	25	24.0	96	24.1	96	0	72-118/30
67-66-3	Chloroform	25	23.2	93	22.9	92	1	73-122/30
75-34-3	1,1-Dichloroethane	25	24.6	98	24.3	97	1	72-121/30
75-35-4	1,1-Dichloroethylene	25	24.4	98	23.7	95	3	67-140/30
107-06-2	1,2-Dichloroethane	25	23.4	94	23.4	94	0	68-121/30
156-59-2	cis-1,2-Dichloroethylene	25	24.3	97	24.2	97	0	72-117/30
156-60-5	trans-1,2-Dichloroethylene	25	24.3	97	24.0	96	1	68-124/30
74-83-9	Methyl bromide	25	25.3	101	26.0	104	3	53-138/30
74-87-3	Methyl chloride	25	24.7	99	25.5	102	3	50-145/30
71-55-6	1,1,1-Trichloroethane	25	23.6	94	23.1	92	2	72-129/30
127-18-4	Tetrachloroethylene	25	23.8	95	23.6	94	1	72-132/30
108-88-3	Toluene	25	25.2	101	25.3	101	0	73-119/30
79-01-6	Trichloroethylene	25	24.2	97	23.6	94	3	73-121/30
75-69-4	Trichlorofluoromethane	25	21.5	86	21.6	86	0	46-152/30
75-01-4	Vinyl chloride	25	21.6	86	22.4	90	4	54-126/30
1330-20-7	Xylene (total)	75	73.9	99	73.8	98	0	74-119/30
	m,p-Xylene	50	50.1	100	50.0	100	0	74-119/30
95-47-6	o-Xylene	25	23.8	95	23.8	95	0	73-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	99%	99%	72-122%
17060-07-0	1,2-Dichloroethane-D4	98%	97%	68-124%
2037-26-5	Toluene-D8	101%	101%	80-119%
460-00-4	4-Bromofluorobenzene	100%	99%	72-126%

(a) AZ:Q9

* = Outside of Control Limits.

Field Sample Key

52nd Street Superfund Site, OU2 Area
Phoenix, Arizona
August 2, 2017

Sample ID	Location	Sample Date (mm/dd/yy)	Sample Type	Sample Matrix	Hold (Y/N/P)	VOCs (8260B)	VOCs (624)	Boron (200.7)	Temperature (Deg. F)	Conductivity (µs/cm)	pH (s.u.)
PS-80217-MM-01	BWWW	8/2/17		Treatment System	--	--	X	--	90.2	1148	7.39
PS-80217-MM-02	Combined Influent	8/2/17	--	Treatment System	--	X	--	--	79.3	2060	7.14
PS-80217-MM-03	GAC Vessel 4B	8/2/17	--	Treatment System	--	X	--	--	78.7	2065	7.11
PS-80217-MM-04	GAC Vessel 5B	8/2/17	--	Treatment System	--	X	--	--	78.9	2068	7.12
PS-80217-MM-05	GAC Vessel 6B	8/2/17	--	Treatment System	--	X	--	--	78.9	2076	7.15
PS-80217-MM-06	GAC Vessel 8B	8/2/17	--	Treatment System	--	X	--	--	79.1	2074	7.12
PS-80217-MM-07	Facility Effluent	8/2/17	--	Treatment System	--	X	--	--	79.3	2069	7.08
PS-80217-MM-08	Facility Effluent Duplicate	8/2/17	--	Treatment System QC	--	X	--	--	79.3	2069	7.08
PS-80217-MM-09	SRP Downstream	8/2/17	--	Treatment System	--	X	--	--	79	1191	7.74
PS-80217-MM-10	Field Blank	8/2/17	--	Treatment System QC	--	X	--	--	--	--	--
PS-80217-MM-11	Trip Blank	8/2/17	--	Treatment System QC	--	X	--	--	--	--	--

Notes:

BWWW - backwash wastewater
Deg. F - degrees Fahrenheit
µs/cm - microsiemens per centimeter
s.u. - standard unit
Treatment System - Calibrated Water Quality Meter (CRA control #7783) Prior to Use
GAC - Granular Activated Carbon
QC - quality control
SRP - Salt River Project
UV Out of Service
GAC Pairs - 1,2,3,7,9 - Out of service during sampling

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

GHD Services Inc.

52nd Street Superfund Site - OU2 Area, Phoenix, AZ

013932

SGS Accutest Job Number: TD7174

Sampling Date: 08/02/17

Report to:

GHD Services Inc.
4747 N. 22nd Street Second Floor
Phoenix, AZ 85016
eric.mannlein@ghd.com; manfred.plaschke@ghd.com;
mary.cameron@ghd.com; sheri.finn@ghd.com
ATTN: Manfred Plaschke

Total number of pages in report: 32

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Anita Patel 713-271-4700

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SGS Accutest

Sample Summary

GHD Services Inc.

Job No: TD7174

52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Project No: 013932

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD7174-1	08/02/17	10:30		08/03/17	AQ	Ground Water	PS-080217-MM-01
TD7174-2	08/02/17	10:40		08/03/17	AQ	Ground Water	PS-080217-MM-02
TD7174-3	08/02/17	10:45		08/03/17	AQ	Ground Water	PS-080217-MM-03
TD7174-4	08/02/17	10:50		08/03/17	AQ	Ground Water	PS-080217-MM-04
TD7174-5	08/02/17	10:55		08/03/17	AQ	Ground Water	PS-080217-MM-05
TD7174-6	08/02/17	11:00		08/03/17	AQ	Ground Water	PS-080217-MM-06
TD7174-7	08/02/17	11:05		08/03/17	AQ	Ground Water	PS-080217-MM-07
TD7174-8	08/02/17	11:08		08/03/17	AQ	Ground Water	PS-080217-MM-08
TD7174-9	08/02/17	09:05		08/03/17	AQ	Ground Water	PS-080217-MM-09
TD7174-10	08/02/17	11:25		08/03/17	AQ	Ground Water	PS-080217-MM-10
TD7174-11	08/02/17	00:00		08/03/17	AQ	Trip Blank Water	PS-080217-MM-11 TRIP BLANK

2

Summary of Hits

Job Number: TD7174
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 08/02/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD7174-1	**PS-080217-MM-01**					
cis-1,2-Dichloroethylene		3.0	1.0		ug/l	EPA 624
Trichloroethylene		3.8	1.0		ug/l	EPA 624
TD7174-2	**PS-080217-MM-02**					
Chloroform		1.9	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.6	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		6.8	1.0		ug/l	SW846 8260C
Tetrachloroethylene		2.1	1.0		ug/l	SW846 8260C
Trichloroethylene		33.3	0.50		ug/l	SW846 8260C
TD7174-3	**PS-080217-MM-03**					
Chloroform		2.4	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.4	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		8.5	1.0		ug/l	SW846 8260C
TD7174-4	**PS-080217-MM-04**					
Chloroform		3.0	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.4	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		12.2	1.0		ug/l	SW846 8260C
TD7174-5	**PS-080217-MM-05**					
Chloroform		2.3	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		2.1	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		8.9	1.0		ug/l	SW846 8260C
Trichloroethylene		8.8	0.50		ug/l	SW846 8260C
TD7174-6	**PS-080217-MM-06**					
Chloroform		3.1	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.2	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		9.5	1.0		ug/l	SW846 8260C
TD7174-7	**PS-080217-MM-07**					
Chloroform		3.0	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		5.3	1.0		ug/l	SW846 8260C

Summary of Hits

Job Number: TD7174
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 08/02/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD7174-8	**PS-080217-MM-08**					
Chloroform		3.0	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		5.4	1.0		ug/l	SW846 8260C
TD7174-9	**PS-080217-MM-09**					
No hits reported in this sample.						
TD7174-10	**PS-080217-MM-10**					
No hits reported in this sample.						
TD7174-11	**PS-080217-MM-11 TRIP BLANK**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PS-080217-MM-01		
Lab Sample ID:	TD7174-1	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	EPA 624	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0062414.D	1	08/08/17 02:13	ZQ	n/a	n/a	VE2774
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

624 Special List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	3.8	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	99%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-02		
Lab Sample ID:	TD7174-2	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K356032.D	1	08/07/17 16:33	EM	n/a	n/a	VK2069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	1.9	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.6	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.8	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	2.1	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	33.3	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		72-122%
17060-07-0	1,2-Dichloroethane-D4	97%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-03		
Lab Sample ID:	TD7174-3	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K356033.D	1	08/07/17 17:00	EM	n/a	n/a	VK2069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.4	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.4	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	8.5	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-04		
Lab Sample ID:	TD7174-4	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K356034.D	1	08/07/17 17:26	EM	n/a	n/a	VK2069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.4	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	12.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-05		
Lab Sample ID:	TD7174-5	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K356035.D	1	08/07/17 17:53	EM	n/a	n/a	VK2069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.3	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	2.1	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	8.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	8.8	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-06		
Lab Sample ID:	TD7174-6	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K356036.D	1	08/07/17 18:19	EM	n/a	n/a	VK2069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.1	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.2	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	9.5	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-07		
Lab Sample ID:	TD7174-7	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K356037.D	1	08/07/17 18:46	EM	n/a	n/a	VK2069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5.3	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-08		
Lab Sample ID:	TD7174-8	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K356038.D	1	08/07/17 19:13	EM	n/a	n/a	VK2069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5.4	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-09		
Lab Sample ID:	TD7174-9	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K356039.D	1	08/07/17 19:40	EM	n/a	n/a	VK2069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	105%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-10		
Lab Sample ID:	TD7174-10	**Date Sampled:**	08/02/17
Matrix:	AQ - Ground Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239087.D	1	08/05/17 07:48	SC	n/a	n/a	VX3303
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene [a]	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [b]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		72-122%
17060-07-0	1,2-Dichloroethane-D4	108%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

(a) AZ:V1
(b) AZ:V9

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-080217-MM-11 TRIP BLANK		
Lab Sample ID:	TD7174-11	**Date Sampled:**	08/02/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/03/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239088.D	1	08/05/17 08:14	SC	n/a	n/a	VX3303
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene [a]	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [b]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		72-122%
17060-07-0	1,2-Dichloroethane-D4	108%		68-124%
2037-26-5	Toluene-D8	99%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

(a) AZ:V1
(b) AZ:V9

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Arizona Qualifiers
- Chain of Custody

Arizona Qualifiers

Job Number: TD7174
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

The following Arizona qualifiers have been applied to data and/or QC in this report.

Qual	Description
Q9	Insufficient sample received to meet method QC requirements.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V9	CCV recovery was below method acceptance limits.

REVISED 8/4/17 AP

SGS ACCUTEST

CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #	Bottle Order Control #
SGS Accutest Quote #	SGS Accutest Job #

Client / Reporting Information

Company Name: GHD
Street Address: 4747 N 22nd ST. #200
City State Zip: Phoenix AZ 85016
Project Contact: Eric.mannlein@ghd.com
E-mail:
Phone #: 602-216-7200
Fax #:
Sampler(s) Name(s): Mike McNeil
Phone #: 602-626-6215

Project Information

Project Name: OU2
Street: 12 N 20th ST
City State: Phoenix AZ
Project # : 013932.131
Client Purchase Order #:
Project Manager: Manfred Plaschke

Billing Information (if different from Report to)

Company Name:
Street Address:
City State Zip:
Attention:

Requested Analyses

8260B
624

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	Na2SO4	ENCORE	OTHER	8260B	624	LAB USE ONLY
	PS-080217-MM-01	8/2/17	1030	MML	GW	3	X												~~X~~ ✓	✓	
	02		1040				X												✓	✓	
	03		1045				X												✓	✓	
	04		1050				X												✓	✓	
	05		1055				X												✓	✓	
	06		1100				X												✓	✓	
	07		1105				X												✓	✓	
	08		1108				X												✓	✓	
	09		0905				X												✓	✓	
	10		1125				X												✓	✓	
	11		TRIP BLANK			2	X												✓		

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1 Mike McNeil 8/2/17	1422	1 [signature]	8/2/17 1422	2		2	
Relinquished by Sampler: 3	Date Time:	Received By: 3	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:
Relinquished by: 5	Date Time:	Received By: 5	Date Time:	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp.

4.2 4

TD7174: Chain of Custody
Page 1 of 6

PHOENIX

SGS ACCUTEST

CHAIN OF CUSTODY

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 7197997056711
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # TD7174

Client / Reporting Information

Company Name: GHD
Street Address: 4747 N 22nd ST. #200
City: Phoenix State: AZ Zip: 85016
Project Contact: Eric.Mannlein@ghd.com E-mail:
Phone #: 602-216-7200 Fax #:
Sampler(s) Name(s): Mike McNeil Phone #: 602-208-6365

Project Information

Project Name: OU2
Street: 12N 20th ST
City: Phoenix State: AZ
Project #: 013932-131
Client Purchase Order #:
Project Manager: Manfred Plaschke

Billing Information (if different from Report to)

Company Name:
Street Address:
City State Zip
Attention:

Requested Analyses: 8260B

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260B	LAB USE ONLY
1	PS-080217-MM-01	8/2/17	1030	MMC	GW	3	X												✓	
2	02		1040				X												✓	
3	03		1045				X												✓	
4	04		1050				X												✓	
5	05		1055				X												✓	
6	06		1100				X												✓	
7	07		1105				X												✓	
8	08		1108				X												✓	
9	09		0905				X												✓	
10	10		1125				X												✓	
11	11		TRIP BLANK			2	X												✓	

TAGGED BY: VERIFIED BY:

Turnaround Time (Business days)

- ☒ Standard
- ☐ 5 Day *RUSH*
- ☐ 4 Day *RUSH*
- ☐ 3 Day *RUSH*
- ☐ 2 Day *RUSH*
- ☐ 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ FULT1 (Level 3+4)
- ☐ REDT1 (Level 3+4)
- ☐ Commercial "C"
- ☐ TRRP
- ☐ EDD Format
- ☐ Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Form: SM021-0

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date/Time:	Received By:	Date Time:
1 Mike McNeil 8/2/17	1422	1	8/2/17 1422	2	8/2/17 1630	2 Fedex	
Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
3		3	8/4/17 0950	4		4	
Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable	On Ice ☑ Cooler Temp. 3.4
5		5					

TD7174: Chain of Custody
Page 2 of 6

SGS ACCUTEST

COOLER TEMP FORM

TC# TD7174

Delivered by (circle one): FedEx/UPS ALGC Driver Client

Date: 8-3-17

Client: GHD

Cooler Number:

Thermometer ID: 325 CF, °C 0 Corrected Temp, °C 3.6

SAMPLES CONTAINED IN COOLER

Page 1 of 1

ORIGIN ID:MSCA (480) 275-8931
BETH PROFFITT
ACCUTEST TEMPE SERVICE CENTER
1741 W. UNIVERSITY DR.
SUITE 149
TEMPE, AZ 85281
UNITED STATES US

SHIP DATE: 02AUG17
ACTWGT: 30.00 LB
CAD: 104695527/INET3920
DIMS: 24x18x16 IN
BILL RECIPIENT

TO SAMPLE RECEIVING
ACCUTEST LABORATORIES
10165 HARWIN DR.
SUITE 150
HOUSTON TX 77071
(713) 271-4700 REF: GHD
INV:
PO: DEPT:

549J167/E/04C

FedEx Express

THU - 03 AUG 10:30A
PRIORITY OVERNIGHT
DSR
77071
IAH
TX-US

TRK# 0201 7797 9970 5671

AB SGRA

ACCUTEST Date 8/4/17

SGS Initial Seal

TD7174: Chain of Custody
Page 3 of 6

SGS Accutest Sample Receipt Summary

Job Number: TD7174 **Client:** GHD **Project:** OU2

Date / Time Received: 8/3/2017 9:50:00 AM **Delivery Method:** **Airbill #'s:** 779799705671

No. Coolers: 1 **Therm ID:** IR-5; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (3.6/3.6);

Cooler Security	Y	or N		Y	or N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	or N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	Ice (Bag)	

Quality Control Preservation	Y	or N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑	☐	☐	☑	☐
2. Trip Blank listed on COC:	☑	☐	☐		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☑	☐	☐		

Sample Integrity - Documentation	Y	or N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	or N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	or N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Sample Receipt Log

Job #: TD7174 **Date / Time Received:** 8/3/2017 9:50:00 AM 9:50:00 **Initials:** BG

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD7174-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-3	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-3	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-3	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-4	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-5	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-5	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-5	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-6	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-6	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-6	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-7	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-7	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-7	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-8	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-8	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6

Sample Receipt Log

Job #: TD7174 **Date / Time Received:** 8/3/2017 9:50:00 AM 9:50:00 **Initials:** BG

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD7174-8	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-9	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-9	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-9	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-10	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-10	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-10	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-11	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6
1	TD7174-11	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	3.6	0	3.6

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD7174
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2774-MB	E0062412.D	1	08/08/17	ZQ	n/a	n/a	VE2774

The QC reported here applies to the following samples: **Method:** EPA 624

TD7174-1

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	72-122%
17060-07-0	1,2-Dichloroethane-D4	101%	68-124%
2037-26-5	Toluene-D8	100%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

Method Blank Summary

Job Number: TD7174
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX3303-MB	X01239074.D	1	08/05/17	SC	n/a	n/a	VX3303

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD7174-10, TD7174-11

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	ug/l	
67-66-3	Chloroform	ND	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	ug/l	
74-83-9	Methyl bromide	ND	0.50	ug/l	
74-87-3	Methyl chloride	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.5	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	117%	72-122%
17060-07-0	1,2-Dichloroethane-D4	111%	68-124%
2037-26-5	Toluene-D8	98%	80-119%
460-00-4	4-Bromofluorobenzene	101%	72-126%

Method Blank Summary

Job Number: TD7174
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK2069-MB	K356026.D	1	08/07/17	EM	n/a	n/a	VK2069

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD7174-2, TD7174-3, TD7174-4, TD7174-5, TD7174-6, TD7174-7, TD7174-8, TD7174-9

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	ug/l	
67-66-3	Chloroform	ND	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	ug/l	
74-83-9	Methyl bromide	ND	0.50	ug/l	
74-87-3	Methyl chloride	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.5	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	72-122%
17060-07-0	1,2-Dichloroethane-D4	95%	68-124%
2037-26-5	Toluene-D8	100%	80-119%
460-00-4	4-Bromofluorobenzene	99%	72-126%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD7174
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2774-BS	E0062409.D	1	08/08/17	ZQ	n/a	n/a	VE2774
VE2774-BSD [a]	E0062410.D	1	08/08/17	ZQ	n/a	n/a	VE2774

The QC reported here applies to the following samples: **Method:** EPA 624

TD7174-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	21.6	86	22.1	88	2	68-119/30
75-27-4	Bromodichloromethane	25	22.1	88	22.3	89	1	72-118/30
67-66-3	Chloroform	25	19.7	79	19.7	79	0	73-122/30
75-34-3	1,1-Dichloroethane	25	21.5	86	22.0	88	2	72-121/30
75-35-4	1,1-Dichloroethylene	25	20.4	82	20.6	82	1	67-140/30
107-06-2	1,2-Dichloroethane	25	21.4	86	21.3	85	0	68-121/30
156-59-2	cis-1,2-Dichloroethylene	25	22.4	90	23.0	92	3	72-117/30
156-60-5	trans-1,2-Dichloroethylene	25	21.5	86	21.7	87	1	68-124/30
74-83-9	Methyl bromide	25	19.8	79	20.5	82	3	53-138/30
74-87-3	Methyl chloride	25	18.5	74	20.1	80	8	50-145/30
71-55-6	1,1,1-Trichloroethane	25	20.6	82	21.0	84	2	72-129/30
127-18-4	Tetrachloroethylene	25	23.4	94	23.9	96	2	72-132/30
108-88-3	Toluene	25	22.1	88	22.8	91	3	73-119/30
79-01-6	Trichloroethylene	25	22.6	90	22.9	92	1	73-121/30
75-69-4	Trichlorofluoromethane	25	19.3	77	19.4	78	1	46-152/30
75-01-4	Vinyl chloride	25	18.8	75	20.1	80	7	54-126/30
1330-20-7	Xylene (total)	75	73.7	98	75.1	100	2	74-119/30
	m,p-Xylene	50	49.2	98	50.1	100	2	74-119/30
95-47-6	o-Xylene	25	24.6	98	25.0	100	2	73-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	95%	94%	72-122%
17060-07-0	1,2-Dichloroethane-D4	95%	95%	68-124%
2037-26-5	Toluene-D8	97%	97%	80-119%
460-00-4	4-Bromofluorobenzene	96%	97%	72-126%

(a) Insufficient sample available for MS/MSD. AZ:Q9

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD7174
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX3303-BS	X01239070.D	1	08/05/17	SC	n/a	n/a	VX3303
VX3303-BSD [a]	X01239071.D	1	08/05/17	SC	n/a	n/a	VX3303

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD7174-10, TD7174-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	24.5	98	22.3	89	9	68-119/30
75-27-4	Bromodichloromethane	25	23.8	95	22.1	88	7	72-118/30
67-66-3	Chloroform	25	26.2	105	24.3	97	8	73-122/30
75-34-3	1,1-Dichloroethane	25	29.3	117	26.9	108	9	72-121/30
75-35-4	1,1-Dichloroethylene	25	32.7	131	29.7	119	10	67-140/30
107-06-2	1,2-Dichloroethane	25	23.9	96	22.4	90	6	68-121/30
156-59-2	cis-1,2-Dichloroethylene	25	27.4	110	25.3	101	8	72-117/30
156-60-5	trans-1,2-Dichloroethylene	25	29.7	119	27.5	110	8	68-124/30
74-83-9	Methyl bromide	25	21.4	86	16.7	67	25	53-138/30
74-87-3	Methyl chloride	25	28.3	113	25.5	102	10	50-145/30
71-55-6	1,1,1-Trichloroethane	25	29.2	117	27.1	108	7	72-129/30
127-18-4	Tetrachloroethylene	25	25.5	102	24.1	96	6	72-132/30
108-88-3	Toluene	25	23.7	95	22.5	90	5	73-119/30
79-01-6	Trichloroethylene	25	25.4	102	23.9	96	6	73-121/30
75-69-4	Trichlorofluoromethane	25	32.0	128	28.4	114	12	46-152/30
75-01-4	Vinyl chloride	25	29.0	116	26.3	105	10	54-126/30
1330-20-7	Xylene (total)	75	73.6	98	69.0	92	6	74-119/30
	m,p-Xylene	50	49.7	99	46.7	93	6	74-119/30
95-47-6	o-Xylene	25	23.9	96	22.4	90	6	73-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	114%	114%	72-122%
17060-07-0	1,2-Dichloroethane-D4	105%	104%	68-124%
2037-26-5	Toluene-D8	98%	100%	80-119%
460-00-4	4-Bromofluorobenzene	100%	99%	72-126%

(a) AZ:Q9

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD7174
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VK2069-BS	K356023.D	1	08/07/17	EM	n/a	n/a	VK2069
VK2069-BSD [a]	K356024.D	1	08/07/17	EM	n/a	n/a	VK2069

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD7174-2, TD7174-3, TD7174-4, TD7174-5, TD7174-6, TD7174-7, TD7174-8, TD7174-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	23.8	95	23.2	93	3	68-119/30
75-27-4	Bromodichloromethane	25	24.5	98	23.8	95	3	72-118/30
67-66-3	Chloroform	25	22.7	91	21.7	87	5	73-122/30
75-34-3	1,1-Dichloroethane	25	25.6	102	24.6	98	4	72-121/30
75-35-4	1,1-Dichloroethylene	25	27.1	108	26.2	105	3	67-140/30
107-06-2	1,2-Dichloroethane	25	21.2	85	20.9	84	1	68-121/30
156-59-2	cis-1,2-Dichloroethylene	25	25.5	102	24.4	98	4	72-117/30
156-60-5	trans-1,2-Dichloroethylene	25	25.7	103	24.6	98	4	68-124/30
74-83-9	Methyl bromide	25	26.9	108	25.9	104	4	53-138/30
74-87-3	Methyl chloride	25	28.6	114	27.2	109	5	50-145/30
71-55-6	1,1,1-Trichloroethane	25	26.2	105	24.8	99	5	72-129/30
127-18-4	Tetrachloroethylene	25	26.8	107	26.2	105	2	72-132/30
108-88-3	Toluene	25	23.9	96	23.2	93	3	73-119/30
79-01-6	Trichloroethylene	25	24.7	99	24.3	97	2	73-121/30
75-69-4	Trichlorofluoromethane	25	30.2	121	28.7	115	5	46-152/30
75-01-4	Vinyl chloride	25	30.0	120	28.4	114	5	54-126/30
1330-20-7	Xylene (total)	75	73.0	97	71.1	95	3	74-119/30
	m,p-Xylene	50	48.8	98	47.6	95	2	74-119/30
95-47-6	o-Xylene	25	24.2	97	23.5	94	3	73-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	98%	97%	72-122%
17060-07-0	1,2-Dichloroethane-D4	92%	93%	68-124%
2037-26-5	Toluene-D8	99%	100%	80-119%
460-00-4	4-Bromofluorobenzene	100%	99%	72-126%

(a) AZ:Q9

* = Outside of Control Limits.

Field Sample Key

52nd Street Superfund Site, OU2 Area
Phoenix, Arizona
September 5, 2017

Sample ID	Location	Sample Date (mm/dd/yy)	Sample Type	Sample Matrix	Hold (Y/N/P)	VOCs (8260B)	Metals	General Chemistry	Boron (200.7)	Temperature (Deg. F)	Conductivity (µs/cm)	pH (s.u.)
PS-090517-MM-01	Combined Influent	09/05/17	--	Treatment System	--	X	--	X	--	78	2064	7.16
PS-090517-MM-02	GAC Vessel 2A	09/05/17	--	Treatment System	--	X	--	--	--	78.3	2051	7.11
PS-090517-MM-03	GAC Vessel 5A	09/05/17	--	Treatment System	--	X	--	--	--	78.5	2009	6.58
PS-090517-MM-04	GAC Vessel 6A	09/05/17	--	Treatment System	--	X	--	--	--	78.3	2057	7.07
PS-090517-MM-05	GAC Vessel 7A	09/05/17	--	Treatment System	--	X	--	--	--	78.4	2052	7.14
PS-090517-MM-06	Facility Effluent	09/05/17	--	Treatment System	--	X	--	--	--	79.6	2074	6.97
PS-090517-MM-07	Facility Effluent Duplicate	09/05/17	--	Treatment System QC	--	X	--	--	--	79.6	2074	6.97
PS-090517-MM-08	EWS	09/05/17	--	Treatment System	--	X	--	--	--	80.7	1717	7.12
PS-090517-MM-09	EWM	09/05/17	--	Treatment System	--	X	--	--	--	78.5	2083	7.13
PS-090517-MM-10	EWN	09/05/17	--	Treatment System	--	X	--	--	--	79.1	2216	7.12
PS-090517-MM-11	SRP Discharge	09/05/17	--	Treatment System	--	X	--	--	--	79.9	2074	7.09
PS-090517-MM-12	SRP Downstream	09/05/17	--	Treatment System	--	X	--	--	--	82.7	1391	8.2
PS-090517-MM-13	Field Blank	09/05/17	--	Treatment System QC	--	X	--	--	--	--	--	--
PS-090517-MM-14	Trip Blank	09/05/17	--	Treatment System QC	--	X	--	--	--	--	--	--
PS-090517-MM-15	SRP Discharge	09/05/17	--	Treatment System	--	--	X	X	X	79.9	2074	7.09
PS-090517-MM-16	SRP Upstream - Boron	09/05/17	--	Treatment System	--	--	--	--	X	82.9	1337	8.38
PS-090517-MM-17	SRP Downstream - Boron	09/05/17	--	Treatment System	--	--	--	--	X	83.2	1384	8.15

Notes:

Deg. F - degrees Fahrenheit
µs/cm - microsiemens per centimeter
s.u. - standard unit
GAC - Granular Activated Carbon
Treatment System - Calibrated Water Quality Meter (CRA control #7781) Prior to Use
QC - quality control
SRP - Salt River Project
UV Out of Service

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e-Hardcopy 2.0
Automated Report

Technical Report for

GHD Services Inc.

52nd Street Superfund Site - OU2 Area, Phoenix, AZ

013932

SGS Accutest Job Number: TD8565

Sampling Date: 09/05/17

Report to:

GHD Services Inc.
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Total number of pages in report: 64

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Anita Patel 713-271-4700

Certifications: TX (T104704220-17-27) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2017-002) VA (8999)

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SGS Accutest

Sample Summary

GHD Services Inc.

Job No: TD8565

52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Project No: 013932

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD8565-1	09/05/17	10:20		09/06/17	AQ	Ground Water	PS-090517-MM-01
TD8565-2	09/05/17	10:30		09/06/17	AQ	Ground Water	PS-090517-MM-02
TD8565-3	09/05/17	10:35		09/06/17	AQ	Ground Water	PS-090517-MM-03
TD8565-4	09/05/17	10:40		09/06/17	AQ	Ground Water	PS-090517-MM-04
TD8565-5	09/05/17	10:45		09/06/17	AQ	Ground Water	PS-090517-MM-05
TD8565-6	09/05/17	10:50		09/06/17	AQ	Ground Water	PS-090517-MM-06
TD8565-7	09/05/17	10:53		09/06/17	AQ	Ground Water	PS-090517-MM-07
TD8565-8	09/05/17	11:00		09/06/17	AQ	Ground Water	PS-090517-MM-08
TD8565-9	09/05/17	11:30		09/06/17	AQ	Ground Water	PS-090517-MM-09
TD8565-10	09/05/17	11:45		09/06/17	AQ	Ground Water	PS-090517-MM-10
TD8565-11	09/05/17	12:15		09/06/17	AQ	Ground Water	PS-090517-MM-11
TD8565-12	09/05/17	12:30		09/06/17	AQ	Ground Water	PS-090517-MM-12
TD8565-13	09/05/17	13:00		09/06/17	AQ	Ground Water	PS-090517-MM-13

SGS Accutest

Sample Summary
(continued)

GHD Services Inc.

Job No: TD8565

52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Project No: 013932

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD8565-14	09/05/17	00:00		09/06/17	AQ	Trip Blank Water	TRIP BLANK-14
TD8565-15	09/05/17	12:18		09/06/17	AQ	Ground Water	PS-090517-MM-15
TD8565-16	09/05/17	12:05		09/06/17	AQ	Ground Water	PS-090517-MM-16
TD8565-17	09/05/17	12:40		09/06/17	AQ	Ground Water	PS-090517-MM-17

2

Summary of Hits

Job Number: TD8565
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 09/05/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD8565-1	**PS-090517-MM-01**					
Chloroform		1.9	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		5.5	1.0		ug/l	SW846 8260C
Tetrachloroethylene		2.0	1.0		ug/l	SW846 8260C
Trichloroethylene		29.5	0.50		ug/l	SW846 8260C
Calcium [a]		92600	100		ug/l	EPA 200.7
Magnesium [a]		34900	100		ug/l	EPA 200.7
Alkalinity, Bicarbonate		248	5.0		mg/l	SM 4500 CO2 D
Alkalinity, Total as CaCO3		248	5.0		mg/l	SM 2320B-2011
Hardness, Total [b]		375	0.66		mg/l	SM2340 B-11
Solids, Total Dissolved		1270	10		mg/l	SM 2540C-2011
TD8565-2	**PS-090517-MM-02**					
Chloroform		3.4	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		7.7	1.0		ug/l	SW846 8260C
Trichloroethylene		0.63	0.50		ug/l	SW846 8260C
TD8565-3	**PS-090517-MM-03**					
Chloroform		3.8	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		5.1	1.0		ug/l	SW846 8260C
TD8565-4	**PS-090517-MM-04**					
Chloroform		2.5	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.6	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		9.9	1.0		ug/l	SW846 8260C
TD8565-5	**PS-090517-MM-05**					
Chloroform		3.4	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		5.8	1.0		ug/l	SW846 8260C

TD8565-6 **PS-090517-MM-06**

No hits reported in this sample.

TD8565-7 **PS-090517-MM-07**

No hits reported in this sample.

Summary of Hits

Job Number: TD8565
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 09/05/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD8565-8	**PS-090517-MM-08**					
Chloroform		3.6	1.0		ug/l	SW846 8260C
1,1-Dichloroethane		1.5	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		3.3	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		9.8	1.0		ug/l	SW846 8260C
Tetrachloroethylene		4.3	1.0		ug/l	SW846 8260C
Trichloroethylene		45.4	0.50		ug/l	SW846 8260C
TD8565-9	**PS-090517-MM-09**					
Chloroform		1.9	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.3	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		7.2	1.0		ug/l	SW846 8260C
Tetrachloroethylene		1.8	1.0		ug/l	SW846 8260C
Trichloroethylene		38.7	0.50		ug/l	SW846 8260C
TD8565-10	**PS-090517-MM-10**					
Chloroform		1.1	1.0		ug/l	SW846 8260C
Tetrachloroethylene		1.1	1.0		ug/l	SW846 8260C
Trichloroethylene		7.7	0.50		ug/l	SW846 8260C
TD8565-11	**PS-090517-MM-11**					
No hits reported in this sample.						
TD8565-12	**PS-090517-MM-12**					
No hits reported in this sample.						
TD8565-13	**PS-090517-MM-13**					
No hits reported in this sample.						
TD8565-14	**TRIP BLANK-14**					
No hits reported in this sample.						
TD8565-15	**PS-090517-MM-15**					
Barium [c]		51.1	10		ug/l	EPA 200.8
Boron [a]		1990	100		ug/l	EPA 200.7
Calcium [a]		97700	100		ug/l	EPA 200.7
Magnesium [a]		36400	100		ug/l	EPA 200.7

2

Summary of Hits

Job Number: TD8565
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 09/05/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Potassium [a]		6450	500		ug/l	EPA 200.7
Sodium [a]		279000	500		ug/l	EPA 200.7
Alkalinity, Bicarbonate		215	5.0		mg/l	SM 4500 CO2 D
Alkalinity, Total as CaCO3		215	5.0		mg/l	SM 2320B-2011
Chloride		319	25		mg/l	EPA 300
Fluoride		0.61	0.50		mg/l	EPA 300
Hardness, Total [b]		394	0.66		mg/l	SM2340 B-11
Nitrogen, Nitrate		6.4	0.50		mg/l	EPA 300
Phosphate, Ortho		0.081	0.020		mg/l	SM 4500PE-2011
Solids, Total Dissolved		1270	10		mg/l	SM 2540C-2011
Sulfate		266	30		mg/l	EPA 300
TD8565-16	**PS-090517-MM-16**					
Boron [a]		119	100		ug/l	EPA 200.7
TD8565-17	**PS-090517-MM-17**					
Boron [a]		217	100		ug/l	EPA 200.7

(a) Analysis performed at SGS Accutest, Lafayette, LA. Cert# AZ0805
(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)
(c) AZ:D1 Analysis performed at SGS Accutest, Lafayette, LA. Cert# AZ0805

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PS-090517-MM-01		
Lab Sample ID:	TD8565-1	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239714.D	1	09/07/17 23:08	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	1.9	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5.5	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	2.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	29.5	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	97%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-01		
Lab Sample ID:	TD8565-1	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
		Percent Solids:	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium [a]	92600	100	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [1]	EPA 200.7 [2]
Magnesium [a]	34900	100	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [1]	EPA 200.7 [2]

(1) Instrument QC Batch: L:MA9061
(2) Prep QC Batch: L:MP9078

(a) Analysis performed at SGS Accutest, Lafayette, LA. Cert# AZ0805

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PS-090517-MM-01		
Lab Sample ID:	TD8565-1	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
		Percent Solids:	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	248	5.0	mg/l	1	09/06/17 14:39	PA	SM 4500 CO2 D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	09/06/17 14:39	PA	SM18 2320B
Alkalinity, Total as CaCO3	248	5.0	mg/l	1	09/06/17 14:39	PA	SM 2320B-2011
Hardness, Total [a]	375	0.66	mg/l	1	09/08/17 22:39	ALA	SM2340 B-11
Solids, Total Dissolved	1270	10	mg/l	1	09/06/17	BG	SM 2540C-2011

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PS-090517-MM-02		
Lab Sample ID:	TD8565-2	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239715.D	1	09/07/17 23:35	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.4	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	7.7	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	0.63	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-03		
Lab Sample ID:	TD8565-3	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239716.D	1	09/08/17 00:01	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.8	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5.1	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-04		
Lab Sample ID:	TD8565-4	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239717.D	1	09/08/17 00:28	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.5	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.6	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	9.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-05		
Lab Sample ID:	TD8565-5	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239718.D	1	09/08/17 00:54	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.4	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5.8	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		72-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-06		
Lab Sample ID:	TD8565-6	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239719.D	1	09/08/17 01:21	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-07		
Lab Sample ID:	TD8565-7	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239720.D	1	09/08/17 01:47	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		72-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-08		
Lab Sample ID:	TD8565-8	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239721.D	1	09/08/17 02:14	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.6	1.0	ug/l	
75-34-3	1,1-Dichloroethane	1.5	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	3.3	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	9.8	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	4.3	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	45.4	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-09		
Lab Sample ID:	TD8565-9	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239722.D	1	09/08/17 02:40	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	1.9	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.3	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	7.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	1.8	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	38.7	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-10		
Lab Sample ID:	TD8565-10	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239723.D	1	09/08/17 03:07	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	1.1	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	1.1	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	7.7	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		72-122%
17060-07-0	1,2-Dichloroethane-D4	97%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-11		
Lab Sample ID:	TD8565-11	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239724.D	1	09/08/17 03:33	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-12		
Lab Sample ID:	TD8565-12	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239725.D	1	09/08/17 04:00	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-13		
Lab Sample ID:	TD8565-13	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239726.D	1	09/08/17 04:26	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK-14		
Lab Sample ID:	TD8565-14	**Date Sampled:**	09/05/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/06/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01239713.D	1	09/07/17 22:42	EM	n/a	n/a	VX3332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-090517-MM-15		
Lab Sample ID:	TD8565-15	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
		Percent Solids:	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	< 8.0	8.0	ug/l	2	09/08/17	09/08/17	ALA	EPA 200.8 [1]	EPA 200.8 [5]
Barium [a]	51.1	10	ug/l	2	09/08/17	09/08/17	ALA	EPA 200.8 [1]	EPA 200.8 [5]
Boron [b]	1990	100	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [2]	EPA 200.7 [4]
Cadmium [a]	< 4.0	4.0	ug/l	2	09/08/17	09/08/17	ALA	EPA 200.8 [1]	EPA 200.8 [5]
Calcium [b]	97700	100	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [2]	EPA 200.7 [4]
Copper [a]	< 4.0	4.0	ug/l	2	09/08/17	09/08/17	ALA	EPA 200.8 [1]	EPA 200.8 [5]
Iron [a]	< 200	200	ug/l	2	09/08/17	09/08/17	ALA	EPA 200.8 [1]	EPA 200.8 [5]
Lead [a]	< 2.0	2.0	ug/l	2	09/08/17	09/08/17	ALA	EPA 200.8 [1]	EPA 200.8 [5]
Magnesium [b]	36400	100	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [2]	EPA 200.7 [4]
Mercury [b]	< 0.20	0.20	ug/l	1	09/08/17	09/08/17	ALA	EPA 245.1 [3]	EPA 245.1 [6]
Potassium [b]	6450	500	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [2]	EPA 200.7 [4]
Selenium [a]	< 10	10	ug/l	2	09/08/17	09/08/17	ALA	EPA 200.8 [1]	EPA 200.8 [5]
Sodium [b]	279000	500	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [2]	EPA 200.7 [4]
Zinc [a]	< 12	12	ug/l	2	09/08/17	09/08/17	ALA	EPA 200.8 [1]	EPA 200.8 [5]

(1) Instrument QC Batch: L:MA9054
(2) Instrument QC Batch: L:MA9061
(3) Instrument QC Batch: L:MA9063
(4) Prep QC Batch: L:MP9078
(5) Prep QC Batch: L:MP9082
(6) Prep QC Batch: L:MP9086

(a) AZ:D1 Analysis performed at SGS Accutest, Lafayette, LA. Cert# AZ0805
(b) Analysis performed at SGS Accutest, Lafayette, LA. Cert# AZ0805

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PS-090517-MM-15		
Lab Sample ID:	TD8565-15	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
		Percent Solids:	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	215	5.0	mg/l	1	09/06/17 14:39	PA	SM 4500 CO2 D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	09/06/17 14:39	PA	SM18 2320B
Alkalinity, Total as CaCO3	215	5.0	mg/l	1	09/06/17 14:39	PA	SM 2320B-2011
Chloride	319	25	mg/l	50	09/06/17 14:07	SM	EPA 300
Fluoride	0.61	0.50	mg/l	1	09/06/17 13:20	SM	EPA 300
Hardness, Total [a]	394	0.66	mg/l	1	09/08/17 22:44	ALA	SM2340 B-11
Nitrogen, Nitrate	6.4	0.50	mg/l	1	09/06/17 13:20	SM	EPA 300
Nitrogen, Nitrite	< 0.50	0.50	mg/l	1	09/06/17 13:20	SM	EPA 300
Phosphate, Ortho	0.081	0.020	mg/l	1	09/06/17 16:40	BG	SM 4500PE-2011
Solids, Total Dissolved	1270	10	mg/l	1	09/06/17	BG	SM 2540C-2011
Sulfate	266	30	mg/l	50	09/06/17 14:07	SM	EPA 300

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PS-090517-MM-16		
Lab Sample ID:	TD8565-16	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
		Percent Solids:	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Boron [a]	119	100	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [1]	EPA 200.7 [2]

(1) Instrument QC Batch: L:MA9061
(2) Prep QC Batch: L:MP9078

(a) Analysis performed at SGS Accutest, Lafayette, LA. Cert# AZ0805

RL = Reporting Limit

Report of Analysis

Client Sample ID:	PS-090517-MM-17		
Lab Sample ID:	TD8565-17	**Date Sampled:**	09/05/17
Matrix:	AQ - Ground Water	**Date Received:**	09/06/17
		Percent Solids:	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Boron [a]	217	100	ug/l	1	09/08/17	09/08/17	ALA	EPA 200.7 [1]	EPA 200.7 [2]

(1) Instrument QC Batch: L:MA9061
(2) Prep QC Batch: L:MP9078

(a) Analysis performed at SGS Accutest, Lafayette, LA. Cert# AZ0805

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Arizona Qualifiers
- Chain of Custody

Arizona Qualifiers

Job Number: TD8565
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

The following Arizona qualifiers have been applied to data and/or QC in this report.

Qual	Description
D1	Sample required dilution due to matrix.
Q9	Insufficient sample received to meet method QC requirements.

SGS PHOENIX ACCUTEST

CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking #: 7701 8801 8064
Bottle Order Control #:
SGS Accutest Quote #:
SGS Accutest Job #: TD8565

Client / Reporting Information

Company Name: GHD
Street Address: 4747 N 22nd St. #200
City: Phoenix State: AZ Zip: 85016
Project Contact: M. Paschke E-mail:
Phone #: 602-216-7200 Fax #:
Sampler(s) Name(s): Mike McNeil Phone #: 602 708-6045

Project Information

Project Name: OU2
Street: 12 N 20th St.
City: Phoenix State: AZ
Project #: 013932-131
Client Purchase Order #:
Project Manager: Manfred Paschke

Billing Information (if different from Report to)

Company Name:
Street Address:
City State Zip:
Attention:

Requested Analyses

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAc/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260B	ALK as CaCO3	TDS	HARDNESS	Dissolved CaCO3
1	PS-090517-MM-01	9/5/17	1020	MMC	GW	6	X			X									✓	✓	✓	✓	✓
2	02		1030			3	X												✓				
3	03		1035				X												✓				
4	04		1040				X												✓				
5	05		1045				X												✓				
6	06		1050				X												✓				
7	07		1053				X												✓				
8	08		1100				X												✓				
9	09		1130				X												✓				
10	10		1145				X												✓				
11	11		1215				X												✓				
12	12		1230				X												✓				

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

LAB USE ONLY

TAGGED BY:

VERIFIED BY:

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	Mike McNeil 9/5/17	1530	1	9/5/17 1530	2 Carley Young	9/5/17 1620	2 FedEx	
3	FedEx	10:10 9/6/17	3		4		4	
5			5					

Custody Seal #: [x] Intact [ ] Not intact
Preserved where applicable: [x]
On Ice: [x]
Cooler Temp. 2.9

SGS PHOENIX ACCUTEST

CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # 7701 8801 8064
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # TD8565

Client / Reporting Information

Company Name: GHD
Street Address: 4747 N 22nd ST. #200
City: Phoenix State: AZ Zip: 85016
Project Contact: M. Plaschke E-mail:
Phone #: 602-216-7200 Fax #:
Sampler(s) Name(s): Mike McNeil Phone #:

Project Information

Project Name: OU2
Street: 12 N 20th ST.
City: Phoenix State: AZ
Project #: 013932-131
Client Purchase Order #:
Project Manager: Manfred Plaschke

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analyses

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260B	BORON	Metals Total Diss EPA 200.7/200.8	Gen Chem EPA 300.0	2340B/2340C 2320B	Cyanide 218.7 No, please dispose							LAB USE ONLY
13	PS-090517-MM-13	9/5/17	1300	MMc	GW	3	✓												X												
14	14		TRIP BLANK			2	✓												✓												
15	15		1218			3				✓	✓	✓									X	X	X	X							
16	16		1205			1				✓										X											
17	17		1240			1				✓										X											

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

Turnaround Time (Business days)

- ☑ Standard
- ☐ 5 Day *RUSH*
- ☐ 4 Day *RUSH*
- ☐ 3 Day *RUSH*
- ☐ 2 Day *RUSH*
- ☐ 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ FULT1 (Level 3+4)
- ☐ REDT1 (Level 3+4)
- ☐ Commercial "C"
- ☐ TRRP
- ☐ EDD Format
- ☐ Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Form: SM021-0

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1 Mike McNeil 9/5/17	1530	1 [signature]	9/5/17 1530	2 [signature]	9/5/17 1620	2 Fed Ex	
Relinquished by Sampler: 3 Fedex	Date Time:	Received By: 3 [signature] 10:10 9/6/17	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:
Relinquished by: 5	Date Time:	Received By: 5	Date Time:	Custody Seal # ☐ Intact ☐ Not intact	Preserved where applicable ☑	On Ice ☑	Cooler Temp. 2.9

4.2 4

SGS ACCUTEST

COOLER TEMP FORM TC# TD8565

Delivered by (circle one): FedEx/UPS ALGC Driver Client

Date: 9-6-17

Client: GHD

Cooler Number:

Thermometer ID: IR-9 CF, °C 0.0 Corrected Temp, °C 2.9

ORIGIN ID:MSCA (480) 275-8931
ASHLEY LOCUM
ACCUTEST TEMPE SERVICE CENTER
1741 W. UNIVERSITY DR.
SUITE 149
TEMPE, AZ 85281
UNITED STATES US

SHIP DATE: 05SEP17
ACTWGT: 43.00 LB
CAD: 104695527/INET3920
DIMS: 24x20x18 IN
BILL RECIPIENT

TO SAMPLE RECEIVING
ACCUTEST LABORATORIES
10165 HARWIN DR.
SUITE 150
HOUSTON TX 77071
(713) 271-4700 REF: GHD
INV. DEPT.
PO

FedEx Express

WED - 06 SEP 10:30A
PRIORITY OVERNIGHT
DSR
77071
IAH
TX-US

TRK# 0201 7701 8801 8064

AB SGRA

-1 (2) 250 ml
(1) 250 SU
(3) VOA

2/14
(3) VOA

-15 (2) TB

-16 (1) 250 H
(1) 250 N
(1) 250

Initial Date 9-5

ACCUTEST

SGS

Custody Se

1/24/2016

TD8565: Chain of Custody
Page 3 of 7

SGS Accutest Sample Receipt Summary

Job Number: TD8565 **Client:** GHD **Project:** OU2

Date / Time Received: 9/6/2017 10:10:00 AM **Delivery Method:** **Airbill #'s:** 770188018064

No. Coolers: 1 **Therm ID:** IR9; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (2.9/2.9);

Cooler Security	Y	or N		Y	or N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	or N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	Ice (Bag)	

Quality Control Preservation	Y	or N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑	☐	☐	☑	☐
2. Trip Blank listed on COC:	☑	☐	☐		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☑	☐	☐		

Sample Integrity - Documentation	Y	or N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	or N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	or N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Sample Receipt Log

Job #: TD8565 **Date / Time Received:** 9/6/2017 10:10:00 AM 10:10: **Initials:** DS

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD8565-1	250ml	1	SUB	HNO3	pH < 2	IR9	2.9	0	2.9
1	TD8565-1	250ml	2	3J	N/P	Note #2 - Preservative check not applicable.	IR9	2.9	0	2.9
1	TD8565-1	250ml	3	3J	N/P	Note #2 - Preservative check not applicable.	IR9	2.9	0	2.9
1	TD8565-1	40ml	4	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-1	40ml	5	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-1	40ml	6	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-3	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-3	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-3	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-4	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-5	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-5	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-5	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-6	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-6	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-6	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-7	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-7	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9

Sample Receipt Log

Job #: TD8565 **Date / Time Received:** 9/6/2017 10:10:00 AM 10:10: **Initials:** DS

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD8565-7	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-8	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-8	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-8	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-9	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-9	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-9	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-10	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-10	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-10	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-11	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-11	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-11	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-12	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-12	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-12	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-13	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-13	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-13	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-14	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-14	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	2.9	0	2.9
1	TD8565-15	250ml	1	3J	N/P	Note #2 - Preservative check not applicable.	IR9	2.9	0	2.9
1	TD8565-15	250ml	2	1K	H2SO4	pH < 2	IR9	2.9	0	2.9

Sample Receipt Log

Job #: TD8565 **Date / Time Received:** 9/6/2017 10:10:00 AM 10:10: **Initials:** DS

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD8565-15	250ml	3	SUB	HNO3	pH < 2	IR9	2.9	0	2.9
1	TD8565-16	250ml	1	SUB	HNO3	pH < 2	IR9	2.9	0	2.9
1	TD8565-17	250ml	1	SUB	HNO3	pH < 2	IR9	2.9	0	2.9

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD8565
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX3332-MB	X01239712.D	1	09/07/17	EM	n/a	n/a	VX3332

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD8565-1, TD8565-2, TD8565-3, TD8565-4, TD8565-5, TD8565-6, TD8565-7, TD8565-8, TD8565-9, TD8565-10, TD8565-11, TD8565-12, TD8565-13, TD8565-14

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	ug/l	
67-66-3	Chloroform	ND	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	ug/l	
74-83-9	Methyl bromide	ND	0.50	ug/l	
74-87-3	Methyl chloride	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.5	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	91%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	68-124%
2037-26-5	Toluene-D8	104%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD8565
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX3332-BS	X01239709.D	1	09/07/17	EM	n/a	n/a	VX3332
VX3332-BSD [a]	X01239710.D	1	09/07/17	EM	n/a	n/a	VX3332

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD8565-1, TD8565-2, TD8565-3, TD8565-4, TD8565-5, TD8565-6, TD8565-7, TD8565-8, TD8565-9, TD8565-10, TD8565-11, TD8565-12, TD8565-13, TD8565-14

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	22.5	90	24.0	96	6	68-119/30
75-27-4	Bromodichloromethane	25	23.0	92	24.8	99	8	72-118/30
67-66-3	Chloroform	25	21.2	85	22.2	89	5	73-122/30
75-34-3	1,1-Dichloroethane	25	23.1	92	24.6	98	6	72-121/30
75-35-4	1,1-Dichloroethylene	25	23.2	93	25.4	102	9	67-140/30
107-06-2	1,2-Dichloroethane	25	22.3	89	23.7	95	6	68-121/30
156-59-2	cis-1,2-Dichloroethylene	25	21.7	87	23.1	92	6	72-117/30
156-60-5	trans-1,2-Dichloroethylene	25	23.1	92	24.8	99	7	68-124/30
74-83-9	Methyl bromide	25	23.1	92	24.4	98	5	53-138/30
74-87-3	Methyl chloride	25	18.1	72	19.7	79	8	50-145/30
71-55-6	1,1,1-Trichloroethane	25	23.4	94	24.6	98	5	72-129/30
127-18-4	Tetrachloroethylene	25	24.0	96	25.5	102	6	72-132/30
108-88-3	Toluene	25	22.0	88	23.6	94	7	73-119/30
79-01-6	Trichloroethylene	25	23.2	93	24.9	100	7	73-121/30
75-69-4	Trichlorofluoromethane	25	22.6	90	24.5	98	8	46-152/30
75-01-4	Vinyl chloride	25	19.4	78	20.2	81	4	54-126/30
1330-20-7	Xylene (total)	75	69.3	92	73.4	98	6	74-119/30
	m,p-Xylene	50	46.7	93	49.4	99	6	74-119/30
95-47-6	o-Xylene	25	22.6	90	24.0	96	6	73-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	94%	94%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	99%	68-124%
2037-26-5	Toluene-D8	101%	101%	80-119%
460-00-4	4-Bromofluorobenzene	100%	100%	72-126%

(a) AZ:Q9

* = Outside of Control Limits.

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD8565
Account: CRAAZP - GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Bicarbonate	GN84320	5.0	2.0	mg/l				
Alkalinity, Carbonate	GN84321	5.0	0.0	mg/l				
Alkalinity, Total as CaCO3	GN84319	5.0	0.0	mg/l	100	93.0	93.0	90-100%
Alkalinity, Total as CaCO3	GN84319			mg/l	100	93.0	93.0	90-100%
Chloride	GP43966/GN84333	0.50	0.0	mg/l	10	9.83	98.3	90-110%
Fluoride	GP43966/GN84333	0.50	0.0	mg/l	10	9.87	98.7	90-110%
Nitrogen, Nitrate	GP43966/GN84333	0.50	0.0	mg/l	10	9.67	96.7	90-110%
Nitrogen, Nitrite	GP43966/GN84333	0.50	0.0	mg/l	10	9.99	99.9	90-110%
Phosphate, Ortho	GP43961/GN84326	0.020	0.0	mg/l	0.4	0.41	102.0	91-108%
Solids, Total Dissolved	GN84307	10	0.0	mg/l	500	496	99.2	88-110%
Sulfate	GP43966/GN84333	0.60	0.0	mg/l	10	10.1	101.0	90-110%

Associated Samples:
Batch GN84307: TD8565-1, TD8565-15
Batch GN84319: TD8565-1, TD8565-15
Batch GN84320: TD8565-1, TD8565-15
Batch GN84321: TD8565-1, TD8565-15
Batch GP43961: TD8565-15
Batch GP43966: TD8565-15
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD8565
Account: CRAAZP - GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP43966/GN84333	TD8565-15	mg/l	319	317	0.6	0-20%
Fluoride	GP43966/GN84333	TD8565-15	mg/l	0.61	0.62	1.6	0-20%
Nitrogen, Nitrate	GP43966/GN84333	TD8565-15	mg/l	6.4	6.1	4.8	0-20%
Nitrogen, Nitrite	GP43966/GN84333	TD8565-15	mg/l	0.0	0.0	0.0	0-20%
Phosphate, Ortho	GP43961/GN84326	TD8577-1	mg/l	7.6	7.7	1.5	0-20%
Solids, Total Dissolved	GN84307	TD8481-1	mg/l	2250	2240	0.4	0-5%
Sulfate	GP43966/GN84333	TD8565-15	mg/l	266	262	1.5	0-20%

Associated Samples:
Batch GN84307: TD8565-1, TD8565-15
Batch GP43961: TD8565-15
Batch GP43966: TD8565-15
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD8565
Account: CRAAZP - GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP43966/GN84333	TD8565-15	mg/l	319	500	894	115.0	80-120%
Fluoride	GP43966/GN84333	TD8565-15	mg/l	0.61	10	11.5	108.9	80-120%
Nitrogen, Nitrate	GP43966/GN84333	TD8565-15	mg/l	6.4	10	15.9	95.0	80-120%
Nitrogen, Nitrite	GP43966/GN84333	TD8565-15	mg/l	0.0	10	10.0	100.0	80-130%
Phosphate, Ortho	GP43961/GN84326	TD8577-1	mg/l	7.6	32.0	38.8	97.6	83-108%
Sulfate	GP43966/GN84333	TD8565-15	mg/l	266	500	766	100.0	80-120%

Associated Samples:
Batch GP43961: TD8565-15
Batch GP43966: TD8565-15
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(SGS Accutest Lafayette)

Includes the following where applicable:

- Chain of Custody

SGS ACCUTEST

CHAIN OF CUSTODY

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX. 713-271-4770
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Accutest Quote #: | SGS Accutest Job: TD8565

Client / Reporting Information

Company Name: SGS Accutest
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: E-mail: anita.patel@sgs.com
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	ASMS ,B ,BAMS ,CA ,CDMS ,CUMS ,FEMS ,HG ,K ,MG ,NA ,PBMS ,SEMS ,ZNMS ,	B ,	CA ,FILTERMET ,MG	CA ,MG ,	LAB USE ONLY
1	PS-090517-MM-01		9/5/17	10:20:00 AM		AQ	1			X									X	
15	PS-090517-MM-15		9/5/17	12:18:00 PM		AQ	1			X						X				
~~15F~~	~~PS-090517-MM-15~~		~~9/5/17~~	~~12:18:00 PM~~		~~AQ~~	~~1~~			~~X~~								~~X~~	(RX) 9/7/17	
16	PS-090517-MM-16		9/5/17	12:05:00 PM		AQ	1			X							X			
17	PS-090517-MM-17		9/5/17	12:40:00 PM		AQ	1			X							X			

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 9/13/2017

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other COMMB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

* UNPRESERVED BOTTLE WAS CONSUMED AT LAB. NO SAMPLE REMAINS. (RX)

3 WZ

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 S. Ames	9-7-17 1800	1 SGS-TX 9-7-17	2 SGS-TX	9-7-17	2 Dilman Alla
3 Dilman Alla	9-7-17 12:00	3 Kyle Kidd 9-8-17 7:30	4		4
Relinquished by: 5	Date Time:	Received By: 5			

Custody Seal # CS/OC — Intact / Not intact — Preserved where applicable — On Ice — Cooler Temp. 1.5 DU439

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TD8565: Chain of Custody
Page 1 of 3
SGS Accutest Lafayette

Date / Time: 9/6/2017 1:11:34 PM
CSR: ANITAP
Job #: TD8565
Client Project: 52nd Street Superfund Site - OU2 Area, Phoenix, A
Deliverable: COMMB
TAT: Due 9/13/2017

Sub Lab: Accutest Gulf Coast Louisiana
Address: 500 Ambassador Caffery Prkway
City: Scott
State: LA Zip: 70583
Contact: Sample Receiving
Phone: 800-304-5227

SGS Accutest Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
TD8565-1	PS-090517-MM-01	CA ,MG ,	3J ,SUB ,VR ,		9/5/2017	10:20:00 AM	
TD8565-15	PS-090517-MM-15	ASMS ,B ,BAMS ,CA ,CDMS ,CUMS ,FEMS ,HG ,K ,MG ,NA ,PBMS ,SEMS ,ZNMS ,	1K ,3J ,SUB ,		9/5/2017	12:18:00 PM	
TD8565-15F	PS-090517-MM-15	CA ,FILTERMET ,MN ,			9/5/2017	12:18:00 PM	
TD8565-16	PS-090517-MM-16	B ,	SUB ,		9/5/2017	12:05:00 PM	
TD8565-17	PS-090517-MM-17	B ,	SUB ,		9/5/2017	12:40:00 PM	

Comments:

Sample Management Receipt: _____ Date: _____

1= 250 ml nitric 3W2

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SGS Accutest Sample Receipt Summary

Job Number: TD8565 **Client:** SGS (TX) **Project:** SUPERFUND SITE

Date / Time Received: 9/8/2017 7:30:00 AM **Delivery Method:** Accutest Courier **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.5/1.5); DV439

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	DV439;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

7.1

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TD8565: Chain of Custody
Page 3 of 3

Metals Analysis

QC Data Summaries

(SGS Accutest Lafayette)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9078
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/08/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	14	24		
Antimony	6.0	1.4	3.3		
Arsenic	10	1.9	3.2		
Barium	10	.21	.9		
Beryllium	4.0	.05	.8		
Boron	100	.95	3.7	1.5	<100
Cadmium	5.0	.13	.6		
Calcium	100	5.1	11	-9.5	<100
Chromium	10	.29	1.2		
Cobalt	10	.15	.7		
Copper	10	.43	2.9		
Iron	100	2.8	14		
Lead	10	.9	2.6		
Magnesium	100	18	39	-3.2	<100
Manganese	10	.05	.6		
Molybdenum	10	.15	.7		
Nickel	10	.3	1.2		
Potassium	500	25	33	58.5	<500
Selenium	10	1.7	4.2		
Silver	10	.32	1		
Sodium	500	6.5	72	-39	<500
Strontium	10	.09	.6		
Thallium	5.0	1.3	2.5		
Tin	10	.76	.7		
Titanium	10	.46	1		
Vanadium	10	.33	1.6		
Zinc	20	.63	4		
Lithium	10	1.1	5.6		

Associated samples MP9078: TD8565-1, TD8565-15, TD8565-16, TD8565-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9078 Methods: EPA 200.7
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/08/17

Metal	LA36878-1 Original	MS	Spikelot ICPSPIKE1	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron	127	1030	1000	90.3	70-130
Cadmium					
Calcium	340000	361000	1000	-100.0(a	70-130
Chromium					
Cobalt					
Copper	anr				
Iron	anr				
Lead					
Magnesium	10700	12100	1000	100.0	70-130
Manganese					
Molybdenum					
Nickel	anr				
Potassium	27300	37800	10000	105.0	70-130
Selenium					
Silver					
Sodium	4220000	4430000	10000	2100.0(a	70-130
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc	anr				
Lithium					

Associated samples MP9078: TD8565-1, TD8565-15, TD8565-16, TD8565-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9078 Methods: EPA 200.7
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/08/17

Metal	LA36878-1 Original	MSD	Spikelot ICPSPIKE1%	Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron	127	1020	1000	89.3	1.0	20
Cadmium						
Calcium	340000	365000	1000	300.0(a)	1.1	20
Chromium						
Cobalt						
Copper	anr					
Iron	anr					
Lead						
Magnesium	10700	12300	1000	120.0	1.6	20
Manganese						
Molybdenum						
Nickel	anr					
Potassium	27300	39000	10000	117.0	3.1	20
Selenium						
Silver						
Sodium	4220000	4210000	10000	-100.0(a	5.1	20
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	anr					
Lithium						

Associated samples MP9078: TD8565-1, TD8565-15, TD8565-16, TD8565-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9078
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/08/17

Metal	BSP Result	Spikelot ICPSPIKE1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	927	1000	92.7	85-115
Cadmium				
Calcium	1080	1000	108.0	85-115
Chromium				
Cobalt				
Copper	anr			
Iron	anr			
Lead				
Magnesium	1070	1000	107.0	85-115
Manganese				
Molybdenum				
Nickel	anr			
Potassium	10800	10000	108.0	85-115
Selenium				
Silver				
Sodium	10700	10000	107.0	85-115
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	anr			
Lithium				

Associated samples MP9078: TD8565-1, TD8565-15, TD8565-16, TD8565-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9078
Matrix Type: AQUEOUS

Methods: EPA 200.7
Units: ug/l

Prep Date: 09/08/17

Metal	LA36878-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron	166	129	1.4	0-10
Cadmium				
Calcium	340000	311000	14.2*(a)	0-10
Chromium				
Cobalt				
Copper	anr			
Iron	anr			
Lead				
Magnesium	10700	9410	15.4*(a)	0-10
Manganese				
Molybdenum				
Nickel	anr			
Potassium	27300	22000	19.6*(a)	0-10
Selenium				
Silver				
Sodium	4220000	4400000	4.3	0-10
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	anr			
Lithium				

Associated samples MP9078: TD8565-1, TD8565-15, TD8565-16, TD8565-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9082
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 09/08/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	2.6	13		
Antimony	5.0	.0059	.81		
Arsenic	4.0	.011	.29	-0.091	<4.0
Barium	5.0	.035	.32	-0.020	<5.0
Beryllium	2.0	.0037	.13		
Boron	20	4	4.9		
Cadmium	2.0	.0042	.33	-0.022	<2.0
Calcium	200	1.8	36		
Chromium	4.0	.013	.2		
Cobalt	2.0	.0022	.13		
Copper	2.0	.012	.49	-0.36	<2.0
Iron	100	.71	19	-52	<100
Lithium	2.0	.081	.95		
Lead	1.0	.0035	.31	-0.072	<1.0
Magnesium	100	.42	17		
Manganese	2.0	.01	.17		
Molybdenum	2.0	.092	.44		
Nickel	2.0	.28	.19		
Potassium	100	1.1	15		
Selenium	5.0	.13	1.9	-0.051	<5.0
Silver	1.0	.002	.46		
Sodium	100	2.3	32		
Strontium	2.0	.0054	.2		
Thallium	2.0	.015	.39		
Tin	4.0	.011	.63		
Titanium	2.0	.022	.8		
Uranium	1.0	.0045	.58		
Vanadium	10	.0077	.28		
Zinc	6.0	.067	5.1	-0.41	<6.0

Associated samples MP9082: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9082
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 09/08/17

Metal	TD8590-1 Original	MS	Spikelot MPICPMS5	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	4.4	104	100	99.6	70-130
Barium	53.3	158	100	104.7	70-130
Beryllium	anr				
Boron					
Cadmium	0.068	97.2	100	97.1	70-130
Calcium					
Chromium	anr				
Cobalt					
Copper	2.1	96.1	100	94.0	70-130
Iron	176	5220	5000	100.9	70-130
Lithium					
Lead	1.3	101	100	99.7	70-130
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Potassium					
Selenium	0.42	510	500	101.9	70-130
Silver	anr				
Sodium					
Strontium					
Thallium	anr				
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	15.2	106	100	90.8	70-130

Associated samples MP9082: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9082 Methods: EPA 200.8
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/08/17

Metal	TD8590-1 Original	MSD	Spikelot MPICPMS5	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	4.4	102	100	97.6	1.9	20
Barium	53.3	156	100	102.7	1.3	20
Beryllium	anr					
Boron						
Cadmium	0.068	94.5	100	94.4	2.8	20
Calcium						
Chromium	anr					
Cobalt						
Copper	2.1	94.6	100	92.5	1.6	20
Iron	176	5130	5000	99.1	1.7	20
Lithium						
Lead	1.3	99.1	100	97.8	1.9	20
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Potassium						
Selenium	0.42	500	500	99.9	2.0	20
Silver	anr					
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	15.2	105	100	89.8	0.9	20

Associated samples MP9082: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9082
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 09/08/17

Metal	BSP Result	Spikelot MPICPMS5	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	103	100	103.0	85-115
Barium	103	100	103.0	85-115
Beryllium	anr			
Boron				
Cadmium	99.4	100	99.4	85-115
Calcium				
Chromium	anr			
Cobalt				
Copper	100	100	100.0	85-115
Iron	5170	5000	103.4	85-115
Lithium				
Lead	104	100	104.0	85-115
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	521	500	104.2	85-115
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	98.8	100	98.8	85-115

Associated samples MP9082: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9082
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 09/08/17

Metal	TD8590-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	4.37	3.81	12.9*(a)	0-10
Barium	53.3	53.9	1.2	0-10
Beryllium	anr			
Boron				
Cadmium	0.0679	0.00	100.0(b)	0-10
Calcium				
Chromium	anr			
Cobalt				
Copper	2.11	1.24	41.0*(a)	0-10
Iron	176	0.00	100.0*(a	0-10
Lithium				
Lead	1.34	0.888	33.9*(a)	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	0.424	0.00	100.0(b)	0-10
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	15.2	11.9	21.8*(a)	0-10

Associated samples MP9082: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9086 Methods: EPA 245.1
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/08/17

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.032	.066	-0.037	<0.20

Associated samples MP9086: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9086 Methods: EPA 245.1
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/08/17

Metal	LA36872-1 Original	MS	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	0.0	5.0	5	100.0	70-130

Associated samples MP9086: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9086 Methods: EPA 245.1
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/08/17

Metal	LA36872-1 Original	MSD	Spikelot HGSPIKE1	% Rec	MSD RPD	QC Limit
Mercury	0.0	4.9	5	98.0	2.0	20

Associated samples MP9086: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9086
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 09/08/17

Metal	BSP Result	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	4.9	5	98.0	85-115

Associated samples MP9086: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD8565
Account: ALGC - SGS Accutest Gulf Coast
Project: CRAAZP: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

QC Batch ID: MP9086
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 09/08/17

Metal	LA36872-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-

Associated samples MP9086: TD8565-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.4

8

Field Sample Key

52nd Street Superfund Site, OU2 Area
Phoenix, Arizona
October 3, 2017

Sample ID	Location	Sample Date (mm/dd/yy)	Sample Type	Sample Matrix	Hold (Y/N/P)	VOCs (8260B)	VOCs (624)	Boron (200.7)	Temperature (Deg. F)	Conductivity (µs/cm)	pH (s.u.)
PS-100316-MM-01	Combined Influent	10/03/17	--	Treatment System	--	X	--	--	77.7	1998	7.10
PS-100316-MM-02	GAC Vessel 2A	10/03/17	--	Treatment System	--	X	--	--	77.7	2010	7.04
PS-100316-MM-03	GAC Vessel 5A	10/03/17	--	Treatment System	--	X	--	--	77.4	2003	6.96
PS-100316-MM-04	GAC Vessel 6A	10/03/17	--	Treatment System	--	X	--	--	77.6	2008	7.06
PS-100316-MM-05	GAC Vessel 7A	10/03/17	--	Treatment System	--	X	--	--	77.4	2005	7.00
PS-100316-MM-06	Facility Effluent	10/03/17	--	Treatment System	--	X	--	--	77.3	2010	6.92
PS-100316-MM-07	Facility Effluent Duplicate	10/03/17	--	Treatment System QC	--	X	--	--	77.3	2010	6.92
PS-100316-MM-08	SRP Downstream	10/03/17	--	Treatment System	--	X	--	--	73.8	1440	7.77
PS-100316-MM-09	Field Blank	10/03/17	--	Treatment System QC	--	X	--	--	--	--	--
PS-100316-MM-10	Trip Blank	10/03/17	--	Treatment System QC	--	X	--	--	--	--	--

Notes:

Deg. F - degrees Fahrenheit
µs/cm - microsiemens per centimeter
s.u. - standard unit
Treatment System - Calibrated Water Quality Meter (CRA control #7783) Prior to Use
GAC - Granular Activated Carbon
QC - quality control
SRP - Salt River Project
UV Out of Service
GAC Pairs - 2,3,7,9 - Out of service during sampling

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Automated Report

Technical Report for

GHD Services Inc.

52nd Street Superfund Site - OU2 Area, Phoenix, AZ

013932-131

SGS Accutest Job Number: TD10120

Sampling Date: 10/03/17

Report to:

GHD Services Inc.
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Total number of pages in report: 27

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Anita Patel 713-271-4700

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SGS Accutest

Sample Summary

GHD Services Inc.

Job No: TD10120

52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Project No: 013932-131

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD10120-1	10/03/17	08:30		10/04/17	AQ	Ground Water	PS-100317-MM-01
TD10120-2	10/03/17	08:35		10/04/17	AQ	Ground Water	PS-100317-MM-02
TD10120-3	10/03/17	08:40		10/04/17	AQ	Ground Water	PS-100317-MM-03
TD10120-4	10/03/17	08:45		10/04/17	AQ	Ground Water	PS-100317-MM-04
TD10120-5	10/03/17	08:50		10/04/17	AQ	Ground Water	PS-100317-MM-05
TD10120-6	10/03/17	09:00		10/04/17	AQ	Ground Water	PS-100317-MM-06
TD10120-7	10/03/17	09:03		10/04/17	AQ	Ground Water	PS-100317-MM-07
TD10120-8	10/03/17	09:30		10/04/17	AQ	Ground Water	PS-100317-MM-08
TD10120-9	10/03/17	11:00		10/04/17	AQ	Ground Water	PS-100317-MM-09
TD10120-10	10/03/17	00:00		10/04/17	AQ	Trip Blank Water	PS-100317-MM-10 TRIP BLANK

Summary of Hits

Job Number: TD10120
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 10/03/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD10120-1	**PS-100317-MM-01**					
Chloroform		2.1	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.2	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		6.3	1.0		ug/l	SW846 8260C
Tetrachloroethylene		1.8	1.0		ug/l	SW846 8260C
Trichloroethylene		33.0	0.50		ug/l	SW846 8260C
TD10120-2	**PS-100317-MM-02**					
Chloroform [a]		3.4	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene [a]		9.3	1.0		ug/l	SW846 8260C
TD10120-3	**PS-100317-MM-03**					
Chloroform		3.5	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		10.1	1.0		ug/l	SW846 8260C
TD10120-4	**PS-100317-MM-04**					
Chloroform		2.7	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		2.3	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		11.0	1.0		ug/l	SW846 8260C
TD10120-5	**PS-100317-MM-05**					
Chloroform		3.5	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		6.9	1.0		ug/l	SW846 8260C
TD10120-6	**PS-100317-MM-06**					
No hits reported in this sample.						
TD10120-7	**PS-100317-MM-07**					
No hits reported in this sample.						
TD10120-8	**PS-100317-MM-08**					
No hits reported in this sample.						
TD10120-9	**PS-100317-MM-09**					
No hits reported in this sample.						

Summary of Hits

Job Number: TD10120
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 10/03/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD10120-10	**PS-100317-MM-10 TRIP BLANK**					

No hits reported in this sample.

(a) AZ:Q2

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PS-100317-MM-01		
Lab Sample ID:	TD10120-1	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240867.D	1	10/05/17 17:13	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.1	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.2	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.3	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	1.8	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	33.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	110%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-02		
Lab Sample ID:	TD10120-2	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	X01240868.D	1	10/05/17 17:40	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.4	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	9.3	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [b]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [b]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-122%
17060-07-0	1,2-Dichloroethane-D4	116%		68-124%
2037-26-5	Toluene-D8	98%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

(a) AZ:Q2
(b) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-03		
Lab Sample ID:	TD10120-3	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240869.D	1	10/05/17 18:06	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.5	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	10.1	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	109%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-04		
Lab Sample ID:	TD10120-4	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240870.D	1	10/05/17 18:33	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.7	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	2.3	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	11.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-122%
17060-07-0	1,2-Dichloroethane-D4	117%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-05		
Lab Sample ID:	TD10120-5	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240871.D	1	10/05/17 18:59	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.5	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-122%
17060-07-0	1,2-Dichloroethane-D4	117%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-06		
Lab Sample ID:	TD10120-6	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240872.D	1	10/05/17 19:25	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-122%
17060-07-0	1,2-Dichloroethane-D4	117%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-07		
Lab Sample ID:	TD10120-7	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240873.D	1	10/05/17 19:52	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-122%
17060-07-0	1,2-Dichloroethane-D4	117%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-08		
Lab Sample ID:	TD10120-8	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240874.D	1	10/05/17 20:18	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	115%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	105%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-09		
Lab Sample ID:	TD10120-9	**Date Sampled:**	10/03/17
Matrix:	AQ - Ground Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240875.D	1	10/05/17 20:45	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-122%
17060-07-0	1,2-Dichloroethane-D4	117%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	105%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-100317-MM-10 TRIP BLANK		
Lab Sample ID:	TD10120-10	**Date Sampled:**	10/03/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/04/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X01240876.D	1	10/05/17 21:11	EM	n/a	n/a	VX3379
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide [a]	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane [a]	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-122%
17060-07-0	1,2-Dichloroethane-D4	119%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

(a) AZ:V1

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Arizona Qualifiers
- Chain of Custody

Arizona Qualifiers

Job Number: TD10120
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

The following Arizona qualifiers have been applied to data and/or QC in this report.

Qual	Description
Q2	Sample received with head space.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

SGS ACCUTEST

PHOENIX

CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking # 7704 1122 5996
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # TD10120

Client / Reporting Information

Company Name: GHD
Street Address: 4747 N 22nd ST. #200
City: Phoenix State: AZ Zip: 85016
Project Contact: Manfred Plaschke E-mail:
Phone #: 602-216-7200 Fax #:
Sampler(s) Name(s): Mike McNeil Phone #:

Project Information

Project Name: OU2
Street: 12N 20th ST.
City: Phoenix State: AZ
Project #: 013937-131
Client Purchase Order #:
Project Manager: Manfred Plaschke

Billing Information (if different from Report to)

Company Name:
Street Address:
City State Zip:
Attention:

Requested Analyses

8260B

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260B									LAB USE ONLY
1	PS-100317-MM-01	10/3/17	0830	MMC	GW	3	X												✓									
2	02		0835				X												✓									
3	03		0840				X												✓									
4	04		0845				X												✓									
5	05		0850				X												✓									
6	06		0900				X												✓									
7	07		0903				X												✓									
8	08		0930				X												✓									
9	09		1100				X												✓									
10	10		TRIP BLANK			2	X												✓									

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Form: SM021-0

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1 Mike McNeil 10/3/17	1317	1 Ashley Forum	10/3/17 1317	2 Ashley Forum 10/3/17	1600	2 Fed ex 10/3/17	1600
3		3	10/4/17 1020	4		4	
Relinquished by: 5	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice ✓ Cooler Temp. 1.7

4.2
4

TD10120: Chain of Custody
Page 1 of 5

SGS ACCUTEST

COOLER TEMP FORM

TC# TD10120

Delivered by (circle one): FedEx/UPS ALGC Driver Client

Date: 10/4/17

Client: (GHD)

Cooler Number: 1

Thermometer ID: JNS CF, °C 0 Corrected Temp, °C 1.7

SAMPLES CONTAINED IN COOLER

7704 1122 5996

SGS ACCUTEST

Custody Seal

Signature Ashley Fram

Date 10/3/17

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

Form: SM027-06 Rev 10/24/2016

4.2 4

TD10120: Chain of Custody

Page 2 of 5

SGS Accutest Sample Receipt Summary

Job Number: TD10120 **Client:** GHD **Project:** OU2

Date / Time Received: **Delivery Method:** **Airbill #'s:** 770411225996

No. Coolers: 1 **Therm ID:** IR9; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (1.7/1.7);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	Ice (Bag)	

Quality Control Preservation	Y	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑	☐	☐	☑	☐
2. Trip Blank listed on COC:	☑	☐	☐		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☑	☐	☐		

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Sample Receipt Log

Job #: TD10120 **Date / Time Received:** 10/4/2017 10:20:00 AM **Initials:** BG

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD10120-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-3	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-3	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-3	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-4	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-5	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-5	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-5	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-6	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-6	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-6	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-7	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-7	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-7	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-8	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-8	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7

Sample Receipt Log

Job #: TD10120 **Date / Time Received:** 10/4/2017 10:20:00 AM **Initials:** BG

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD10120-8	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-9	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-9	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-9	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-10	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7
1	TD10120-10	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	1.7	0	1.7

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD10120
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX3379-MB	X01240859.D	1	10/05/17	EM	n/a	n/a	VX3379

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD10120-1, TD10120-2, TD10120-3, TD10120-4, TD10120-5, TD10120-6, TD10120-7, TD10120-8, TD10120-9, TD10120-10

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	ug/l	
67-66-3	Chloroform	ND	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	ug/l	
74-83-9	Methyl bromide	ND	0.50	ug/l	
74-87-3	Methyl chloride	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.5	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	72-122%
17060-07-0	1,2-Dichloroethane-D4	109%	68-124%
2037-26-5	Toluene-D8	98%	80-119%
460-00-4	4-Bromofluorobenzene	102%	72-126%

Blank Spike Summary

Job Number: TD10120
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX3379-BS	X01240857.D	1	10/05/17	EM	n/a	n/a	VX3379

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD10120-1, TD10120-2, TD10120-3, TD10120-4, TD10120-5, TD10120-6, TD10120-7, TD10120-8, TD10120-9, TD10120-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	23.0	92	68-119
75-27-4	Bromodichloromethane	25	21.1	84	72-118
67-66-3	Chloroform	25	20.9	84	73-122
75-34-3	1,1-Dichloroethane	25	21.7	87	72-121
75-35-4	1,1-Dichloroethylene	25	27.7	111	67-140
107-06-2	1,2-Dichloroethane	25	25.0	100	68-121
156-59-2	cis-1,2-Dichloroethylene	25	23.9	96	72-117
156-60-5	trans-1,2-Dichloroethylene	25	28.3	113	68-124
74-83-9	Methyl bromide	25	34.2	137	53-138
74-87-3	Methyl chloride	25	24.1	96	50-145
71-55-6	1,1,1-Trichloroethane	25	21.3	85	72-129
127-18-4	Tetrachloroethylene	25	21.7	87	72-132
108-88-3	Toluene	25	21.8	87	73-119
79-01-6	Trichloroethylene	25	23.2	93	73-121
75-69-4	Trichlorofluoromethane	25	31.7	127	46-152
75-01-4	Vinyl chloride	25	25.7	103	54-126
1330-20-7	Xylene (total)	75	64.4	86	74-119
	m,p-Xylene	50	43.8	88	74-119
95-47-6	o-Xylene	25	20.6	82	73-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	72-122%
17060-07-0	1,2-Dichloroethane-D4	106%	68-124%
2037-26-5	Toluene-D8	97%	80-119%
460-00-4	4-Bromofluorobenzene	104%	72-126%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD10120
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD10118-1MS	X01240861.D	1	10/05/17	EM	n/a	n/a	VX3379
TD10118-1MSD	X01240862.D	1	10/05/17	EM	n/a	n/a	VX3379
TD10118-1	X01240860.D	1	10/05/17	EM	n/a	n/a	VX3379

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD10120-1, TD10120-2, TD10120-3, TD10120-4, TD10120-5, TD10120-6, TD10120-7, TD10120-8, TD10120-9, TD10120-10

CAS No.	Compound	TD10118-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	22.6	90	25	23.4	94	3	68-119/12
75-27-4	Bromodichloromethane	0.40		25	21.1	83	25	21.8	86	3	72-118/16
67-66-3	Chloroform	1.2		25	22.2	84	25	22.8	86	3	73-122/13
75-34-3	1,1-Dichloroethane	12.2		25	33.8	86	25	35.3	92	4	72-121/14
75-35-4	1,1-Dichloroethylene	29.3		25	53.5	97	25	58.2	116	8	67-140/18
107-06-2	1,2-Dichloroethane	ND		25	25.3	101	25	25.6	102	1	68-121/12
156-59-2	cis-1,2-Dichloroethylene	18.1		25	42.7	98	25	44.3	105	4	72-117/13
156-60-5	trans-1,2-Dichloroethylene	ND		25	21.7	87	25	22.3	89	3	68-124/15
74-83-9	Methyl bromide	ND		25	32.5	130	25	36.2	145*	11	53-138/16
74-87-3	Methyl chloride	ND		25	21.3	85	25	25.6	102	18*	50-145/17
71-55-6	1,1,1-Trichloroethane	ND		25	20.9	84	25	21.6	86	3	72-129/14
127-18-4	Tetrachloroethylene	0.74		25	22.7	88	25	23.8	92	5	72-132/14
108-88-3	Toluene	ND		25	21.7	87	25	22.9	92	5	73-119/13
79-01-6	Trichloroethylene	97.9		25	122	96	25	126	112	3	73-121/13
75-69-4	Trichlorofluoromethane	ND		25	27.8	111	25	30.8	123	10	46-152/25
75-01-4	Vinyl chloride	ND		25	22.2	89	25	26.4	106	17	54-126/17
1330-20-7	Xylene (total)	ND		75	64.2	86	75	66.5	89	4	74-119/13
	m,p-Xylene	ND		50	43.5	87	50	45.1	90	4	74-119/13
95-47-6	o-Xylene	ND		25	20.6	82	25	21.4	86	4	73-121/13

CAS No.	Surrogate Recoveries	MS	MSD	TD10118-1	Limits
1868-53-7	Dibromofluoromethane	104%	104%	100%	72-122%
17060-07-0	1,2-Dichloroethane-D4	111%	107%	109%	68-124%
2037-26-5	Toluene-D8	99%	100%	98%	80-119%
460-00-4	4-Bromofluorobenzene	100%	102%	102%	72-126%

* = Outside of Control Limits.

Field Sample Key

52nd Street Superfund Site, OU2 Area
Phoenix, Arizona
November 1, 2017

Sample ID	Location	Sample Date (mm/dd/yy)	Sample Type	Sample Matrix	Hold (Y/N/P)	VOCs (8260B)	VOCs (624)	Boron (200.7)	Temperature (Deg. F)	Conductivity (µs/cm)	pH (s.u.)
PS-110117-MM-01	BWWW	11/01/17	--	Treatment System	--	X	--	--	78.1	2147	8.05
PS-110117-MM-02	Combined Influent	11/01/17	--	Treatment System	--	X	--	--	77.1	2074	7.01
PS-110117-MM-03	GAC Vessel 2A	11/01/17	--	Treatment System	--	X	--	--	77.3	2060	7.00
PS-110117-MM-04	GAC Vessel 5A	11/01/17	--	Treatment System	--	X	--	--	77.5	2048	7.05
PS-110117-MM-05	GAC Vessel 6A	11/01/17	--	Treatment System	--	X	--	--	77.5	2082	7.04
PS-110117-MM-06	GAC Vessel 7A	11/01/17	--	Treatment System	--	X	--	--	77.5	2074	7.03
PS-110117-MM-07	Facility Effluent	11/01/17	--	Treatment System	--	X	--	--	77.7	2052	6.94
PS-110117-MM-08	Facility Effluent Duplicate	11/01/17	--	Treatment System QC	--	X	--	--	77.7	2052	6.94
PS-110117-MM-09	SRP Downstream	11/01/17	--	Treatment System	--	X	--	--	73.7	1179	7.19
PS-110117-MM-10	Field Blank	11/01/17	--	Treatment System QC	--	X	--	--	--	--	--
PS-110117-MM-11	Trip Blank	11/01/17	--	Treatment System QC	--	X	--	--	--	--	--

Notes:

BWWW - backwash wastewater
Deg. F - degrees Fahrenheit
µs/cm - microsiemens per centimeter
s.u. - standard unit
Treatment System - Calibrated Water Quality Meter (CRA control #7783) Prior to Use
GAC - Granular Activated Carbon
QC - quality control
SRP - Salt River Project
UV Out of Service
GAC Pairs - 2,3,7,9 - Out of service during sampling

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

GHD Services Inc.

52nd Street Superfund Site - OU2 Area, Phoenix, AZ

013932

SGS Accutest Job Number: TD11645

Sampling Date: 11/01/17

Report to:

GHD Services Inc.
4747 N. 22nd Street Second Floor
Phoenix, AZ 85016
manfred.plaschke@ghd.com; mary.cameron@ghd.com;
sheri.finn@ghd.com; brooks.dillard@ghd.com
ATTN: Manfred Plaschke

Total number of pages in report: 31

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Anita Patel 713-271-4700

Certifications: TX (T104704220-17-27) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2017-002) VA (8999)

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SGS Accutest

Sample Summary

GHD Services Inc.

Job No: TD11645

52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Project No: 013932

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD11645-1	11/01/17	10:45		11/02/17	AQ	Ground Water	PS-110117-MM-01
TD11645-2	11/01/17	11:00		11/02/17	AQ	Ground Water	PS-110117-MM-02
TD11645-3	11/01/17	11:05		11/02/17	AQ	Ground Water	PS-110117-MM-03
TD11645-4	11/01/17	11:10		11/02/17	AQ	Ground Water	PS-110117-MM-04
TD11645-5	11/01/17	11:15		11/02/17	AQ	Ground Water	PS-110117-MM-05
TD11645-6	11/01/17	11:20		11/02/17	AQ	Ground Water	PS-110117-MM-06
TD11645-7	11/01/17	11:25		11/02/17	AQ	Ground Water	PS-110117-MM-07
TD11645-8	11/01/17	11:27		11/02/17	AQ	Ground Water	PS-110117-MM-08
TD11645-9	11/01/17	11:45		11/02/17	AQ	Ground Water	PS-110117-MM-09
TD11645-10	11/01/17	12:10		11/02/17	AQ	Ground Water	PS-110117-MM-10
TD11645-11	11/01/17	00:00		11/02/17	AQ	Trip Blank Water	PS-110117-MM-11 TRIP BLANK

2

Summary of Hits

Job Number: TD11645
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 11/01/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD11645-1	**PS-110117-MM-01**					
Trichloroethylene		1.7	1.0		ug/l	EPA 624
TD11645-2	**PS-110117-MM-02**					
Chloroform		2.1	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.3	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		6.1	1.0		ug/l	SW846 8260C
Tetrachloroethylene		2.1	1.0		ug/l	SW846 8260C
Trichloroethylene		30.3	0.50		ug/l	SW846 8260C
TD11645-3	**PS-110117-MM-03**					
Chloroform		2.8	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.3	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		8.8	1.0		ug/l	SW846 8260C
TD11645-4	**PS-110117-MM-04**					
Chloroform		3.1	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		10.3	1.0		ug/l	SW846 8260C
TD11645-5	**PS-110117-MM-05**					
Chloroform		2.5	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		2.0	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		8.9	1.0		ug/l	SW846 8260C
Trichloroethylene		6.8	0.50		ug/l	SW846 8260C
TD11645-6	**PS-110117-MM-06**					
Chloroform		2.7	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		6.5	1.0		ug/l	SW846 8260C
TD11645-7	**PS-110117-MM-07**					
Chloroform		2.6	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		3.2	1.0		ug/l	SW846 8260C
TD11645-8	**PS-110117-MM-08**					
Chloroform		2.6	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		3.2	1.0		ug/l	SW846 8260C

Summary of Hits

Job Number: TD11645
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 11/01/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD11645-9	**PS-110117-MM-09**					
cis-1,2-Dichloroethylene		1.2	1.0		ug/l	SW846 8260C
TD11645-10	**PS-110117-MM-10**					
No hits reported in this sample.						
TD11645-11	**PS-110117-MM-11 TRIP BLANK**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PS-110117-MM-01		
Lab Sample ID:	TD11645-1	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	EPA 624	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063627.D	1	11/08/17 02:35	ZQ	n/a	n/a	VE2827
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

624 Special List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	1.7	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	111%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-02		
Lab Sample ID:	TD11645-2	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063562.D	1	11/06/17 16:30	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.1	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.3	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.1	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	2.1	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	30.3	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-03		
Lab Sample ID:	TD11645-3	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063563.D	1	11/06/17 16:54	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.8	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.3	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	8.8	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		72-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-04		
Lab Sample ID:	TD11645-4	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063564.D	1	11/06/17 17:18	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.1	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	10.3	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		72-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-05		
Lab Sample ID:	TD11645-5	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063565.D	1	11/06/17 17:46	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.5	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	2.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	8.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	6.8	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-06		
Lab Sample ID:	TD11645-6	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063566.D	1	11/06/17 18:10	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.7	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.5	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-07		
Lab Sample ID:	TD11645-7	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063567.D	1	11/06/17 18:34	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.6	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-08		
Lab Sample ID:	TD11645-8	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063568.D	1	11/06/17 18:59	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.6	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-09		
Lab Sample ID:	TD11645-9	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063569.D	1	11/06/17 19:23	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.2	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	103%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-10		
Lab Sample ID:	TD11645-10	**Date Sampled:**	11/01/17
Matrix:	AQ - Ground Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063570.D	1	11/06/17 19:47	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	103%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-110117-MM-11 TRIP BLANK		
Lab Sample ID:	TD11645-11	**Date Sampled:**	11/01/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/02/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0063571.D	1	11/06/17 20:12	EM	n/a	n/a	VE2824
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	105%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Arizona Qualifiers
- Chain of Custody

Arizona Qualifiers

Job Number: TD11645
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

The following Arizona qualifiers have been applied to data and/or QC in this report.

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

SGS **PHOENIX** CHAIN OF CUSTODY
ACCUTEST

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

1 of 2

FED-EX Tracking # 7706 4703 6814
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest NC Job # TD11645

Client / Reporting Information

Company Name: GHD
Address: 4747 N 22nd ST. #200
City: Phoenix State: AZ Zip: 85016
Project Contact: Manfred Phaschke
Phone #: 602-216-7200
Samplers's Name: Mike McNeil

Project Information

Project Name: OU2
Street: 12 N 20th ST.
City: Phoenix State: AZ
Project #: 013932-131
EMAIL: Manfred.Phaschke@ghd.com
Client Purchase Order #

Requested Analysis: 8260B, 624

Matrix Codes: WW- Wastewater; GW- Ground Water; SW- Surface Water; SO- Soil; OI-Oil; WP-Wipe; LIQ - Non-aqueous Liquid; AIR; DW- Drinking Water (Perchlorate Only)

SGS Accutest Sample ID	Sample ID / Field Point / Point of Collection	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	8260B	624	LAB USE ONLY
1	PS-110/17-MW-01	11/1/17	1045	MMC	GW	3	X								✓	✓	
2	02		1100				X								✓		
3	03		1105				X								✓		
4	04		1110				X								✓		
5	05		1115				X								✓		
6	06		1120				X								✓		
7	07		1125				X								✓		
8	08		1127				X								✓		
9	09		1145				X								✓		
10	10		1210				X								✓		

RECEIVED BY:
RECEIVED BY:

Turnaround Time (Business days)

- [x] 10 Day
- [ ] 5 Day
- [ ] 3 Day
- [ ] 2 Day
- [ ] 1 Day
- [ ] Same Day

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" - Results only
- [ ] Commercial "B" - Results with QC summaries
- [ ] Commerical "B+" - Results, QC, and chromatograms
- [ ] FULT1 - Level 4 data package
- [ ] EDF for Geotracker [ ] EDD Format
- Provide EDF Global ID
- Provide EDF Logcode:

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Mike McNeil 11/1/17	1530	Ashley Young	Ashley Young	11/1/17 1600	Fed Ex
2	Relinquished by: Fedex		Received By: 950 11/2/17	Relinquished By:	Date Time:	Received By:
3	Relinquished by:	Date Time:	Received By:	Custody Seal #	Appropriate Bottle / Pres. Y / N	Headspace Y / N
5					Labels match Coc? Y / N	Separate Receiving Check List used: Y / N

On Ice Y / N Cooler Temp. 3.3 oC

TD11645: Chain of Custody
Page 1 of 6

SGS PHOENIX ACCUTEST

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

2 of 2

FED-EX Tracking # 7706 4703 6814
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest NC Job #C TD11645

Client / Reporting Information

Company Name: GHD
Address: 4747 N 22nd St #200
City: Phoenix State: AZ Zip: 85016
Project Contact: Manford Phaskhe
Phone #: 602-216-7200
Samplers's Name: Mike McNeil

Project Information

Project Name: OLD
Street: 12 N 20th St
City: Phoenix State: AZ
Project #: 013432-131
EMAIL:
Client Purchase Order #

Requested Analysis: 8260B

Matrix Codes: WW- Wastewater; GW- Ground Water; SW- Surface Water; SO- Soil; OI-Oil; WP-Wipe; LIQ - Non-aqueous Liquid; AIR; DW- Drinking Water (Perchlorate Only)

SGS Accutest Sample ID	Sample ID / Field Point / Point of Collection	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	8260B	LAB USE ONLY
-11	PS-110117-MM-11	TRIPBLANK				2	✓								✓	

Turnaround Time (Business days)

Approved By:/ Date:

- [x] 10 Day
- [ ] 5 Day
- [ ] 3 Day
- [ ] 2 Day
- [ ] 1 Day
- [ ] Same Day

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" - Results only
- [ ] Commercial "B" - Results with QC summaries
- [ ] Commerical "B+" - Results, QC, and chromatograms
- [ ] FULT1 - Level 4 data package
- [ ] EDF for Geotracker [ ] EDD Format
- Provide EDF Global ID
- Provide EDF Logcode:

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Mike McNeil 11/1/17	1530	2 [illegible]	2 [illegible]	11/1/17 1600	2 Fed Ex
Relinquished by: 3 FedEx	Date Time:	Received By: 3 [illegible] 950 11/2/17	Relinquished By:	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Appropriate Bottle / Preservative Y / N; Labels match Coc? Y / N	Headspace Y / N; On Ice Y / N; Separate Receiving Check List used: Y / N; Cooler Temp. 3.3 oC

4.2 4

TD11645: Chain of Custody
Page 2 of 6

ACCUTEST

COOLER TEMP FORM

TC# TD11645

Delivered by (circle one): FedEx/UPS | ALGC Driver | Client

Date: 11/2/17

Client: GHD

Cooler Number:

Thermometer ID: FR-9 CF, °C 0.0 Corrected Temp, °C 3.3

SAMPLES CONTAINED IN COOLER

TT 04, 4703 4814

SGS ACCUTEST Custody Seal Initial Date 11/1/17

Form: SM027-06 Rev 10/24/2016

TD11645: Chain of Custody

Page 3 of 6

4.2 4

SGS Accutest Sample Receipt Summary

Job Number: TD11645 **Client:** GHD **Project:** OU2

Date / Time Received: **Delivery Method:** **Airbill #'s:** 770647036814

No. Coolers: 1 **Therm ID:** IR9; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (3.3/3.3);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	Ice (Bag)	

Quality Control Preservation	Y	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑	☐	☐	☑	☐
2. Trip Blank listed on COC:	☑	☐	☐		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☑	☐	☐		

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Sample Receipt Log

Job #: TD11645 **Date / Time Received:** 11/2/2017 9:50:00 AM **Initials:** DS

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD11645-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-3	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-3	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-3	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-4	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-5	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-5	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-5	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-6	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-6	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-6	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-7	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-7	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-7	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-8	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-8	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3

Sample Receipt Log

Job #: TD11645 **Date / Time Received:** 11/2/2017 9:50:00 AM **Initials:** DS

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD11645-8	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-9	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-9	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-9	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-10	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-10	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-10	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-11	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3
1	TD11645-11	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR9	3.3	0	3.3

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD11645
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2827-MB	E0063621.D	1	11/08/17	ZQ	n/a	n/a	VE2827

The QC reported here applies to the following samples: **Method:** EPA 624

TD11645-1

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	72-122%
17060-07-0	1,2-Dichloroethane-D4	112%	68-124%
2037-26-5	Toluene-D8	102%	80-119%
460-00-4	4-Bromofluorobenzene	102%	72-126%

Method Blank Summary

Job Number: TD11645
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2824-MB	E0063561.D	1	11/06/17	EM	n/a	n/a	VE2824

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD11645-2, TD11645-3, TD11645-4, TD11645-5, TD11645-6, TD11645-7, TD11645-8, TD11645-9, TD11645-10, TD11645-11

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	ug/l	
67-66-3	Chloroform	ND	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	ug/l	
74-83-9	Methyl bromide	ND	0.50	ug/l	
74-87-3	Methyl chloride	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.5	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	100%	72-126%

Blank Spike Summary

Job Number: TD11645
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2827-BS	E0063619.D	1	11/07/17	ZQ	n/a	n/a	VE2827

The QC reported here applies to the following samples: **Method:** EPA 624

TD11645-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	21.8	87	68-119
75-27-4	Bromodichloromethane	25	24.5	98	72-118
67-66-3	Chloroform	25	24.3	97	73-122
75-34-3	1,1-Dichloroethane	25	23.6	94	72-121
75-35-4	1,1-Dichloroethylene	25	22.4	90	67-140
107-06-2	1,2-Dichloroethane	25	24.8	99	68-121
156-59-2	cis-1,2-Dichloroethylene	25	22.6	90	72-117
156-60-5	trans-1,2-Dichloroethylene	25	23.7	95	68-124
74-83-9	Methyl bromide	25	25.2	101	53-138
74-87-3	Methyl chloride	25	22.7	91	50-145
71-55-6	1,1,1-Trichloroethane	25	24.6	98	72-129
127-18-4	Tetrachloroethylene	25	23.2	93	72-132
108-88-3	Toluene	25	22.1	88	73-119
79-01-6	Trichloroethylene	25	23.1	92	73-121
75-69-4	Trichlorofluoromethane	25	27.2	109	46-152
75-01-4	Vinyl chloride	25	22.2	89	54-126
1330-20-7	Xylene (total)	75	69.4	93	74-119
	m,p-Xylene	50	46.4	93	74-119
95-47-6	o-Xylene	25	22.9	92	73-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	72-122%
17060-07-0	1,2-Dichloroethane-D4	109%	68-124%
2037-26-5	Toluene-D8	101%	80-119%
460-00-4	4-Bromofluorobenzene	100%	72-126%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD11645
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE2824-BS	E0063558.D	1	11/06/17	EM	n/a	n/a	VE2824
VE2824-BSD [a]	E0063559.D	1	11/06/17	EM	n/a	n/a	VE2824

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD11645-2, TD11645-3, TD11645-4, TD11645-5, TD11645-6, TD11645-7, TD11645-8, TD11645-9, TD11645-10, TD11645-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	23.1	92	23.5	94	2	68-119/30
75-27-4	Bromodichloromethane	25	24.2	97	24.6	98	2	72-118/30
67-66-3	Chloroform	25	23.2	93	23.6	94	2	73-122/30
75-34-3	1,1-Dichloroethane	25	24.5	98	24.8	99	1	72-121/30
75-35-4	1,1-Dichloroethylene	25	22.8	91	22.6	90	1	67-140/30
107-06-2	1,2-Dichloroethane	25	21.7	87	21.7	87	0	68-121/30
156-59-2	cis-1,2-Dichloroethylene	25	24.0	96	24.1	96	0	72-117/30
156-60-5	trans-1,2-Dichloroethylene	25	24.4	98	24.7	99	1	68-124/30
74-83-9	Methyl bromide	25	25.4	102	27.3	109	7	53-138/30
74-87-3	Methyl chloride	25	27.3	109	28.1	112	3	50-145/30
71-55-6	1,1,1-Trichloroethane	25	24.0	96	24.5	98	2	72-129/30
127-18-4	Tetrachloroethylene	25	24.9	100	24.6	98	1	72-132/30
108-88-3	Toluene	25	23.5	94	23.5	94	0	73-119/30
79-01-6	Trichloroethylene	25	23.5	94	23.8	95	1	73-121/30
75-69-4	Trichlorofluoromethane	25	29.0	116	29.4	118	1	46-152/30
75-01-4	Vinyl chloride	25	26.7	107	27.0	108	1	54-126/30
1330-20-7	Xylene (total)	75	70.6	94	70.6	94	0	74-119/30
	m,p-Xylene	50	47.6	95	47.5	95	0	74-119/30
95-47-6	o-Xylene	25	23.0	92	23.0	92	0	73-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	98%	99%	72-122%
17060-07-0	1,2-Dichloroethane-D4	95%	95%	68-124%
2037-26-5	Toluene-D8	102%	101%	80-119%
460-00-4	4-Bromofluorobenzene	99%	100%	72-126%

(a) AZ:Q9

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD11645
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD11564-1MS	E0063623.D	1	11/08/17	ZQ	n/a	n/a	VE2827
TD11564-1MSD	E0063624.D	1	11/08/17	ZQ	n/a	n/a	VE2827
TD11564-1 [a]	E0063622.D	1	11/08/17	ZQ	n/a	n/a	VE2827

The QC reported here applies to the following samples: **Method:** EPA 624

TD11645-1

CAS No.	Compound	TD11564-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	23.4	94	25	23.7	95	1	68-119/12
75-27-4	Bromodichloromethane	0.40	J	25	26.0	102	25	25.3	100	3	72-118/16
67-66-3	Chloroform	4.2		25	29.7	102	25	28.9	99	3	73-122/13
75-34-3	1,1-Dichloroethane	ND		25	25.2	101	25	25.4	102	1	72-121/14
75-35-4	1,1-Dichloroethylene	ND		25	23.7	95	25	24.1	96	2	67-140/18
107-06-2	1,2-Dichloroethane	ND		25	24.7	99	25	24.7	99	0	68-121/12
156-59-2	cis-1,2-Dichloroethylene	ND		25	24.2	97	25	24.4	98	1	72-117/13
156-60-5	trans-1,2-Dichloroethylene	ND		25	25.5	102	25	25.5	102	0	68-124/15
74-83-9	Methyl bromide	ND		25	35.0	140*	25	34.0	136	3	53-138/16
74-87-3	Methyl chloride	ND		25	29.8	119	25	33.1	132	10	50-145/17
71-55-6	1,1,1-Trichloroethane	ND		25	26.6	106	25	26.3	105	1	72-129/14
127-18-4	Tetrachloroethylene	ND		25	23.9	96	25	24.9	100	4	72-132/14
108-88-3	Toluene	ND		25	22.0	88	25	24.0	96	9	73-119/13
79-01-6	Trichloroethylene	ND		25	24.9	100	25	24.7	99	1	73-121/13
75-69-4	Trichlorofluoromethane	ND		25	35.5	142	25	36.2	145	2	46-152/25
75-01-4	Vinyl chloride	ND		25	30.1	120	25	32.4	130*	7	54-126/17
1330-20-7	Xylene (total)	ND		75	74.3	99	75	73.0	97	2	74-119/13
	m,p-Xylene	ND		50	50.0	100	50	49.0	98	2	74-119/13
95-47-6	o-Xylene	ND		25	24.3	97	25	23.9	96	2	73-121/13

CAS No.	Surrogate Recoveries	MS	MSD	TD11564-1	Limits
1868-53-7	Dibromofluoromethane	103%	101%	103%	72-122%
17060-07-0	1,2-Dichloroethane-D4	108%	103%	111%	68-124%
2037-26-5	Toluene-D8	102%	102%	102%	80-119%
460-00-4	4-Bromofluorobenzene	101%	97%	100%	72-126%

(a) Vials composited prior to analysis per client request.

* = Outside of Control Limits.

Field Sample Key

52nd Street Superfund Site, OU2 Area
Phoenix, Arizona
December 4, 2017

Sample ID	Location	Sample Date (mm/dd/yy)	Sample Type	Sample Matrix	Hold (Y/N/P)	VOCs (8260B)	VOCs (624)	Boron (200.7)	Temperature (Deg. F)	Conductivity (µs/cm)	pH (s.u.)
PS-120417-MM-01	Combined Influent	12/04/17	--	Treatment System	--	X	--	--	76.7	2091	7.05
PS-120417-MM-02	GAC Vessel 2B	12/04/17	--	Treatment System	--	X	--	--	76.5	2080	7.11
PS-120417-MM-03	GAC Vessel 5B	12/04/17	--	Treatment System	--	X	--	--	76.7	2077	7.06
PS-120417-MM-04	GAC Vessel 6B	12/04/17	--	Treatment System	--	X	--	--	76.5	2070	7.07
PS-120417-MM-05	GAC Vessel 7B	12/04/17	--	Treatment System	--	X	--	--	76.7	2064	7.08
PS-120417-MM-06	Facility Effluent	12/04/17	--	Treatment System	--	X	--	--	76.8	2085	7.12
PS-120417-MM-07	Facility Effluent Duplicate	12/04/17	--	Treatment System QC	--	X	--	--	76.8	2085	7.12
PS-120417-MM-08	SRP Downstream	12/04/17	--	Treatment System	--	X	--	--	66.9	998	8.08
PS-120417-MM-09	Field Blank	12/04/17	--	Treatment System QC	--	X	--	--	--	--	--
PS-120417-MM-10	Trip Blank	12/04/17	--	Treatment System QC	--	X	--	--	--	--	--

Notes:

Deg. F - degrees Fahrenheit
µs/cm - microsiemens per centimeter
s.u. - standard unit
Treatment System - Calibrated Water Quality Meter (CRA control #7783) Prior to Use
GAC - Granular Activated Carbon
QC - quality control
SRP - Salt River Project
UV Out of Service
GAC Pairs - 2,3,7,9 - Out of service during sampling

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Automated Report

Technical Report for

GHD Services Inc.

52nd Street Superfund Site - OU2 Area, Phoenix, AZ

013932

SGS Accutest Job Number: TD13127

Sampling Date: 12/04/17

Report to:

GHD Services Inc.
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Total number of pages in report: 26

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Anita Patel 713-271-4700

Certifications: TX (T104704220-17-27) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2017-002) VA (8999)

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SGS Accutest

Sample Summary

GHD Services Inc.

Job No: TD13127

52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Project No: 013932

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD13127-1	12/04/17	10:00		12/05/17	AQ	Ground Water	PS-120417-MM-01
TD13127-2	12/04/17	10:05		12/05/17	AQ	Ground Water	PS-120417-MM-02
TD13127-3	12/04/17	10:10		12/05/17	AQ	Ground Water	PS-120417-MM-03
TD13127-4	12/04/17	10:15		12/05/17	AQ	Ground Water	PS-120417-MM-04
TD13127-5	12/04/17	10:20		12/05/17	AQ	Ground Water	PS-120417-MM-05
TD13127-6	12/04/17	10:25		12/05/17	AQ	Ground Water	PS-120417-MM-06
TD13127-7	12/04/17	10:28		12/05/17	AQ	Ground Water	PS-120417-MM-07
TD13127-8	12/04/17	10:50		12/05/17	AQ	Ground Water	PS-120417-MM-08
TD13127-9	12/04/17	11:15		12/05/17	AQ	Ground Water	PS-120417-MM-09
TD13127-10	12/04/17	00:00		12/05/17	AQ	Trip Blank Water	PS-120417-MM-10 TRIP BLANK

Summary of Hits

Job Number: TD13127
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 12/04/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD13127-1	**PS-120417-MM-01**					
Chloroform		1.8	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.2	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		5.5	1.0		ug/l	SW846 8260C
Tetrachloroethylene		1.7	1.0		ug/l	SW846 8260C
Trichloroethylene		27.7	0.50		ug/l	SW846 8260C
TD13127-2	**PS-120417-MM-02**					
Chloroform		3.1	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		6.7	1.0		ug/l	SW846 8260C
TD13127-3	**PS-120417-MM-03**					
Chloroform		3.4	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		1.9	1.0		ug/l	SW846 8260C
TD13127-4	**PS-120417-MM-04**					
Chloroform		2.9	1.0		ug/l	SW846 8260C
1,1-Dichloroethylene		1.8	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		10.7	1.0		ug/l	SW846 8260C
TD13127-5	**PS-120417-MM-05**					
Chloroform		3.7	1.0		ug/l	SW846 8260C
cis-1,2-Dichloroethylene		6.5	1.0		ug/l	SW846 8260C
TD13127-6	**PS-120417-MM-06**					
No hits reported in this sample.						
TD13127-7	**PS-120417-MM-07**					
No hits reported in this sample.						
TD13127-8	**PS-120417-MM-08**					
No hits reported in this sample.						
TD13127-9	**PS-120417-MM-09**					
No hits reported in this sample.						

Summary of Hits

Job Number: TD13127
Account: GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ
Collected: 12/04/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TD13127-10	**PS-120417-MM-10 TRIP BLANK**					

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	PS-120417-MM-01		
Lab Sample ID:	TD13127-1	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61025.D	1	12/12/17 01:08	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	1.8	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.2	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	5.5	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	1.7	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	27.7	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-122%
17060-07-0	1,2-Dichloroethane-D4	109%		68-124%
2037-26-5	Toluene-D8	105%		80-119%
460-00-4	4-Bromofluorobenzene	104%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-02		
Lab Sample ID:	TD13127-2	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61026.D	1	12/12/17 01:32	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.1	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.7	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-122%
17060-07-0	1,2-Dichloroethane-D4	108%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-03		
Lab Sample ID:	TD13127-3	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61027.D	1	12/12/17 01:57	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.4	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.9	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-122%
17060-07-0	1,2-Dichloroethane-D4	110%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	104%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-04		
Lab Sample ID:	TD13127-4	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61028.D	1	12/12/17 02:21	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	2.9	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	1.8	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	10.7	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		72-122%
17060-07-0	1,2-Dichloroethane-D4	111%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	105%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-05		
Lab Sample ID:	TD13127-5	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61029.D	1	12/12/17 02:46	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	3.7	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.5	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		72-122%
17060-07-0	1,2-Dichloroethane-D4	110%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-06		
Lab Sample ID:	TD13127-6	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61030.D	1	12/12/17 03:10	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-122%
17060-07-0	1,2-Dichloroethane-D4	109%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-07		
Lab Sample ID:	TD13127-7	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61031.D	1	12/12/17 03:35	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-122%
17060-07-0	1,2-Dichloroethane-D4	109%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-08		
Lab Sample ID:	TD13127-8	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61032.D	1	12/12/17 03:59	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-122%
17060-07-0	1,2-Dichloroethane-D4	111%		68-124%
2037-26-5	Toluene-D8	105%		80-119%
460-00-4	4-Bromofluorobenzene	103%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-09		
Lab Sample ID:	TD13127-9	**Date Sampled:**	12/04/17
Matrix:	AQ - Ground Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61033.D	1	12/12/17 04:24	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-122%
17060-07-0	1,2-Dichloroethane-D4	112%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	105%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PS-120417-MM-10 TRIP BLANK		
Lab Sample ID:	TD13127-10	**Date Sampled:**	12/04/17
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/05/17
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	52nd Street Superfund Site - OU2 Area, Phoenix, AZ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z61024.D	1	12/12/17 00:43	ZQ	n/a	n/a	VZ5513
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-122%
17060-07-0	1,2-Dichloroethane-D4	109%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	104%		72-126%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Arizona Qualifiers
- Chain of Custody

Arizona Qualifiers

Job Number: TD13127
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

The following Arizona qualifiers have been applied to data and/or QC in this report.

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

SGS PHOENIX ACCUTEST

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

1 of 1

FED-EX Tracking # 7709 0086 4920
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest NC Job #: C TD13127

Client / Reporting Information

Company Name: GHD
Address: 4247 N 22nd St. #200
City: Phoenix State: AZ Zip: 85016
Project Contact: Manfred Plaschke
Phone #: 602-216-7200
Samplers's Name: Mike McNeil

Project Information

Project Name: OUZ
Street: 12 N 20th ST
City: Phoenix State: AZ
Project #: 013932-131
EMAIL: Manfred.Plaschke@ghd.com
Client Purchase Order #

Requested Analysis: 8260B

Matrix Codes: WW- Wastewater; GW- Ground Water; SW- Surface Water; SO- Soil; OI-Oil; WP-Wipe; LIQ - Non-aqueous Liquid; AIR; DW- Drinking Water (Perchlorate Only)

SGS Accutest Sample ID	Sample ID / Field Point / Point of Collection	Collection Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	8260B	LAB USE ONLY
1	PS-130417-MM-01	12/4/17	1000	MMc	GW	3	✓								X	
2	02		1005				✓								X	
3	03		1010				✓								X	
4	04		1015				✓								X	
5	05		1020				✓								X	
6	06		1025				✓								X	
7	07		1030				✓								X	
8	08		1050				✓								X	
9	09		1115				✓								X	
10	10		TRIP	BLANK		2	✓								X	

Turnaround Time (Business days)

Approved By:/ Date:

- [x] 10 Day
- [ ] 5 Day
- [ ] 3 Day
- [ ] 2 Day
- [ ] 1 Day
- [ ] Same Day

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" - Results only
- [ ] Commercial "B" - Results with QC summaries
- [ ] Commerical "B+" - Results, QC, and chromatograms
- [ ] FULT1 - Level 4 data package
- [ ] EDF for Geotracker [ ] EDD Format_____

Provide EDF Global ID _____
Provide EDF Logcode: _____

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Mike McNeil 12/4/17	1335	1 Ashley Fraum	2 Ashley Fraum	12/4/17 15:13	2 Fed Ex
Relinquished by: 3	Date Time:	Received By: 3 12/5/17 1015	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Appropriate Bottle / Pres. Y / N; Labels match Coc? Y / N	Headspace Y / N; Separate Receiving Check List used: Y / N; On Ice Y / N; Cooler Temp. _____oC

4.2 4

TD13127: Chain of Custody
Page 1 of 5

ACCUTEST

COOLER TEMP FORM

TC# TD13127

Delivered by (circle one): FedEx/UPS ALGC Driver Client

Date: 12/5/17

Client: GHD

Cooler Number: 1

Thermometer ID: IR5 CF, °C 0 Corrected Temp, °C 1.8

SAMPLES CONTAINED IN COOLER

GIN ID:MSCA (480) 275-8931
LEY LOCUM
UTEST TEMPE SERVICE CENTER
W. UNIVERSITY DR.
E 149
PE, AZ 85281
ED STATES US

SAMPLE RECEIVING
ACCUTEST LABORATORIE
0165 HARWIN DR.
SUITE 150
HOUSTON TX 77071
3) 271-4700 REF: GHD

7709 0086 4920

B SGRA

SGS ACCUTEST
Custody Seal
Signature
Date 12/04/17

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEA
VERIFICATION, TESTING AND CERTIFICATION COM

ING INSPECTION,
ANY.

Form: SM027-06 Rev 10/24/2016

TD13127: Chain of Custody
Page 2 of 5

SGS Accutest Sample Receipt Summary

Job Number: TD13127 **Client:** GHD **Project:** OU2

Date / Time Received: **Delivery Method:** **Airbill #'s:** 770900864920

No. Coolers: 1 **Therm ID:** IR-5; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (1.8/1.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	Ice (Bag)	

Quality Control Preservation	Y	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☑	☐	☐	☑	☐
2. Trip Blank listed on COC:	☑	☐	☐		
3. Samples preserved properly:	☑	☐			
4. VOCs headspace free:	☑	☐	☐		

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Sample Receipt Log

Job #: TD13127 **Date / Time Received:** 12/5/2017 10:15:00 AM **Initials:** BG

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD13127-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-3	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-3	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-3	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-4	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-5	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-5	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-5	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-6	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-6	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-6	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-7	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-7	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-7	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-8	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-8	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8

Sample Receipt Log

Job #: TD13127 **Date / Time Received:** 12/5/2017 10:15:00 AM **Initials:** BG

Client: GHD

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD13127-8	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-9	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-9	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-9	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-10	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8
1	TD13127-10	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-5	1.8	0	1.8

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD13127
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ5513-MB	Z61023.D	1	12/12/17	ZQ	n/a	n/a	VZ5513

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD13127-1, TD13127-2, TD13127-3, TD13127-4, TD13127-5, TD13127-6, TD13127-7, TD13127-8, TD13127-9, TD13127-10

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	0.50	ug/l	
67-66-3	Chloroform	ND	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	0.50	ug/l	
74-83-9	Methyl bromide	ND	0.50	ug/l	
74-87-3	Methyl chloride	ND	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	ug/l	
108-88-3	Toluene	ND	0.50	ug/l	
79-01-6	Trichloroethylene	ND	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	0.50	ug/l	
1330-20-7	Xylene (total)	ND	1.5	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	72-122%
17060-07-0	1,2-Dichloroethane-D4	110%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	103%	72-126%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD13127
Account: CRAAZP GHD Services Inc.
Project: 52nd Street Superfund Site - OU2 Area, Phoenix, AZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ5513-BS	Z61019.D	1	12/11/17	ZQ	n/a	n/a	VZ5513
VZ5513-BSD [a]	Z61020.D	1	12/11/17	ZQ	n/a	n/a	VZ5513

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD13127-1, TD13127-2, TD13127-3, TD13127-4, TD13127-5, TD13127-6, TD13127-7, TD13127-8, TD13127-9, TD13127-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	23.0	92	20.8	83	10	68-119/30
75-27-4	Bromodichloromethane	25	24.5	98	22.5	90	9	72-118/30
67-66-3	Chloroform	25	24.8	99	22.5	90	10	73-122/30
75-34-3	1,1-Dichloroethane	25	28.3	113	25.6	102	10	72-121/30
75-35-4	1,1-Dichloroethylene	25	27.2	109	24.5	98	10	67-140/30
107-06-2	1,2-Dichloroethane	25	25.4	102	22.9	92	10	68-121/30
156-59-2	cis-1,2-Dichloroethylene	25	27.0	108	24.7	99	9	72-117/30
156-60-5	trans-1,2-Dichloroethylene	25	27.9	112	25.1	100	11	68-124/30
74-83-9	Methyl bromide	25	29.1	116	27.4	110	6	53-138/30
74-87-3	Methyl chloride	25	28.0	112	26.6	106	5	50-145/30
71-55-6	1,1,1-Trichloroethane	25	25.7	103	22.6	90	13	72-129/30
127-18-4	Tetrachloroethylene	25	23.7	95	21.5	86	10	72-132/30
108-88-3	Toluene	25	22.4	90	20.3	81	10	73-119/30
79-01-6	Trichloroethylene	25	24.8	99	22.3	89	11	73-121/30
75-69-4	Trichlorofluoromethane	25	33.0	132	32.4	130	2	46-152/30
75-01-4	Vinyl chloride	25	23.0	92	21.9	88	5	54-126/30
1330-20-7	Xylene (total)	75	70.5	94	64.2	86	9	74-119/30
	m,p-Xylene	50	47.2	94	43.0	86	9	74-119/30
95-47-6	o-Xylene	25	23.3	93	21.1	84	10	73-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	109%	109%	72-122%
17060-07-0	1,2-Dichloroethane-D4	110%	109%	68-124%
2037-26-5	Toluene-D8	102%	101%	80-119%
460-00-4	4-Bromofluorobenzene	107%	108%	72-126%

(a) AZ:Q9

* = Outside of Control Limits.

Appendix B
Groundwater/Process Validation Reports

Memorandum

November 14, 2017

To:	Manfred Plaschke	Ref. No.:	013932-130
From:	Sheri Finn/adh/64	Tel:	716-205-1977
cc:	Brooks Dillard		

Subject: **Analytical Results and Reduced Validation**
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

1. Introduction

This document details a reduced validation of analytical results for water samples collected in support of the semiannual groundwater sampling at the Motorola 52nd Street Superfund Site in Phoenix, Arizona during September and October 2017. The samples were submitted to SGS Accutest, located in Houston, Texas. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spike/matrix spike duplicates (MS/MSD), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the documents entitled:

i) "QAPP", 013932 Report 4, Revision 5, February 2011

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criterion for the analysis is summarized in Table 3. The sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were analyzed within the required holding time.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the method employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. The surrogate recoveries met those limits.

5. Laboratory Control Sample Analyses

LCS or LCS/laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the method employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

LCS or LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS or LCS/LCSD contained the compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision where applicable.

6. Matrix Spike/Matrix Spike Duplicate Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with known concentrations of the compounds of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess

analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

MS/MSD analyses were performed internally by the laboratory.

The MS/MSD samples were spiked with the compounds of interest for VOC analysis. Percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the exception of high RPD for 1,1-dichloroethene and cis-1,2-dichloroethene. The associated detected sample results were qualified as estimated (see Table 4).

7. Field QA/QC Samples

The field QA/QC consisted of nine trip blank samples, eight rinse blanks, four field blank samples, and five field duplicate sample sets.

7.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, nine trip blanks were submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

7.2 Rinse Blank and Field Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, eight rinse blanks and four field blanks were submitted for analysis, as identified in Table 1. Rinse blank results were non-detect for the analytes of interest. One field blank had low detections of m & p xylenes and total xylenes. The associated sample results were non-detect, and no qualification of data was necessary.

7.3 Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, five field duplicate samples were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

8. Analyte Reporting

The laboratory reported detected results down to the laboratory's RL for each analyte. Non-detect results were reported as non-detect at the RL in Table 2.

9. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the qualifications noted.

Table 1

Sample Collection and Analysis Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time	Analysis/ Parameters: VOC	Comments
GW-092717-PG-57	BC16	Water	09/27/2017	11:30:00	X	
GW-090817-PG-07	CRA01	Water	09/08/2017	13:20:00	X	
GW-092217-PG-48	DM509	Water	09/22/2017	09:50:00	X	
GW-092117-PG-44	EW03	Water	09/21/2017	13:30:00	X	
GW-092617-PG-55	EW06	Water	09/26/2017	13:30:00	X	
GW-092617-PG-54	EW07	Water	09/26/2017	10:45:00	X	
GW-101617-PG-66	EW22-D	Water	10/16/2017	12:40:00	X	
GW-100517-PG-64	EW22-S	Water	10/05/2017	13:00:00	X	
GW-091417-PG-23	NW01	Water	09/14/2017	11:20:00	X	
GW-090817-PG-04	NW02	Water	09/08/2017	07:55:00	X	
GW-090817-PG-05	NW02	Water	09/08/2017	08:00:00	X	Field Duplicate of GW-090817-PG-04
GW-092117-PG-40	NW03	Water	09/21/2017	08:40:00	X	
GW-100417-PG-63	NW03	Water	10/04/2017	09:50:00	X	
GW-090617-PG-02	NW04-D	Water	09/06/2017	13:30:00	X	
GW-091117-PG-10	NW04-S	Water	09/11/2017	11:50:00	X	
GW-091217-PG-12	NW05-S	Water	09/12/2017	08:10:00	X	
GW-091917-PG-32	NW06-D	Water	09/19/2017	13:35:00	X	
GW-091917-PG-35	NW06-S	Water	09/19/2017	15:40:00	X	
GW-091217-PG-13	NW07-D	Water	09/12/2017	11:45:00	X	
GW-091317-PG-16	NW07-M	Water	09/13/2017	07:10:00	X	
GW-091117-PG-11	NW07-S	Water	09/11/2017	13:30:00	X	
GW-091117-PG-09	NW08-D	Water	09/11/2017	10:45:00	X	
GW-092117-PG-38	NW08-M	Water	09/21/2017	07:10:00	X	
GW-091817-PG-29	NW08-S	Water	09/18/2017	10:00:00	X	
GW-091317-PG-17	NW09-D	Water	09/13/2017	10:45:00	X	
GW-091117-PG-08	NW09-D2	Water	09/11/2017	09:25:00	X	
GW-090717-PG-03	NW09-M	Water	09/07/2017	12:55:00	X	
GW-091417-PG-21	NW10-D	Water	09/14/2017	08:15:00	X	
GW-091917-PG-31	NW11-D	Water	09/19/2017	09:50:00	X	
GW-091517-PG-26	NW11-M	Water	09/15/2017	07:45:00	X	
GW-100317-PG-62	NW12-D	Water	10/03/2017	13:45:00	X	
GW-092617-PG-52	NW13-D	Water	09/26/2017	08:30:00	X	
GW-092517-PG-50	NW13-M	Water	09/27/2017	10:15:00	X	
GW-092717-PG-56	NW14-D	Water	09/27/2017	08:30:00	X	
GW-092517-PG-51	NW14-M	Water	09/27/2017	13:30:00	X	
GW-092717-PG-58	NW16-D	Water	09/27/2017	14:20:00	X	
GW-092717-PG-59	NW16-D	Water	09/27/2017	14:25:00	X	Field Duplicate of GW-092717-PG-58
GW-092817-PG-60	NW16-M	Water	09/28/2017	10:10:00	X	Matrix Spike/Matrix Spike Duplicate
GW-092117-PG-41	NW17-S	Water	09/21/2017	10:10:00	X	Matrix Spike/Matrix Spike Duplicate
GW-091917-PG-34	NW18-S	Water	09/19/2017	15:10:00	X	
GW-092017-PG-36	NW19-D	Water	09/20/2017	09:50:00	X	
GW-091217-PG-14	NW19-M	Water	09/12/2017	14:40:00	X	
GW-091217-PG-15	NW19-M	Water	09/12/2017	14:45:00	X	Field Duplicate of GW-091217-PG-14
GW-091317-PG-19	NW21-S	Water	09/13/2017	13:30:00	X	
GW-091917-PG-30	NW22-D	Water	09/19/2017	08:15:00	X	Matrix Spike/Matrix Spike Duplicate
GW-092017-PG-37	NW22-S	Water	09/20/2017	11:55:00	X	
GW-091817-PG-28	NW23-D	Water	09/18/2017	08:10:00	X	
GW-091417-PG-22	NW23-S	Water	09/14/2017	08:55:00	X	
GW-092217-PG-46	NW24-D	Water	09/22/2017	07:35:00	X	
GW-092117-PG-42	NW24-S	Water	09/21/2017	12:15:00	X	
GW-092117-PG-43	NW24-S	Water	09/21/2017	12:20:00	X	Field Duplicate of GW-092117-PG-42
GW-091417-PG-24	NW25-S	Water	09/14/2017	12:40:00	X	
GW-091417-PG-25	NW25-S	Water	09/14/2017	12:45:00	X	Field Duplicate of GW-091417-PG-24
GW-092817-PG-61	PZ01-B	Water	09/28/2017	14:00:00	X	

Table 1

Sample Collection and Analysis Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time	Analysis/ Parameters: VOC	Comments
GW-090817-PG-06	Field Blank	Water	09/08/2017	13:00:00	X	Field Blank
GW-091817-PG-27	Field Blank	Water	09/18/2017	07:30:00	X	Field Blank
GW-092117-PG-39	Field Blank	Water	09/21/2017	08:25:00	X	Field Blank
GW-092217-PG-47	Field Blank	Water	09/22/2017	09:15:00	X	Field Blank
GW-090617-PG-01	Rinse Blank	Water	09/06/2017	11:10:00	X	Rinse Blank
GW-091317-PG-18	Rinse Blank	Water	09/13/2017	12:00:00	X	Rinse Blank
GW-091417-PG-20	Rinse Blank	Water	09/14/2017	06:40:00	X	Rinse Blank
GW-091917-PG-33	Rinse Blank	Water	09/19/2017	14:25:00	X	Rinse Blank
GW-092217-PG-45	Rinse Blank	Water	09/22/2017	06:45:00	X	Rinse Blank
GW-092617-PG-53	Rinse Blank	Water	09/26/2017	09:45:00	X	Rinse Blank
GW-092517-PG-49	Rinse Blank	Water	09/27/2017	08:40:00	X	Rinse Blank
GW-101617-PG-65	Rinse Blank	Water	10/16/2017	09:00:00	X	Rinse Blank
TRIP BLANK	Trip Blank	Water	09/06/2017	00:00:00	X	Trip Blank
TRIP BLANK	Trip Blank	Water	09/13/2017	00:00:00	X	Trip Blank
TRIP BLANK	Trip Blank	Water	09/14/2017	00:00:00	X	Trip Blank
TRIP BLANK	Trip Blank	Water	09/20/2017	00:00:00	X	Trip Blank
TRIP BLANK	Trip Blank	Water	09/21/2017	00:00:00	X	Trip Blank
TRIP BLANK	Trip Blank	Water	09/27/2017	00:00:00	X	Trip Blank
TRIP BLANK	Trip Blank	Water	10/03/2017	00:00:00	X	Trip Blank
TRIP BLANK	Trip Blank	Water	10/05/2017	00:00:00	X	Trip Blank
TRIP BLANK	Trip Blank	Water	10/16/2017	00:00:00	X	Trip Blank

Notes:

VOC - Volatile Organic Compounds

Table 2

Analytical Results Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

Location ID:		BC16	CRA01	DM509	EW03	EW06	EW07	EW22-D
Sample Name:		GW-092717-PG-57	GW-090817-PG-07	GW-092217-PG-48	GW-092117-PG-44	GW-092617-PG-55	GW-092617-PG-54	GW-101617-PG-66
Sample Date:		09/27/2017	09/08/2017	09/22/2017	09/21/2017	09/26/2017	09/26/2017	10/16/2017
Parameters	**Unit**							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	23.3	8.1	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(8.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	5.0	ND(1.0)	ND(4.0)	5.1	1.1	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(8.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	142	37.9	ND(1.0)	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	1.6	19.6	5.2	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	13.3	3.4	515	116	2.6	2.5	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(16)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(2.0)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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Analytical Results Summary
Semiannual Groundwater Sampling
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	Location ID:	**EW22-S**	**NW01**	**NW02**	**NW02**	**NW03**	**NW03**
	Sample Name:	**GW-100517-PG-64**	**GW-091417-PG-23**	**GW-090817-PG-04**	**GW-090817-PG-05**	**GW-092117-PG-40**	**GW-100417-PG-63**
	Sample Date:	**10/05/2017**	**09/14/2017**	**09/08/2017**	**09/08/2017**	**09/21/2017**	**10/04/2017**
					Duplicate		
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.9	2.7
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	1.3	ND(1.0)	ND(1.0)	2.4	2.3
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	12.8	12.4
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	1.4	ND(1.0)	ND(1.0)	2.9	3.6
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	3.8	7.7	1.9	1.9	60.6	62.7
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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Analytical Results Summary
Semiannual Groundwater Sampling
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	Location ID:	**NW04-D**	**NW04-S**	**NW05-S**	**NW06-D**	**NW06-S**	**NW07-D**
	Sample Name:	**GW-090617-PG-02**	**GW-091117-PG-10**	**GW-091217-PG-12**	**GW-091917-PG-32**	**GW-091917-PG-35**	**GW-091217-PG-13**
	Sample Date:	**09/06/2017**	**09/11/2017**	**09/12/2017**	**09/19/2017**	**09/19/2017**	**09/12/2017**
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.7	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	1.2	2.3	1.0
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	3.1	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	2.1	8.0	6.8	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	2.7	ND(1.0)	ND(1.0)	ND(1.0)	3.6	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	ND(0.50)	1.5	2.4	29.9	29.7	4.8
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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Analytical Results Summary
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	Location ID:	**NW07-M**	**NW07-S**	**NW08-D**	**NW08-M**	**NW08-S**	**NW09-D**
	Sample Name:	**GW-091317-PG-16**	**GW-091117-PG-11**	**GW-091117-PG-09**	**GW-092117-PG-38**	**GW-091817-PG-29**	**GW-091317-PG-17**
	Sample Date:	**09/13/2017**	**09/11/2017**	**09/11/2017**	**09/21/2017**	**09/18/2017**	**09/13/2017**
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	6.1	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	2.3	ND(1.0)	ND(1.0)	13.3	2.3	2.5
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.3	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	10.8	14.0	1.4
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	1.2	4.1	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	2.6	2.1	ND(0.50)	56.7	61.2	7.6
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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Analytical Results Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
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	Location ID:	**NW09-D2**	**NW09-M**	**NW10-D**	**NW11-D**	**NW11-M**	**NW12-D**
	Sample Name:	**GW-091117-PG-08**	**GW-090717-PG-03**	**GW-091417-PG-21**	**GW-091917-PG-31**	**GW-091517-PG-26**	**GW-100317-PG-62**
	Sample Date:	**09/11/2017**	**09/07/2017**	**09/14/2017**	**09/19/2017**	**09/15/2017**	**10/03/2017**
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	1.4	2.2	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	5.7	5.1	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	4.1	2.2	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	3.5	0.82	ND(0.50)	21.7	8.8	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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Analytical Results Summary
Semiannual Groundwater Sampling
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	Location ID:	**NW13-D**	**NW13-M**	**NW14-D**	**NW14-M**	**NW16-D**	**NW16-D**
	Sample Name:	**GW-092617-PG-52**	**GW-092517-PG-50**	**GW-092717-PG-56**	**GW-092517-PG-51**	**GW-092717-PG-58**	**GW-092717-PG-59**
	Sample Date:	**09/26/2017**	**09/27/2017**	**09/27/2017**	**09/27/2017**	**09/27/2017**	**09/27/2017**
							Duplicate
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	5.2	2.4	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	3.0	ND(1.0)	1.1	1.0
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	3.3	ND(0.50)	13.2	2.7	36.7	34.8
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

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Analytical Results Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
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	Location ID:	**NW16-M**	**NW17-S**	**NW18-S**	**NW19-D**	**NW19-M**	**NW19-M**
	Sample Name:	**GW-092817-PG-60**	**GW-092117-PG-41**	**GW-091917-PG-34**	**GW-092017-PG-36**	**GW-091217-PG-14**	**GW-091217-PG-15**
	Sample Date:	**09/28/2017**	**09/21/2017**	**09/19/2017**	**09/20/2017**	**09/12/2017**	**09/12/2017**
							Duplicate
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	12.2	ND(1.0)	1.6	4.6	1.8	1.7
1,1-Dichloroethene	µg/L	29.3	1.8 J	2.5	17.8	4.9	4.7
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	1.2	ND(1.0)	3.6	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	18.1	9.7 J	6.9	8.8	1.4	1.4
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	2.0	2.7	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	97.9	51.9	33.3	40.4	5.9	5.9
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

	Location ID:	**NW21-S**	**NW22-D**	**NW22-S**	**NW23-D**	**NW23-S**	**NW24-D**
	Sample Name:	**GW-091317-PG-19**	**GW-091917-PG-30**	**GW-092017-PG-37**	**GW-091817-PG-28**	**GW-091417-PG-22**	**GW-092217-PG-46**
	Sample Date:	**09/13/2017**	**09/19/2017**	**09/20/2017**	**09/18/2017**	**09/14/2017**	**09/22/2017**
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	4.0	2.1	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	1.2	10.5	2.7	1.4
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.0	ND(1.0)	2.4	ND(1.0)	1.1	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	1.5	4.9	4.4	2.0	11.2
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	4.6
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	5.1	28.8	37.7	18.8	10.3	187
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

Location ID:		NW24-S	NW24-S	NW25-S	NW25-S	PZ01-B	Field Blank
Sample Name:		GW-092117-PG-42	GW-092117-PG-43	GW-091417-PG-24	GW-091417-PG-25	GW-092817-PG-61	GW-090817-PG-06
Sample Date:		09/21/2017	09/21/2017	09/14/2017	09/14/2017	09/28/2017	09/08/2017
			Duplicate		Duplicate		
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	3.1	3.2	ND(1.0)	ND(1.0)	4.5	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.8	2.8	1.5	1.6	3.5	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	15.2	15.9	ND(1.0)	ND(1.0)	19.4	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.4
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	2.3	2.3	ND(1.0)	ND(1.0)	1.5	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	82.4	82.8	13.0	13.1	46.3	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.8

Table 2

Analytical Results Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

	Location ID:	**Field Blank**	**Field Blank**	**Field Blank**	**Rinse Blank**	**Rinse Blank**	**Rinse Blank**
	Sample Name:	**GW-091817-PG-27**	**GW-092117-PG-39**	**GW-092217-PG-47**	**GW-090617-PG-01**	**GW-091317-PG-18**	**GW-091417-PG-20**
	Sample Date:	**09/18/2017**	**09/21/2017**	**09/22/2017**	**09/06/2017**	**09/13/2017**	**09/14/2017**
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

Location ID:		Rinse Blank	Rinse Blank	Rinse Blank	Rinse Blank	Rinse Blank	Trip Blank	Trip Blank
Sample Name:		GW-091917-PG-33	GW-092217-PG-45	GW-092617-PG-53	GW-092517-PG-49	GW-101617-PG-65	TRIP BLANK	TRIP BLANK
Sample Date:		09/19/2017	09/22/2017	09/26/2017	09/27/2017	10/16/2017	09/06/2017	09/13/2017
Parameters	**Unit**							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

Location ID:		**Trip Blank**	**Trip Blank**	**Trip Blank**	**Trip Blank**	**Trip Blank**	**Trip Blank**	**Trip Blank**
Sample Name:		**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**	**TRIP BLANK**
Sample Date:		**09/14/2017**	**09/20/2017**	**09/21/2017**	**09/27/2017**	**10/03/2017**	**10/05/2017**	**10/16/2017**
Parameters	**Unit**							
Volatile Organic Compounds								
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

J - Estimated concentration
ND( ) - Not detected at the associated reporting limit

Table 3

Analytical Methods
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

Analyte	Methods	Matrix	Holding Time Collection to Analysis (Days)
Volatile Organic Compounds	SW8260	Water	14

Notes:

SW-846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 4

Qualified Sample Results Due to Outlying MS/MSD Results
Semiannual Groundwater Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September and October 2017

Parameter	Sample ID	Analyte	MS % Recovery	MSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Qualified Result	Units
VOC	GW-092117-PG-41	1,1-Dichloroethene	80	96	18	72-121	14	1.8 J	µg/L
	GW-092117-PG-41	cis-1,2-Dichloroethene	76	75	16	72-117	13	9.7 J	µg/L

Notes:

MS - Matrix Spike
MSD - Matrix Spike Duplicate
RPD - Relative Percent Difference
J - Estimated concentration
VOC - Volatile Organic Compounds

Memorandum

July 31, 2017

To:	Manfred Plaschke	Ref. No.:	013932-131
From:	Sheri Finn/adh/58	Tel:	716-205-1977
CC:	Eric Mannlein		

Subject: **Analytical Results and Reduced Validation**
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
July 2017

1. Introduction

This document details a reduced validation of analytical results for water samples collected in support of the monthly process water sampling at the Motorola-52nd Street Superfund Site in Phoenix, Arizona during July 2017. The samples were submitted to SGS Accutest, located in Houston, Texas. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes and laboratory control samples (LCS), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the documents entitled:

i) "QAPP", 013932 Report 4, Revision 5, February 2011

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criterion for the analysis is summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding time. All samples were analyzed within the required holding time.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the method employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met those criteria.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the method employed, independent of sample matrix effects.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained the analytes of interest. LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

6. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, one field blank sample, and one field duplicate sample set.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

Field Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, a field blank was submitted for analysis, as identified in Table 1. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The relative percent differences (RPDs) associated with the duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

7. Analyte Reporting

No positive analyte detections less than the RL but greater than the method detection limit (MDL) were reported. Non-detect results were presented as non-detect at the RL in Table 2.

8. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
July 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time	Analysis/Parameters VOCs	Comments
PS-070617-MM-01	Combined Influent	Water	07/06/2017	08:30:00	X	
PS-070617-MM-02	GAC04-B	Water	07/06/2017	08:35:00	X	
PS-070617-MM-03	GAC05-B	Water	07/06/2017	08:40:00	X	
PS-070617-MM-04	GAC06-B	Water	07/06/2017	08:45:00	X	
PS-070617-MM-05	GAC08-B	Water	07/06/2017	08:50:00	X	
PS-070617-MM-06	Facility Discharge	Water	07/06/2017	08:55:00	X	
PS-070617-MM-07	Facility Discharge	Water	07/06/2017	08:58:00	X	Field Duplicate of PS-070617-MM-06
PS-070617-MM-08	SRP Downstream	Water	07/06/2017	09:30:00	X	
PS-070617-MM-09	Field Blank	Water	07/06/2017	10:00:00	X	Field Blank
PS-070617-MM-10 TRIP BLANK	Trip Blank	Water	07/06/2017	00:00:00	X	Trip Blank

Notes:

VOCs - Volatile Organic Compounds

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
July 2017

	Location ID:	**Combined Influent**	**GAC04-B**	**GAC05-B**	**GAC06-B**	**GAC08-B**
	Sample Name:	**PS-070617-MM-01**	**PS-070617-MM-02**	**PS-070617-MM-03**	**PS-070617-MM-04**	**PS-070617-MM-05**
	Sample Date:	**07/06/2017**	**07/06/2017**	**07/06/2017**	**07/06/2017**	**07/06/2017**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	1.3	1.1	1.0	1.7	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.1	3.3	3.6	2.4	3.7
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	6.0	8.4	11.3	8.0	7.1
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	2.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	34.4	ND(0.50)	ND(0.50)	5.0	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
July 2017

Location ID:		**Facility Discharge**	**Facility Discharge**	**SRP Downstream**	**Field Blank**	**Trip Blank**
Sample Name:		**PS-070617-MM-06**	**PS-070617-MM-07**	**PS-070617-MM-08**	**PS-070617-MM-09**	**PS-070617-MM-10 TRIP BLANK**
Sample Date:		**07/06/2017**	**07/06/2017**	**07/06/2017**	**07/06/2017**	**07/06/2017**
			Duplicate			
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.2	2.2	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	1.2	1.2	ND(1.0)	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

ND( ) - Not detected at the associated reporting limit

Table 3

Analytical Method
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
July 2017

Analyte	Methods	Matrix	Holding Time Collection to Analysis (Days)
Volatile Organic Compounds	SW8260C	Water	14

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Memorandum

August 22, 2017

To:	Manfred Plaschke	Ref. No.:	013932-131
From:	Sheri Finn/adh/60	Tel:	716-205-1970
cc:	Eric Mannlein		

Subject: **Analytical Results and Reduced Validation**
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
August 2017

1. Introduction

This document details a reduced validation of analytical results for water samples collected in support of the monthly process water sampling at the Motorola 52nd Street Superfund Site in Phoenix, Arizona during August 2017. The samples were submitted to SGS Accutest, located in Houston, Texas. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes and laboratory control samples (LCS), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) "QAPP", 013932 Report 4, Revision 5, February 2011

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses is summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were analyzed within the required holding time.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met those criteria.

5. Laboratory Control Sample Analyses

LCS/laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained the compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

6. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, one field blank sample, and one field duplicate sample set.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

Field Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, a field blank was submitted for analysis, as identified in Table 1. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with the duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

7. Analyte Reporting

No positive analyte detections less than the RL but greater than the method detection limit (MDL) were reported. Non-detect results were presented as non-detect at the RL in Table 2.

8. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
August 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time	Analysis/Parameters VOCs (8260C)	Analysis/Parameters VOCs (624)	Comments
PS-080217-MM-01	BWWW Discharge	Water	08/02/2017	10:30		X	
PS-080217-MM-02	Combined Influent	Water	08/02/2017	10:40	X		
PS-080217-MM-07	Facility Discharge	Water	08/02/2017	11:05	X		
PS-080217-MM-08	Facility Discharge	Water	08/02/2017	11:08	X		Field Duplicate of PS-080217-MM-07
PS-080217-MM-03	GAC04-B	Water	08/02/2017	10:45	X		
PS-080217-MM-04	GAC05-B	Water	08/02/2017	10:50	X		
PS-080217-MM-05	GAC06-B	Water	08/02/2017	10:55	X		
PS-080217-MM-06	GAC08-B	Water	08/02/2017	11:00	X		
PS-080217-MM-09	SRP Downstream	Water	08/02/2017	09:05	X		
PS-080217-MM-10	Field Blank	Water	08/02/2017	11:25	X		Field Blank
PS-080217-MM-11 TRIP BLANK	Trip Blank	Water	08/02/2017	00:00	X		Trip Blank

Notes:

VOCs - Volatile Organic Compounds

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
August 2017

Location ID:		BWWW Discharge	Combined Influent	Facility Discharge	Facility Discharge	GAC04-B	GAC05-B
Sample Name:		PS-080217-MM-01	PS-080217-MM-02	PS-080217-MM-07	PS-080217-MM-08	PS-080217-MM-03	PS-080217-MM-04
Sample Date:		08/02/2017	08/02/2017	08/02/2017	08/02/2017	08/02/2017	08/02/2017
					Duplicate		
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	1.6	ND(1.0)	ND(1.0)	1.4	1.4
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(1.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	1.9	3.0	3.0	2.4	3.0
Chloromethane (Methyl chloride)	µg/L	ND(1.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	3.0	6.8	5.3	5.4	8.5	12.2
m&p-Xylenes	µg/L	ND(2.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	2.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	3.8	33.3	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(1.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(3.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
August 2017

Location ID:		**GAC06-B**	**GAC08-B**	**SRP Downstream**	**Field Blank**	**Trip Blank**
Sample Name:		**PS-080217-MM-05**	**PS-080217-MM-06**	**PS-080217-MM-09**	**PS-080217-MM-10**	**PS-080217-MM-11 TRIP BLANK**
Sample Date:		**08/02/2017**	**08/02/2017**	**08/02/2017**	**08/02/2017**	**08/02/2017**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	2.1	1.2	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.3	3.1	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	8.9	9.5	ND(1.0)	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	8.8	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

ND( ) - Not detected at the associated reporting limit

Table 3

Analytical Method
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
August 2017

Analyte	Methods	Matrix	Holding Time Collection to Analysis (Days)
Volatile Organic Compounds	SW8260C	Water	14
Volatile Organic Compounds	EPA 624	Water	14

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
EPA - Referenced from "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", USEPA-600/4-82-057, July 1982 and subsequent revisions
USEPA - United States Environmental Protection Agency

Memorandum

October 4, 2017

To:	Manfred Plaschke	Ref. No.:	013932-131
From:	Sheri Finn/cs/61-NF	Tel:	716-205-1977
cc:	Eric Mannlein		

Subject: **Analytical Results and Reduced Validation**
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

1. Introduction

This document details a reduced validation of analytical results for water samples collected in support of the monthly process water sampling at the Motorola 52nd Street Superfund Site in Phoenix, Arizona during September 2017. The samples were submitted to Accutest, located in San Jose, California. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates, and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) "QAPP", 013932 Report 4, Revision 5, February 2011

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

iii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994

Items ii and iii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses is summarized in Table 3. The sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the method employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All recoveries met the lab criteria.

5. Laboratory Control Sample Analyses

LCS or LCS/laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

LCS or LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS or LCS/LCSD contained the analytes of interest. All LCS recoveries and RPDs were within the laboratory control limits demonstrating acceptable analytical accuracy and precision.

6. Matrix Spike/Matrix Spike Duplicate Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with known concentrations of the compounds of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

MS/MSD analysis was performed internally by the laboratory.

The MS/MSD sample was spiked with the compounds of interest for metals and general chemistry analyses. All percent recoveries and RPD values were within the laboratory control limits demonstrating acceptable analytical accuracy and precision for those analyses.

7. Duplicate Sample Analyses – Inorganic Analyses

Analytical precision is evaluated based on the analysis of laboratory duplicate samples. For this study, duplicate samples were prepared and analyzed by the laboratory for some general chemistry analyses. The duplicate results were evaluated per the "Guidelines". All duplicate analyses performed were acceptable demonstrating acceptable analytical precision.

8. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, one rinse blank sample, and one field duplicate sample set.

8.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, a trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

8.2 Rinse Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, a rinse blank was submitted for analysis, as identified in Table 1. All results were non-detect for the compounds of interest.

8.3 Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with the duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

9. Analyte Reporting

No positive analyte detections less than the RL but greater than the method detection limit (MDL) were reported. Non-detect results were presented as non-detect at the RL in Table 2.

10. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time	Analysis/Parameters: TCL VOC	Boron	Calcium and Magnesium	Dissolved Calcium and Magnesium	Metals and Mercury	Hardness	Alkalinity	TDS	Ortho Phosphate	Fluoride, Chloride, Sulfate, Nitrate and Nitrite	Comments
PS-091517-MM-01	Combined Influent	Water	09/05/2017	10:20	X		X			X	X	X			
PS-091517-MM-01	Combined Influent	Water	09/15/2017	11:00				X							
PS-090517-MM-09	EWM	Water	09/05/2017	11:30	X										
PS-090517-MM-10	EWN	Water	09/05/2017	11:45	X										
PS-090517-MM-08	EWS	Water	09/05/2017	11:00	X										
PS-090517-MM-06	Facility Discharge	Water	09/05/2017	10:50	X										
PS-090517-MM-07	Facility Discharge	Water	09/05/2017	10:53	X										Field Duplicate of PS-090517-MM-06
PS-090517-MM-02	GAC02-A	Water	09/05/2017	10:30	X										
PS-090517-MM-03	GAC05-A	Water	09/05/2017	10:35	X										
PS-090517-MM-04	GAC06-A	Water	09/05/2017	10:40	X										
PS-090517-MM-05	GAC07-A	Water	09/05/2017	10:45	X										
PS-090517-MM-11	SRP Discharge	Water	09/05/2017	12:15	X										
PS-090517-MM-15	SRP Discharge	Water	09/05/2017	12:18		X			X	X	X	X	X	X	MS/MSD
PS-090517-MM-12	SRP Downstream	Water	09/05/2017	12:30	X										
PS-090517-MM-17	SRP Downstream	Water	09/05/2017	12:40		X									
PS-090517-MM-16	SRP Upstream	Water	09/05/2017	12:05		X									
PS-090517-MM-13	Field Blank	Field Blank	09/05/2017	13:00	X										Field Blank
TRIP BLANK-14	Trip Blank	Trip Blank	09/05/2017	00:00	X										Trip Blank

Notes:

TCL - Target Compound List
VOC - Volatile Organic Compounds
TDS - Total Dissolved Solids

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

	Location ID:	**Combined Influent**	**Combined Influent**	**EWM**	**EWN**	**EWS**
	Sample Name:	**PS-090517-MM-01**	**PS-091517-MM-01**	**PS-090517-MM-09**	**PS-090517-MM-10**	**PS-090517-MM-08**
	Sample Date:	**09/05/2017**	**09/15/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**
	Depth:	**--**	**--**	**--**	**--**	**--**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	1.5
1,1-Dichloroethene	µg/L	ND(1.0)	--	1.3	ND(1.0)	3.3
1,2-Dichloroethane	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	--	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	1.9	--	1.9	1.1	3.6
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	--	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	5.5	--	7.2	ND(1.0)	9.8
m&p-Xylenes	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	--	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	2.0	--	1.8	1.1	4.3
Toluene	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	29.5	--	38.7	7.7	45.4
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	--	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	--	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)	ND(1.0)
Metals						
Arsenic	µg/L	--	--	--	--	--
Barium	µg/L	--	--	--	--	--
Boron	µg/L	--	--	--	--	--
Cadmium	µg/L	--	--	--	--	--
Calcium	µg/L	92600	--	--	--	--
Calcium (dissolved)	µg/L	--	91100	--	--	--
Copper	µg/L	--	--	--	--	--
Iron	µg/L	--	--	--	--	--
Lead	µg/L	--	--	--	--	--
Magnesium	µg/L	34900	--	--	--	--
Magnesium (dissolved)	µg/L	--	34100	--	--	--

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

	Location ID:	**Combined Influent**	**Combined Influent**	**EWM**	**EWN**	**EWS**
	Sample Name:	**PS-090517-MM-01**	**PS-091517-MM-01**	**PS-090517-MM-09**	**PS-090517-MM-10**	**PS-090517-MM-08**
	Sample Date:	**09/05/2017**	**09/15/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**
	Depth:	**--**	**--**	**--**	**--**	**--**
Parameters	**Unit**					
Metals						
Mercury	µg/L	--	--	--	--	--
Potassium	µg/L	--	--	--	--	--
Selenium	µg/L	--	--	--	--	--
Sodium	µg/L	--	--	--	--	--
Zinc	µg/L	--	--	--	--	--
General Chemistry						
Alkalinity, bicarbonate (calculated)	mg/L	248	--	--	--	--
Alkalinity, carbonate	mg/L	ND(5.0)	--	--	--	--
Alkalinity, total (as CaCO3)	mg/L	248	--	--	--	--
Chloride	mg/L	--	--	--	--	--
Fluoride	mg/L	--	--	--	--	--
Hardness	mg/L	375	--	--	--	--
Nitrate (as N)	mg/L	--	--	--	--	--
Nitrite (as N)	mg/L	--	--	--	--	--
Orthophosphate	mg/L	--	--	--	--	--
Sulfate	mg/L	--	--	--	--	--
Total dissolved solids (TDS)	mg/L	1270	--	--	--	--

Notes:

-- - Not applicable
ND - Not detected at the associated reporting limit

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

	Location ID:	**Combined Influent**	**Facility Discharge**	**Facility Discharge**	**GAC02-A**	**GAC05-A**	**GAC06-A**
	Sample Name:	**PS-090517-MM-01**	**PS-090517-MM-06**	**PS-090517-MM-07**	**PS-090517-MM-02**	**PS-090517-MM-03**	**PS-090517-MM-04**
	Sample Date:	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**
	Depth:	**--**	**--**	**--**	**--**	**--**	**--**
				Duplicate			
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.6
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	1.9	ND(1.0)	ND(1.0)	3.4	3.8	2.5
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	5.5	ND(1.0)	ND(1.0)	7.7	5.1	9.9
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	2.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	29.5	ND(0.50)	ND(0.50)	0.63	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Metals							
Arsenic	µg/L	--	--	--	--	--	--
Barium	µg/L	--	--	--	--	--	--
Boron	µg/L	--	--	--	--	--	--
Cadmium	µg/L	--	--	--	--	--	--
Calcium	µg/L	92600	--	--	--	--	--
Calcium (dissolved)	µg/L	--	--	--	--	--	--
Copper	µg/L	--	--	--	--	--	--
Iron	µg/L	--	--	--	--	--	--
Lead	µg/L	--	--	--	--	--	--
Magnesium	µg/L	34900	--	--	--	--	--
Magnesium (dissolved)	µg/L	--	--	--	--	--	--

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

	Location ID:	**Combined Influent**	**Facility Discharge**	**Facility Discharge**	**GAC02-A**	**GAC05-A**	**GAC06-A**
	Sample Name:	**PS-090517-MM-01**	**PS-090517-MM-06**	**PS-090517-MM-07**	**PS-090517-MM-02**	**PS-090517-MM-03**	**PS-090517-MM-04**
	Sample Date:	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**
	Depth:	**--**	**--**	**--**	**--**	**--**	**--**
				Duplicate			
Parameters	**Unit**						
Metals							
Mercury	µg/L	--	--	--	--	--	--
Potassium	µg/L	--	--	--	--	--	--
Selenium	µg/L	--	--	--	--	--	--
Sodium	µg/L	--	--	--	--	--	--
Zinc	µg/L	--	--	--	--	--	--
General Chemistry							
Alkalinity, bicarbonate (calculated)	mg/L	248	--	--	--	--	--
Alkalinity, carbonate	mg/L	ND(5.0)	--	--	--	--	--
Alkalinity, total (as CaCO3)	mg/L	248	--	--	--	--	--
Chloride	mg/L	--	--	--	--	--	--
Fluoride	mg/L	--	--	--	--	--	--
Hardness	mg/L	375	--	--	--	--	--
Nitrate (as N)	mg/L	--	--	--	--	--	--
Nitrite (as N)	mg/L	--	--	--	--	--	--
Orthophosphate	mg/L	--	--	--	--	--	--
Sulfate	mg/L	--	--	--	--	--	--
Total dissolved solids (TDS)	mg/L	1270	--	--	--	--	--

Notes:

-- - Not applicable
ND - Not detected at the associated reporting limit

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

	Location ID:	**Combined Influent**	**GAC07-A**	**SRP Discharge**	**SRP Discharge**	**SRP Downstream**	**SRP Downstream**
	Sample Name:	**PS-090517-MM-01**	**PS-090517-MM-05**	**PS-090517-MM-11**	**PS-090517-MM-15**	**PS-090517-MM-12**	**PS-090517-MM-17**
	Sample Date:	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**
	Depth:	**--**	**--**	**--**	**--**	**--**	**--**
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
1,1-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--	ND(2.0)	--
Chloroform (Trichloromethane)	µg/L	1.9	3.4	ND(1.0)	--	ND(1.0)	--
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	--	ND(2.0)	--
cis-1,2-Dichloroethene	µg/L	5.5	5.8	ND(1.0)	--	ND(1.0)	--
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	--	ND(0.50)	--
Tetrachloroethene	µg/L	2.0	ND(1.0)	ND(1.0)	--	ND(1.0)	--
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
Trichloroethene	µg/L	29.5	ND(0.50)	ND(0.50)	--	ND(0.50)	--
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	--	ND(4.0)	--
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	--	ND(0.50)	--
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	--	ND(1.0)	--
Metals							
Arsenic	µg/L	--	--	--	ND(8.0)	--	--
Barium	µg/L	--	--	--	51.1	--	--
Boron	µg/L	--	--	--	1990	--	217
Cadmium	µg/L	--	--	--	ND(4.0)	--	--
Calcium	µg/L	92600	--	--	97700	--	--
Calcium (dissolved)	µg/L	--	--	--	--	--	--
Copper	µg/L	--	--	--	ND(4.0)	--	--
Iron	µg/L	--	--	--	ND(200)	--	--
Lead	µg/L	--	--	--	ND(2.0)	--	--
Magnesium	µg/L	34900	--	--	36400	--	--
Magnesium (dissolved)	µg/L	--	--	--	--	--	--

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

	Location ID:	**Combined Influent**	**GAC07-A**	**SRP Discharge**	**SRP Discharge**	**SRP Downstream**	**SRP Downstream**
	Sample Name:	**PS-090517-MM-01**	**PS-090517-MM-05**	**PS-090517-MM-11**	**PS-090517-MM-15**	**PS-090517-MM-12**	**PS-090517-MM-17**
	Sample Date:	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**
	Depth:	**--**	**--**	**--**	**--**	**--**	**--**
Parameters	**Unit**						
Metals							
Mercury	µg/L	--	--	--	ND(0.20)	--	--
Potassium	µg/L	--	--	--	6450	--	--
Selenium	µg/L	--	--	--	ND(10)	--	--
Sodium	µg/L	--	--	--	279000	--	--
Zinc	µg/L	--	--	--	ND(12)	--	--
General Chemistry							
Alkalinity, bicarbonate (calculated)	mg/L	248	--	--	215	--	--
Alkalinity, carbonate	mg/L	ND(5.0)	--	--	ND(5.0)	--	--
Alkalinity, total (as CaCO3)	mg/L	248	--	--	215	--	--
Chloride	mg/L	--	--	--	319	--	--
Fluoride	mg/L	--	--	--	0.61	--	--
Hardness	mg/L	375	--	--	394	--	--
Nitrate (as N)	mg/L	--	--	--	6.4	--	--
Nitrite (as N)	mg/L	--	--	--	ND(0.50)	--	--
Orthophosphate	mg/L	--	--	--	0.081	--	--
Sulfate	mg/L	--	--	--	266	--	--
Total dissolved solids (TDS)	mg/L	1270	--	--	1270	--	--

Notes:

-- - Not applicable
ND - Not detected at the associated reporting limit

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

	Location ID:	**Combined Influent**	**SRP Upstream**	**Field Blank**	**Trip Blank**
	Sample Name:	**PS-090517-MM-01**	**PS-090517-MM-16**	**PS-090517-MM-13**	**TRIP BLANK-14**
	Sample Date:	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**
	Depth:	**--**	**--**	**--**	**--**
Parameters	**Unit**				
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	--	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	1.9	--	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	--	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	5.5	--	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	--	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	2.0	--	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	29.5	--	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	--	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	--	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	--	ND(1.0)	ND(1.0)
Metals					
Arsenic	µg/L	--	--	--	--
Barium	µg/L	--	--	--	--
Boron	µg/L	--	119	--	--
Cadmium	µg/L	--	--	--	--
Calcium	µg/L	92600	--	--	--
Calcium (dissolved)	µg/L	--	--	--	--
Copper	µg/L	--	--	--	--
Iron	µg/L	--	--	--	--
Lead	µg/L	--	--	--	--
Magnesium	µg/L	34900	--	--	--
Magnesium (dissolved)	µg/L	--	--	--	--

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

	Location ID:	**Combined Influent**	**SRP Upstream**	**Field Blank**	**Trip Blank**
	Sample Name:	**PS-090517-MM-01**	**PS-090517-MM-16**	**PS-090517-MM-13**	**TRIP BLANK-14**
	Sample Date:	**09/05/2017**	**09/05/2017**	**09/05/2017**	**09/05/2017**
	Depth:	**--**	**--**	**--**	**--**
Parameters	**Unit**				
Metals					
Mercury	µg/L	--	--	--	--
Potassium	µg/L	--	--	--	--
Selenium	µg/L	--	--	--	--
Sodium	µg/L	--	--	--	--
Zinc	µg/L	--	--	--	--
General Chemistry					
Alkalinity, bicarbonate (calculated)	mg/L	248	--	--	--
Alkalinity, carbonate	mg/L	ND(5.0)	--	--	--
Alkalinity, total (as CaCO3)	mg/L	248	--	--	--
Chloride	mg/L	--	--	--	--
Fluoride	mg/L	--	--	--	--
Hardness	mg/L	375	--	--	--
Nitrate (as N)	mg/L	--	--	--	--
Nitrite (as N)	mg/L	--	--	--	--
Orthophosphate	mg/L	--	--	--	--
Sulfate	mg/L	--	--	--	--
Total dissolved solids (TDS)	mg/L	1270	--	--	--

Notes:

-- - Not applicable
ND - Not detected at the associated reporting limit

Table 3

Analytical Methods
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
September 2017

Analyte	Methods	Matrix	Holding Time Collection to Analysis (Days)
Volatile Organic Compounds	SW8260	Water	14
Metals	EPA 200.7 and 200.8 and SW6010C	Water	180
Mercury	EPA 245.1	Water	28
Hardness	SM2340B	Water	180
Alkalinity	SM2320B	Water	14
Total Dissolved Solids	SM2540C	Water	7
Chloride, Sulfate	SW9056	Water	28
Fluoride	SW9214	Water	28
Ortho Phosphate	SM4500P-E	Water	48 hours
Nitrate, Nitrite	SW9056	Water	48 hours

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

EPA - "Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, revised March 1983, with subsequent revisions

SM - "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, with subsequent revisions

Memorandum

October 18, 2017

To:	Manfred Plaschke	Ref. No.:	013932-131
From:	Sheri Finn/adh/62	Tel:	716-205-1977
CC:	Brooks Dillard		

Subject: **Analytical Results and Reduced Validation**
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
October 2017

1. Introduction

This document details a reduced validation of analytical results for water samples collected in support of the monthly process water sampling at the Motorola-52nd Street Superfund Site in Phoenix, Arizona during October 2017. The samples were submitted to SGS Accutest, located in Houston, Texas. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes and laboratory control samples (LCS), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the documents entitled:

i) "QAPP", 013932 Report 4, Revision 5, February 2011

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criterion for the analysis is summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding time. All samples were analyzed within the required holding time.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the method employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met those criteria.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the method employed, independent of sample matrix effects.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained the analytes of interest. LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

6. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, one field blank sample, and one field duplicate sample set.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

Field Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, a field blank was submitted for analysis, as identified in Table 1. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The relative percent differences (RPDs) associated with the duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

7. Analyte Reporting

No positive analyte detections less than the RL but greater than the method detection limit (MDL) were reported. Non-detect results were presented as non-detect at the RL in Table 2.

8. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
October 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time	Analysis/Parameters VOCs	Comments
PS-100317-MM-01	Combined Influent	Water	10/03/2017	08:30	X	
PS-100317-MM-06	Facility Discharge	Water	10/03/2017	09:00	X	
PS-100317-MM-07	Facility Discharge	Water	10/03/2017	09:03	X	Field Duplicate of PS-100317-MM-06
PS-100317-MM-02	GAC02-A	Water	10/03/2017	08:35	X	
PS-100317-MM-03	GAC05-A	Water	10/03/2017	08:40	X	
PS-100317-MM-04	GAC06-A	Water	10/03/2017	08:45	X	
PS-100317-MM-05	GAC07-A	Water	10/03/2017	08:50	X	
PS-100317-MM-08	SRP Downstream	Water	10/03/2017	09:30	X	
PS-100317-MM-09	Field Blank	Water	10/03/2017	11:00	X	Field Blank
PS-100317-MM-10 TRIP BLANK	Trip Blank	Water	10/03/2017	00:00	X	Trip Blank

Notes:

VOCs - Volatile Organic Compounds

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
October 2017

Location ID:		Combined Influent	Facility Discharge	Facility Discharge	GAC02-A	GAC05-A
Sample Name:		PS-100317-MM-01	PS-100317-MM-06	PS-100317-MM-07	PS-100317-MM-02	PS-100317-MM-03
Sample Date:		10/03/2017	10/03/2017	10/03/2017	10/03/2017	10/03/2017
				Duplicate		
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.1	ND(1.0)	ND(1.0)	3.4	3.5
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	6.3	ND(1.0)	ND(1.0)	9.3	10.1
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	1.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	33.0	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
October 2017

	Location ID:	**GAC06-A**	**GAC07-A**	**SRP Downstream**	**Field Blank**	**Trip Blank**
	Sample Name:	**PS-100317-MM-04**	**PS-100317-MM-05**	**PS-100317-MM-08**	**PS-100317-MM-09**	**PS-100317-MM-10 TRIP BLANK**
	Sample Date:	**10/03/2017**	**10/03/2017**	**10/03/2017**	**10/03/2017**	**10/03/2017**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	2.3	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.7	3.5	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	11.0	6.9	ND(1.0)	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

ND( ) - Not detected at the associated reporting limit

Table 3

Analytical Method
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
October 2017

Analyte	Methods	Matrix	Holding Time Collection to Analysis (Days)
Volatile Organic Compounds	SW8260C	Water	14

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Memorandum

November 15, 2017

To:	Manfred Plaschke	Ref. No.:	013932-131
From:	Sheri Finn/adh/66	Tel:	716-205-1977
cc:	Brooks Dillard		

Subject: **Analytical Results and Reduced Validation**
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
November 2017

1. Introduction

This document details a reduced validation of analytical results for water samples collected in support of the monthly process water sampling at the Motorola 52nd Street Superfund Site in Phoenix, Arizona during November 2017. The samples were submitted to SGS Accutest, located in Houston, Texas. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), and matrix spike/matrix spike duplicate (MS/MSD), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) "QAPP", 013932 Report 4, Revision 5, February 2011

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses is summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were analyzed within the required holding time.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met those criteria.

5. Laboratory Control Sample Analyses

LCS or LCS/laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

LCS or LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS and LCS/LCSD contained the compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision (where applicable).

6. Matrix Spike/Matrix Spike Duplicate Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with known concentrations of the compounds of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

MS/MSD analysis was performed internally by the laboratory.

The MS/MSD sample was spiked with the compounds of interest for VOC analysis. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the exception of high methyl bromide recoveries. The associated sample result was non-detect and would not have been impacted by the implied high bias.

7. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, one field blank sample, and one field duplicate sample set.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

Field Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, a field blank was submitted for analysis, as identified in Table 1. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with the duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

8. Analyte Reporting

No positive analyte detections less than the RL but greater than the method detection limit (MDL) were reported. Non-detect results were presented as non-detect at the RL in Table 2.

9. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
November 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time	Analysis/Parameters VOCs (8260C)	Analysis/Parameters VOCs (624)	Comments
PS-110117-MM-01	BWWW Discharge	Water	11/01/2017	10:45:00		X	
PS-110117-MM-02	Combined Influent	Water	11/01/2017	11:00:00	X		
PS-110117-MM-07	Facility Discharge	Water	11/01/2017	11:25:00	X		
PS-110117-MM-08	Facility Discharge	Water	11/01/2017	11:27:00	X		Field Duplicate of PS-110117-MM-07
PS-110117-MM-03	GAC02-A	Water	11/01/2017	11:05:00	X		
PS-110117-MM-04	GAC05-A	Water	11/01/2017	11:10:00	X		
PS-110117-MM-05	GAC06-A	Water	11/01/2017	11:15:00	X		
PS-110117-MM-06	GAC07-A	Water	11/01/2017	11:20:00	X		
PS-110117-MM-09	SRP Downstream	Water	11/01/2017	11:45:00	X		
PS-110117-MM-10	Field Blank	Water	11/01/2017	12:10:00	X		Field Blank
PS-110117-MM-11 TRIP BLANK	Trip Blank	Water	11/01/2017	00:00:00	X		Trip Blank

Notes:

VOCs - Volatile Organic Compounds

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
November 2017

	Location ID:	**BWWW Discharge**	**Combined Influent**	**Facility Discharge**	**Facility Discharge**	**GAC02-A**	**GAC05-A**
	Sample Name:	**PS-110117-MM-01**	**PS-110117-MM-02**	**PS-110117-MM-07**	**PS-110117-MM-08**	**PS-110117-MM-03**	**PS-110117-MM-04**
	Sample Date:	**11/01/2017**	**11/01/2017**	**11/01/2017**	**11/01/2017**	**11/01/2017**	**11/01/2017**
					Duplicate		
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	ND(1.0)	1.3	ND(1.0)	ND(1.0)	1.3	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(1.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	ND(1.0)	2.1	2.6	2.6	2.8	3.1
Chloromethane (Methyl chloride)	µg/L	ND(1.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	ND(1.0)	6.1	3.2	3.2	8.8	10.3
m&p-Xylenes	µg/L	ND(2.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	2.1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	1.7	30.3	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(1.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(1.0)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(3.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
November 2017

	Location ID:	**GAC06-A**	**GAC07-A**	**SRP Downstream**	**Field Blank**	**Trip Blank**
	Sample Name:	**PS-110117-MM-05**	**PS-110117-MM-06**	**PS-110117-MM-09**	**PS-110117-MM-10**	**PS-110117-MM-11 TRIP BLANK**
	Sample Date:	**11/01/2017**	**11/01/2017**	**11/01/2017**	**11/01/2017**	**11/01/2017**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	2.0	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.5	2.7	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	8.9	6.5	1.2	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	6.8	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

ND( ) - Not detected; associated reporting limit is estimated

Table 3

Analytical Method
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
November 2017

Analyte	Methods	Matrix	Holding Time Collection to Analysis (Days)
Volatile Organic Compounds	SW8260C	Water	14
Volatile Organic Compounds	EPA 624	Water	14

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
EPA - Referenced from "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", USEPA-600/4-82-057, July 1982 and subsequent revisions
USEPA - United States Environmental Protection Agency

Memorandum

December 22, 2017

To:	Manfred Plaschke	Ref. No.:	013932-131
From:	Sheri Finn/adh/67	Tel:	716-205-1977
CC:	Brooks Dillard		

Subject: **Analytical Results and Reduced Validation**
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
December 2017

1. Introduction

This document details a reduced validation of analytical results for water samples collected in support of the monthly process water sampling at the Motorola-52nd Street Superfund Site in Phoenix, Arizona during December 2017. The samples were submitted to SGS Accutest, located in Houston, Texas. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes and laboratory control samples (LCS), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the documents entitled:

i) "QAPP", 013932 Report 4, Revision 5, February 2011

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criterion for the analysis is summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding time. All samples were analyzed within the required holding time.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the method employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met those criteria.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the method employed, independent of sample matrix effects.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained the analytes of interest. LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

6. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, one field blank sample, and one field duplicate sample set.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

Field Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, a field blank was submitted for analysis, as identified in Table 1. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The relative percent differences (RPDs) associated with the duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

7. Analyte Reporting

No positive analyte detections less than the RL but greater than the method detection limit (MDL) were reported. Non-detect results were presented as non-detect at the RL in Table 2.

8. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
December 2017

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time	Analysis/Parameters VOC	Comments
PS-120417-MM-01	Combined Influent	Water	12/04/2017	10:00	X	
PS-120417-MM-06	Facility Discharge	Water	12/04/2017	10:25	X	
PS-120417-MM-07	Facility Discharge	Water	12/04/2017	10:28	X	Field Duplicate of PS-120417-MM-06
PS-120417-MM-02	GAC02-B	Water	12/04/2017	10:05	X	
PS-120417-MM-03	GAC05-B	Water	12/04/2017	10:10	X	
PS-120417-MM-04	GAC06-B	Water	12/04/2017	10:15	X	
PS-120417-MM-05	GAC07-B	Water	12/04/2017	10:20	X	
PS-120417-MM-08	SRP Downstream	Water	12/04/2017	10:50	X	
PS-120417-MM-09	Field Blank	Water	12/04/2017	11:15	X	Field Blank
PS-120417-MM-10 TRIP BLANK	Trip Blank	Water	12/04/2017	00:00	X	Trip Blank

Notes:

VOC - Volatile Organic Compounds

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
December 2017

Location ID:		Combined Influent	Facility Discharge	Facility Discharge	GAC02-B	GAC05-B
Sample Name:		PS-120417-MM-01	PS-120417-MM-06	PS-120417-MM-07	PS-120417-MM-02	PS-120417-MM-03
Sample Date:		12/04/2017	12/04/2017	12/04/2017	12/04/2017	12/04/2017
				Duplicate		
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	1.8	ND(1.0)	ND(1.0)	3.1	3.4
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	5.5	ND(1.0)	ND(1.0)	6.7	1.9
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	1.7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	27.7	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Table 2

Analytical Results Summary
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
December 2017

Location ID:		**GAC06-B**	**GAC07-B**	**SRP Downstream**	**Field Blank**	**Trip Blank**
Sample Name:		**PS-120417-MM-04**	**PS-120417-MM-05**	**PS-120417-MM-08**	**PS-120417-MM-09**	**PS-120417-MM-10 TRIP BLANK**
Sample Date:		**12/04/2017**	**12/04/2017**	**12/04/2017**	**12/04/2017**	**12/04/2017**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,1-Dichloroethene	µg/L	1.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
1,2-Dichloroethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Benzene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromodichloromethane	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Bromomethane (Methyl bromide)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
Chloroform (Trichloromethane)	µg/L	2.9	3.7	ND(1.0)	ND(1.0)	ND(1.0)
Chloromethane (Methyl chloride)	µg/L	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
cis-1,2-Dichloroethene	µg/L	10.7	6.5	ND(1.0)	ND(1.0)	ND(1.0)
m&p-Xylenes	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
o-Xylene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Tetrachloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Toluene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
Trichloroethene	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Trichlorofluoromethane (CFC-11)	µg/L	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
Vinyl chloride	µg/L	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)
Xylenes (total)	µg/L	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)

Notes:

ND( ) - Not detected at the associated reporting limit

Table 3

Analytical Method
Monthly Process Water Sampling
Motorola-52nd Street Superfund Site-OU2 Area
Phoenix, Arizona
December 2017

Analyte	Methods	Matrix	Holding Time Collection to Analysis (Days)
Volatile Organic Compounds	SW8260C	Water	14

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Appendix C
Groundwater Monitoring Well Network Hydrographs and VOC Concentration Charts

Appendix C Hydrographs and VOC Concentration Charts

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* Removed from OU2 GES Monitoring Well Network (See Table 3.2 for Details)

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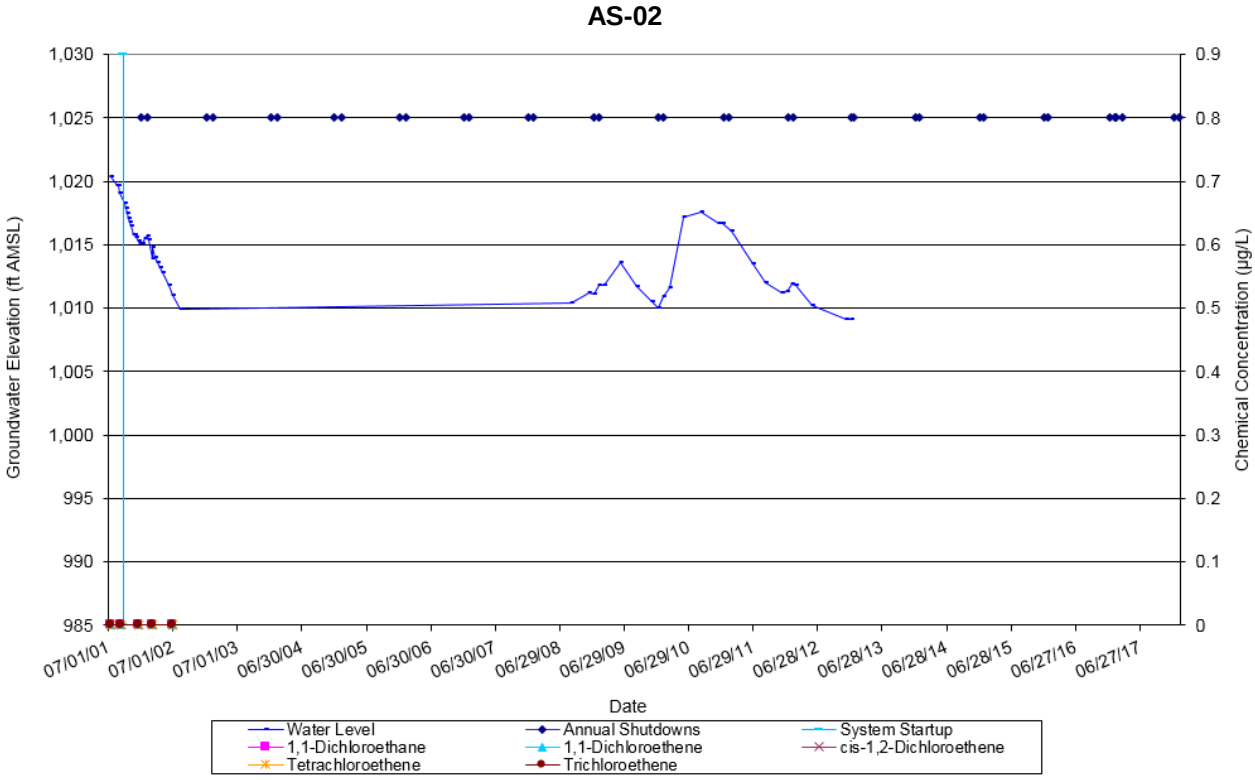
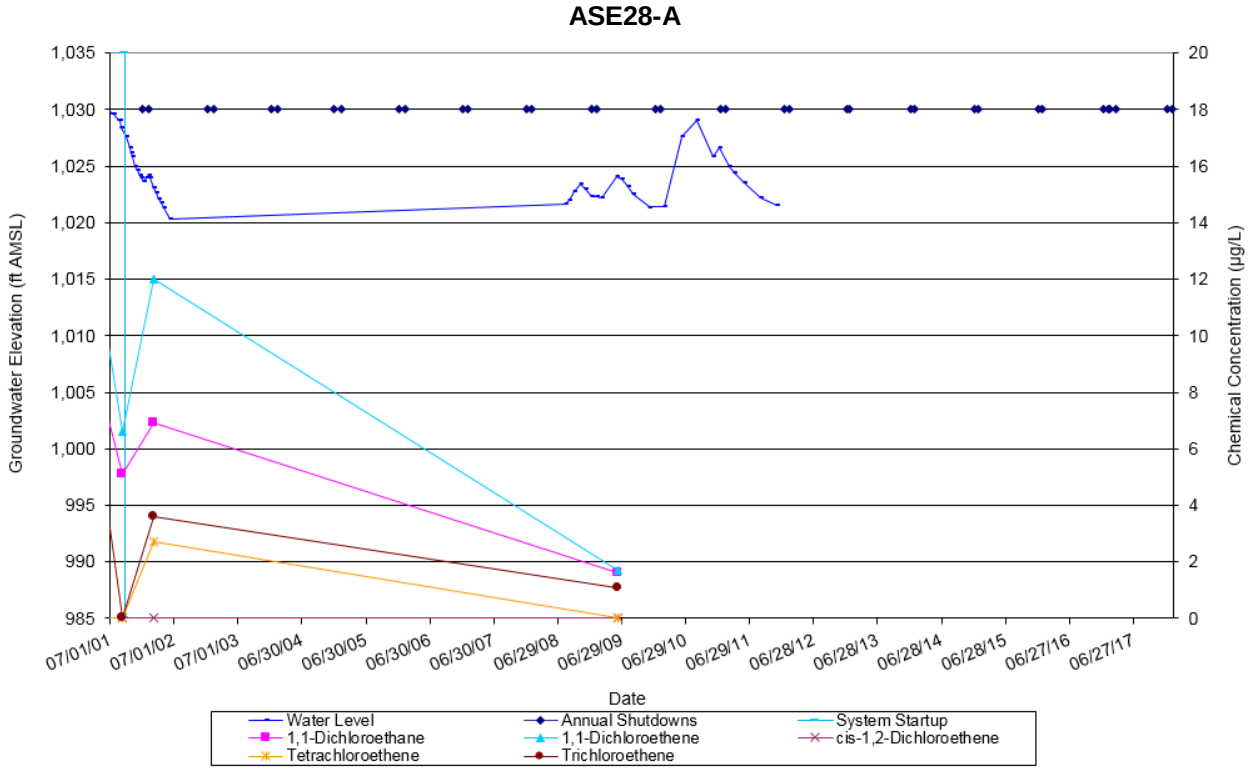
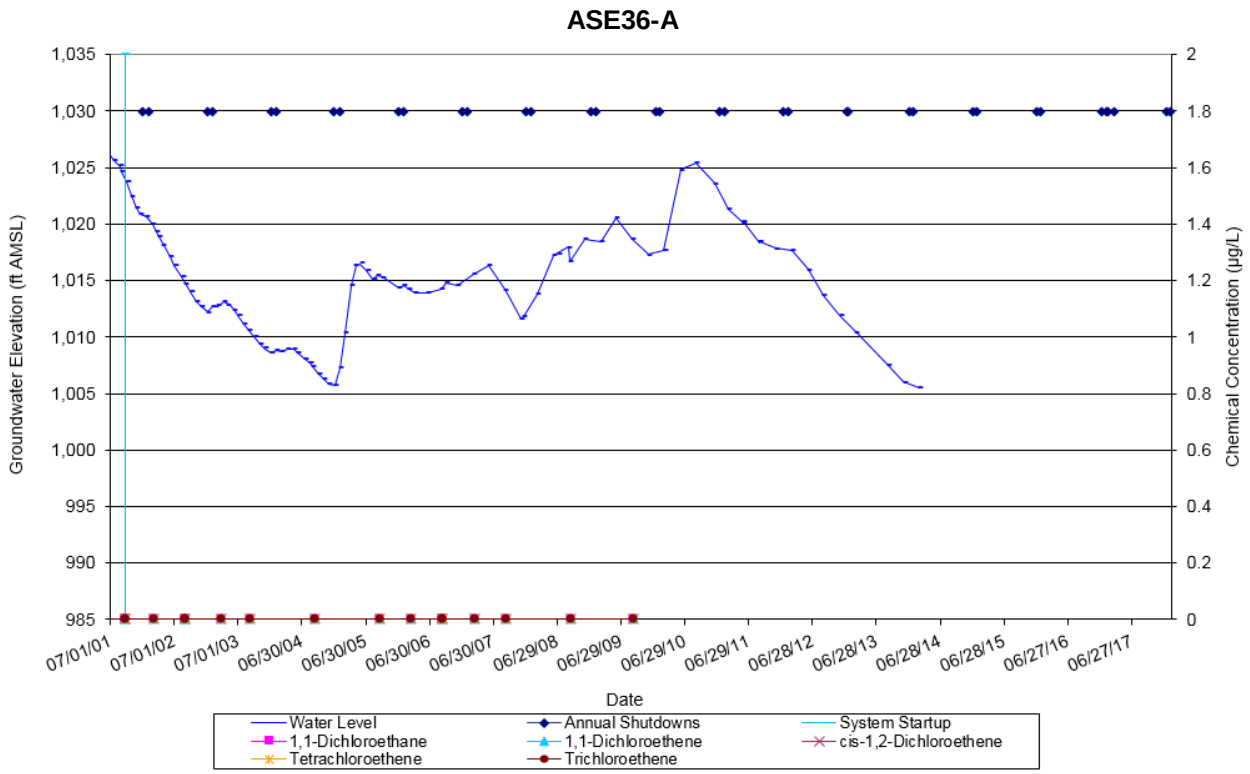
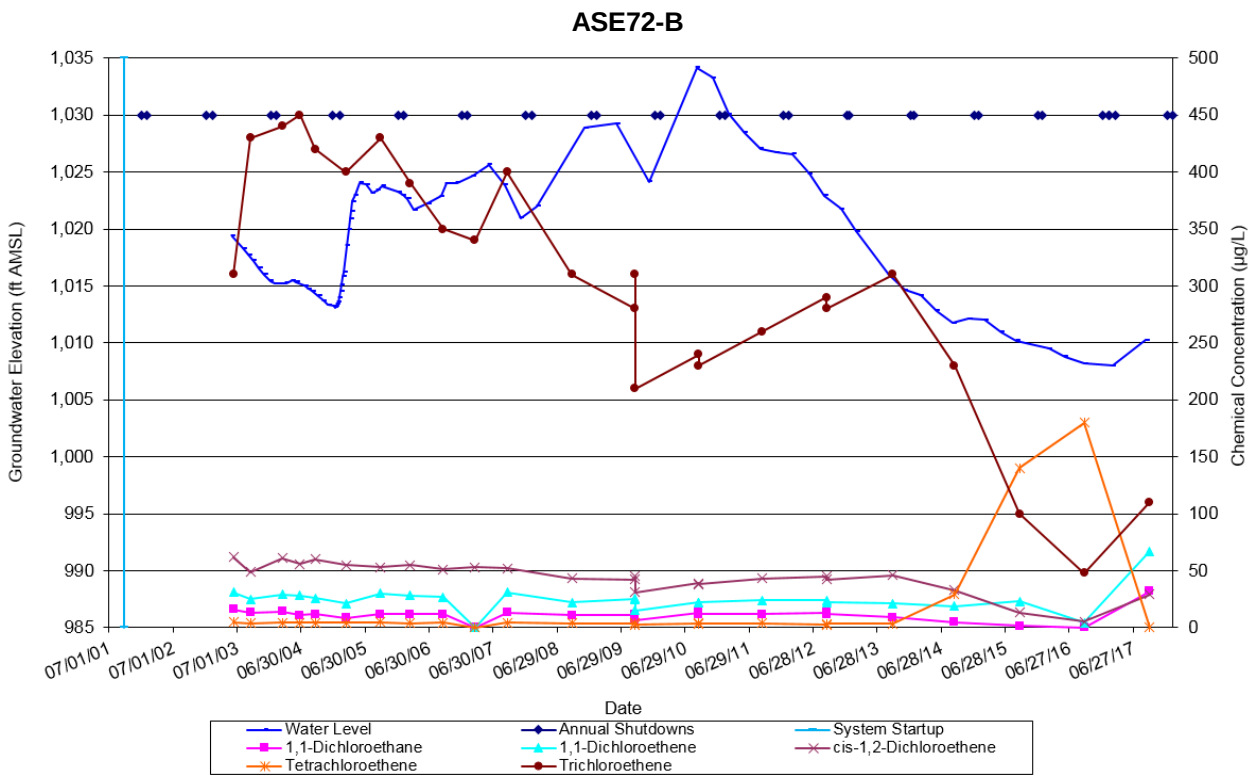
Appendix C Hydrographs and VOC Concentration Charts



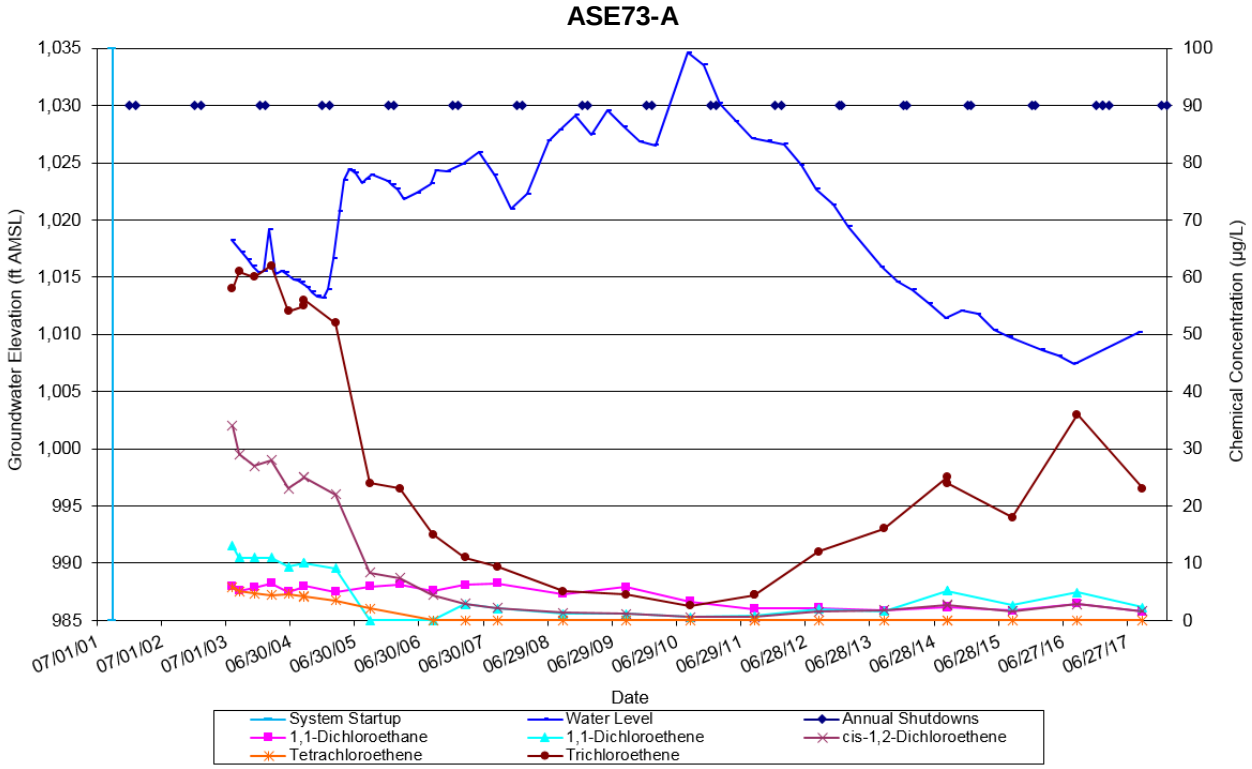


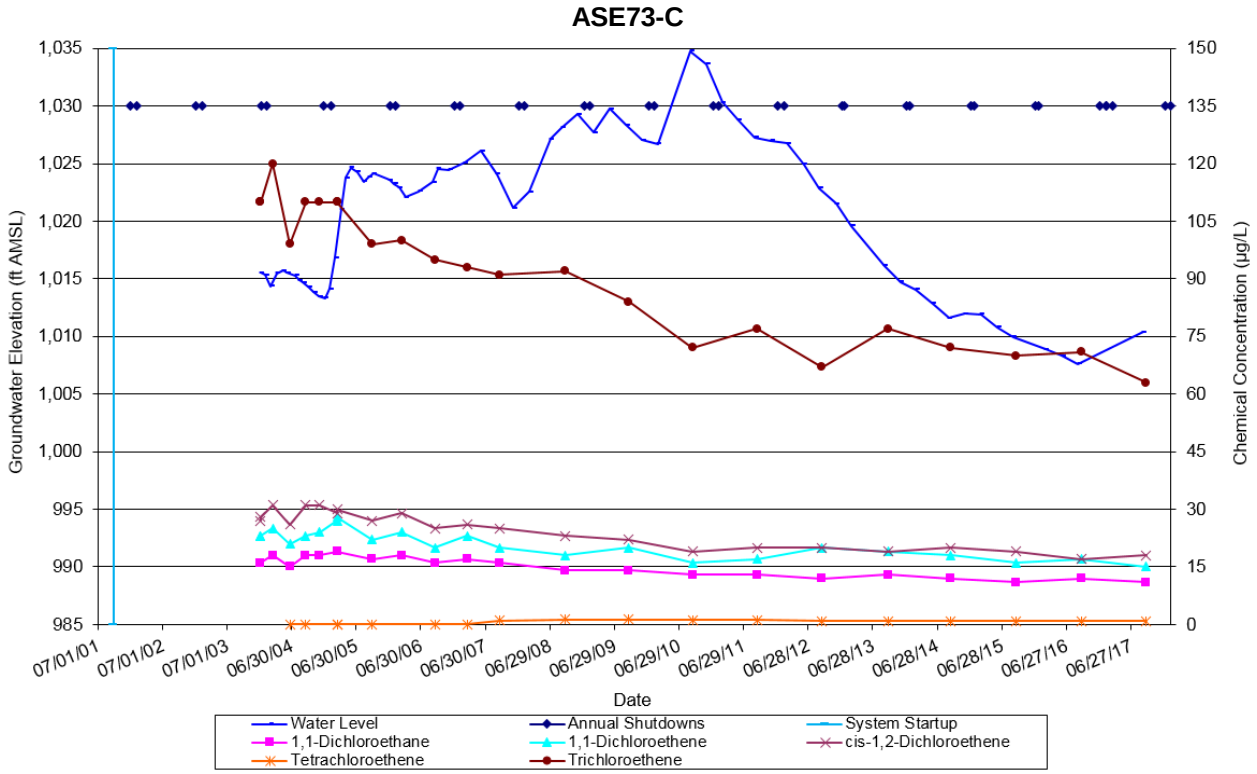
Appendix C Hydrographs and VOC Concentration Charts



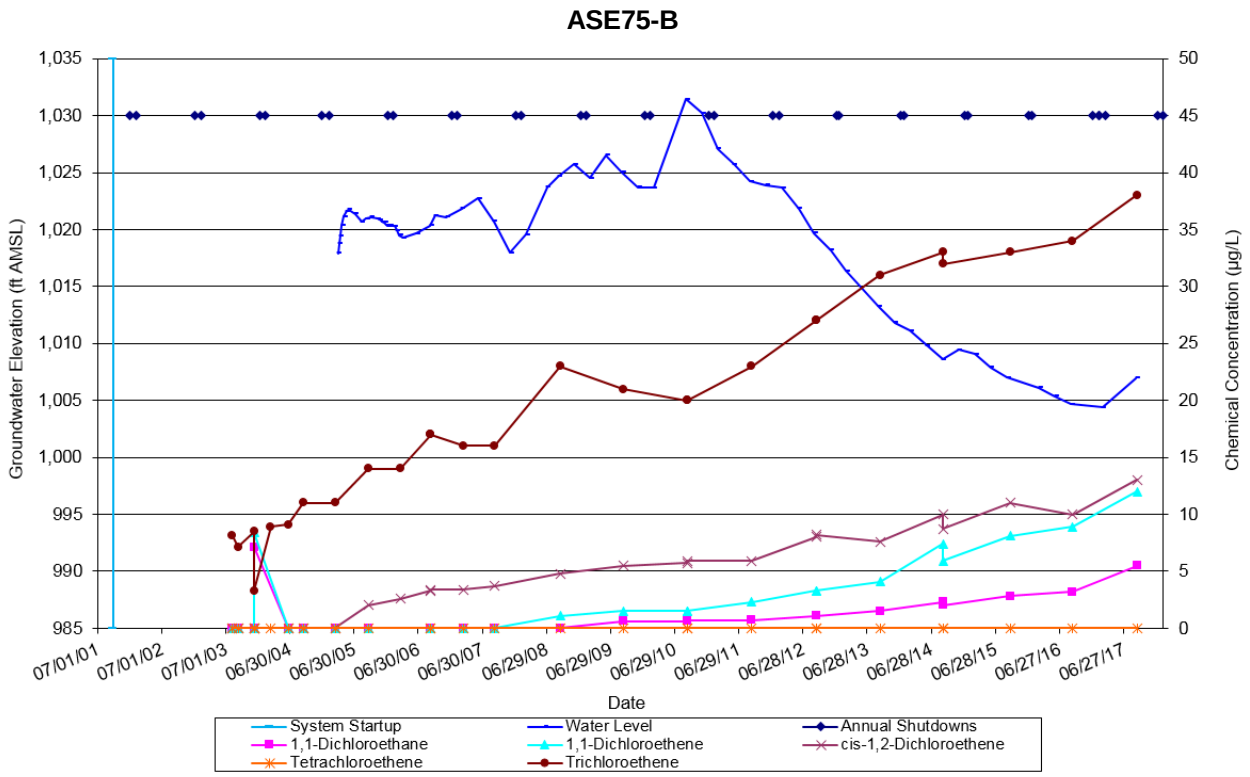


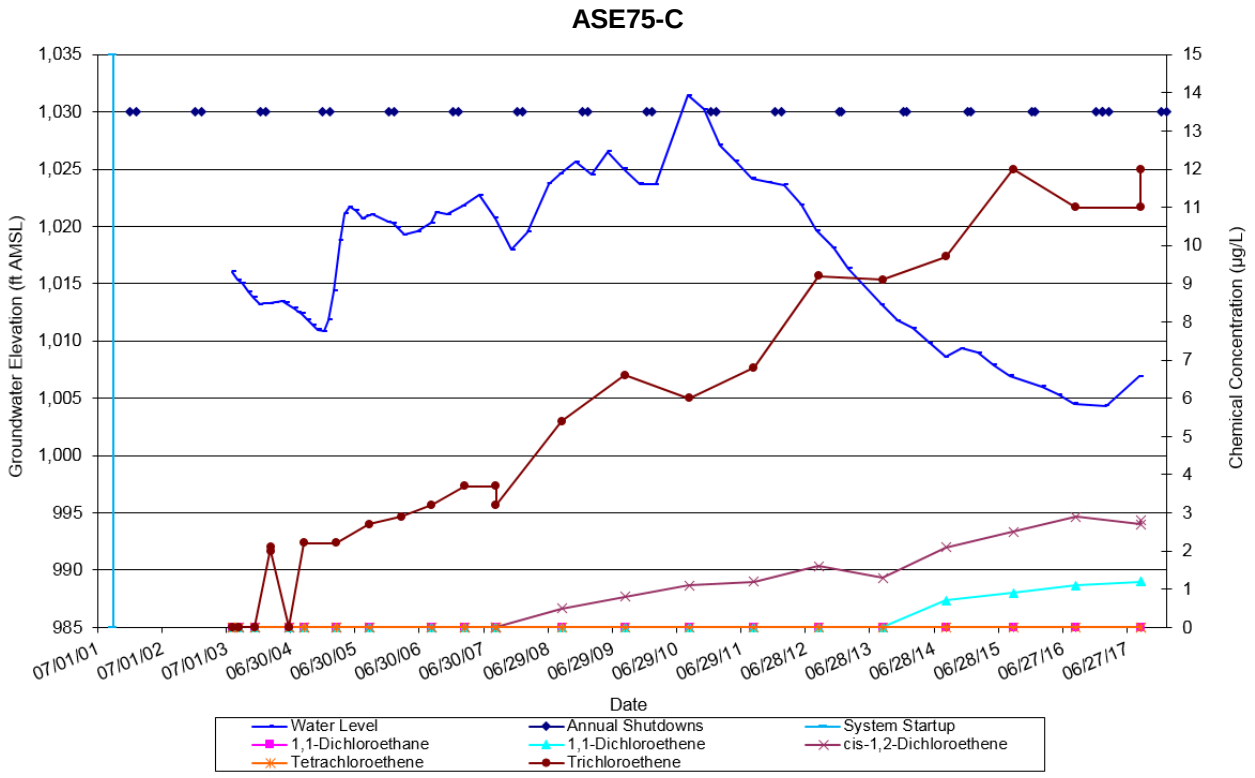
Appendix C Hydrographs and VOC Concentration Charts



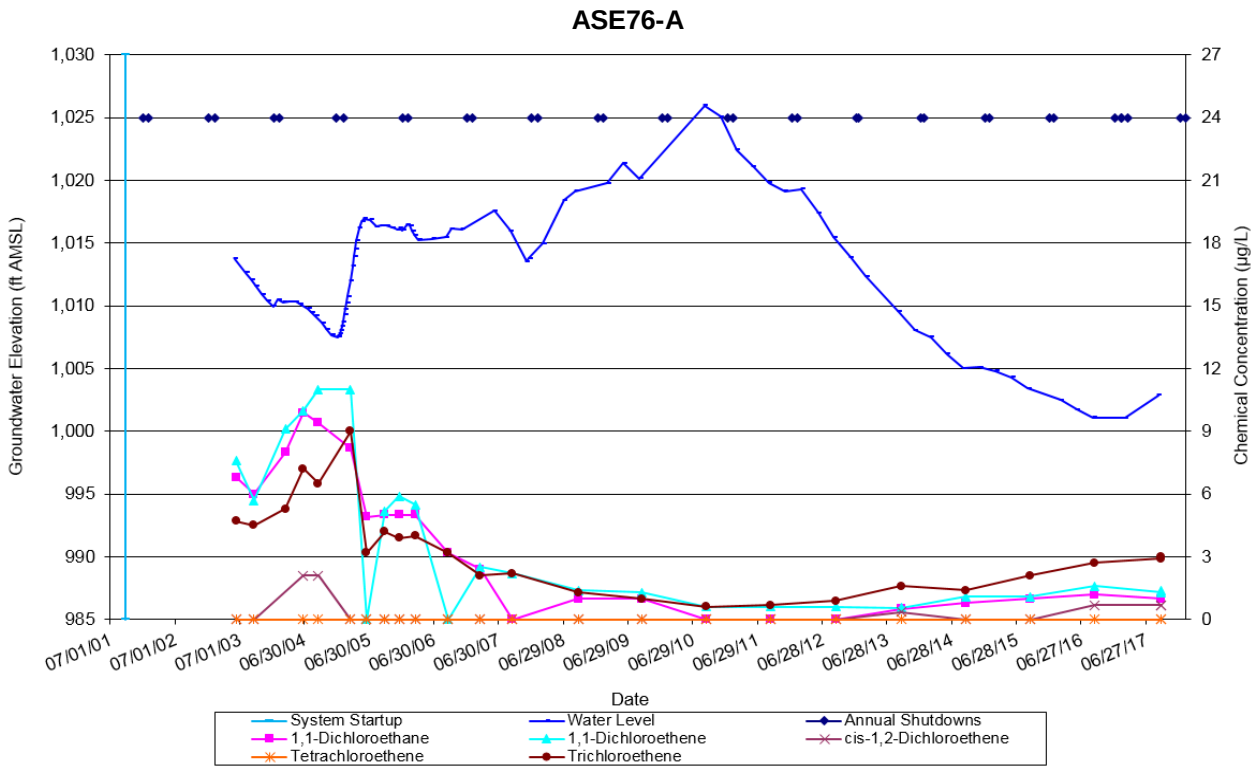


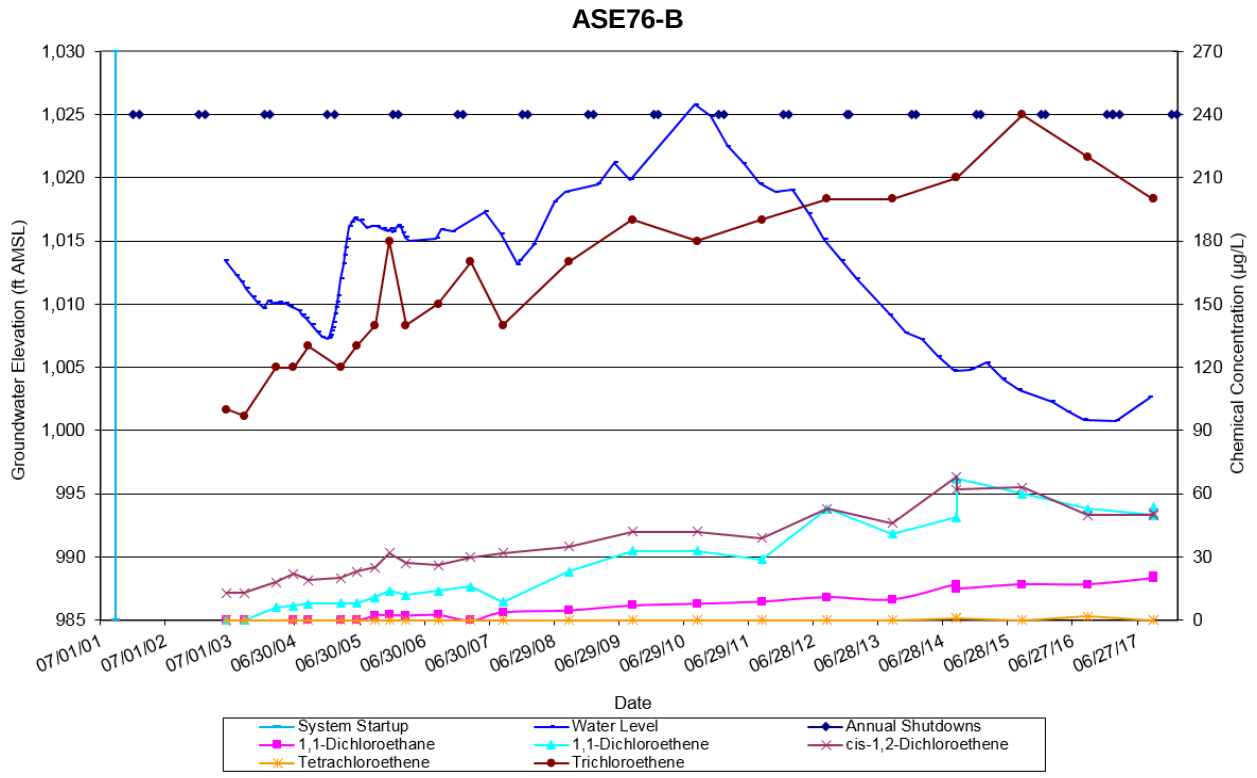
Appendix C Hydrographs and VOC Concentration Charts



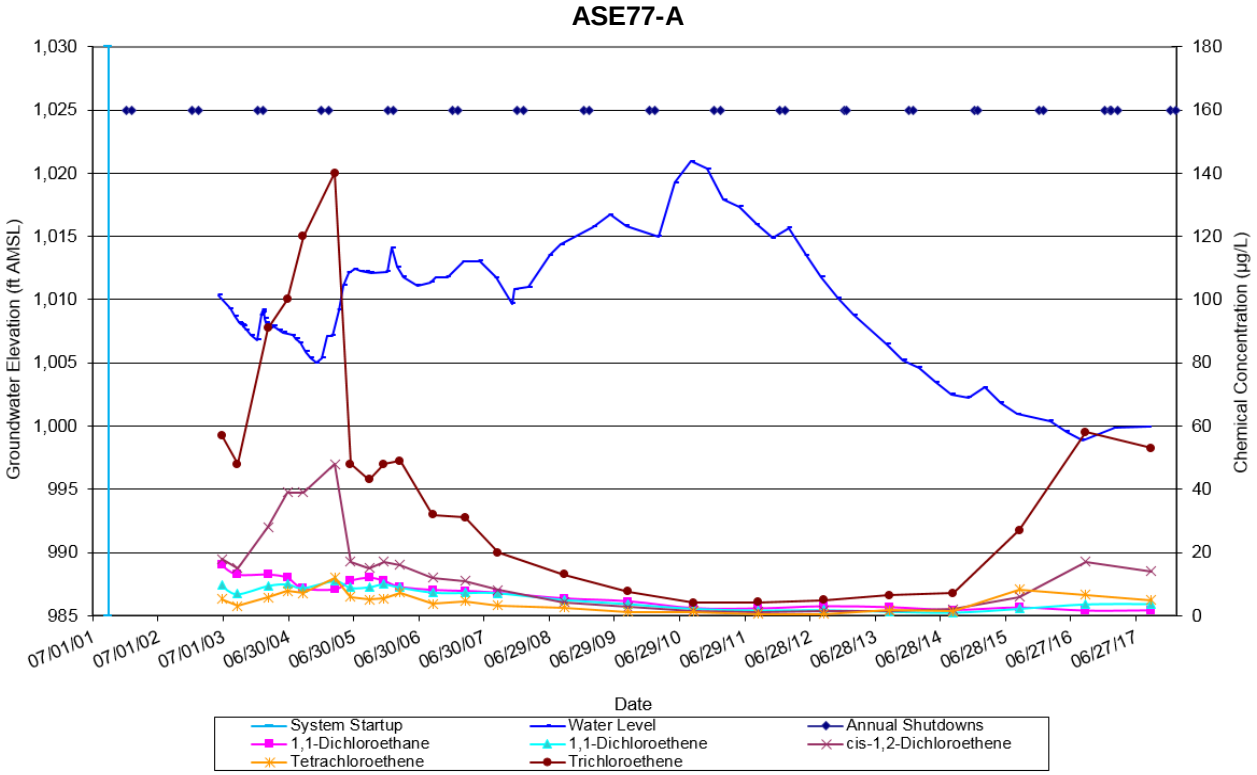


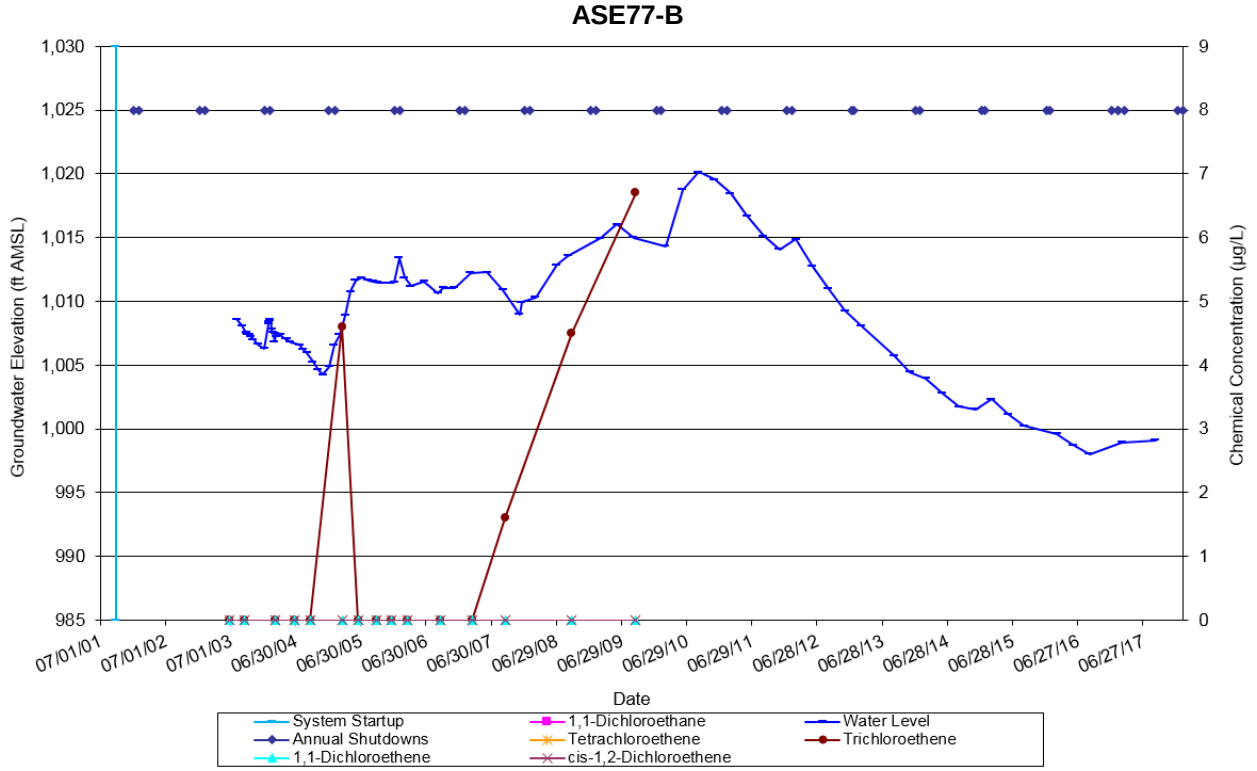
Appendix C Hydrographs and VOC Concentration Charts



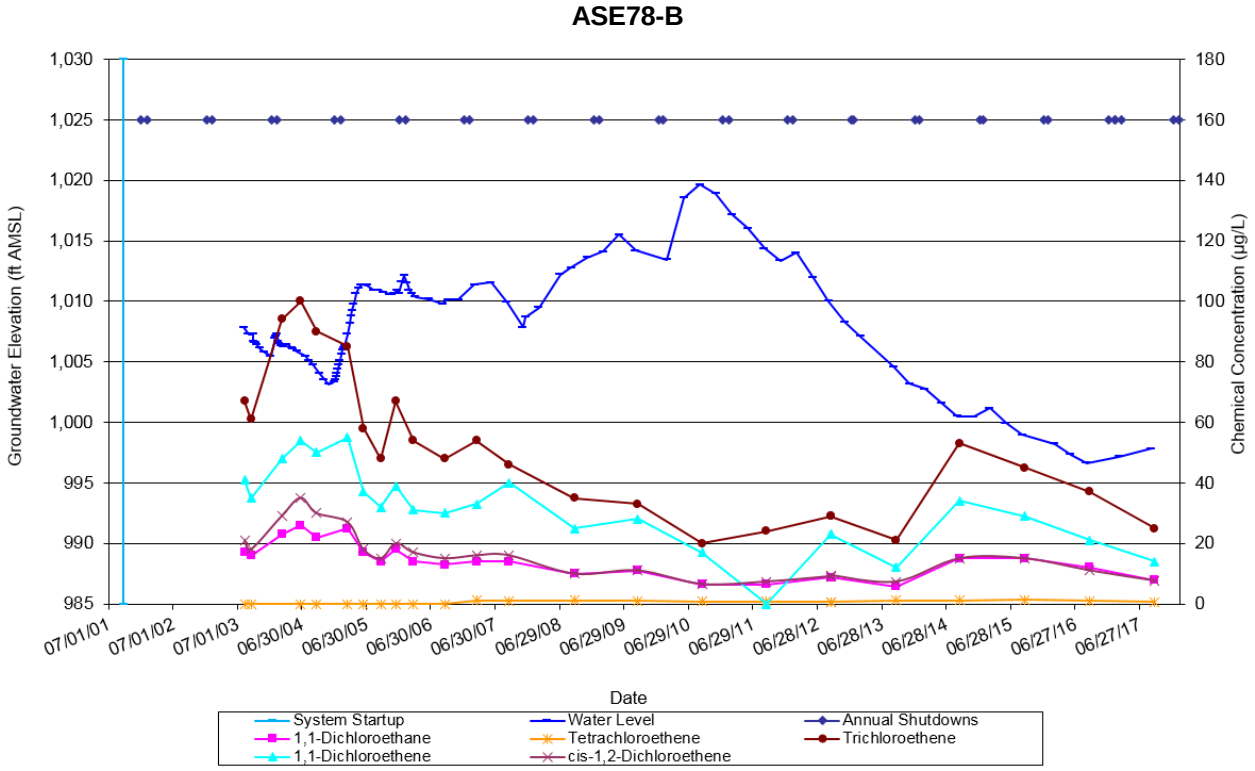


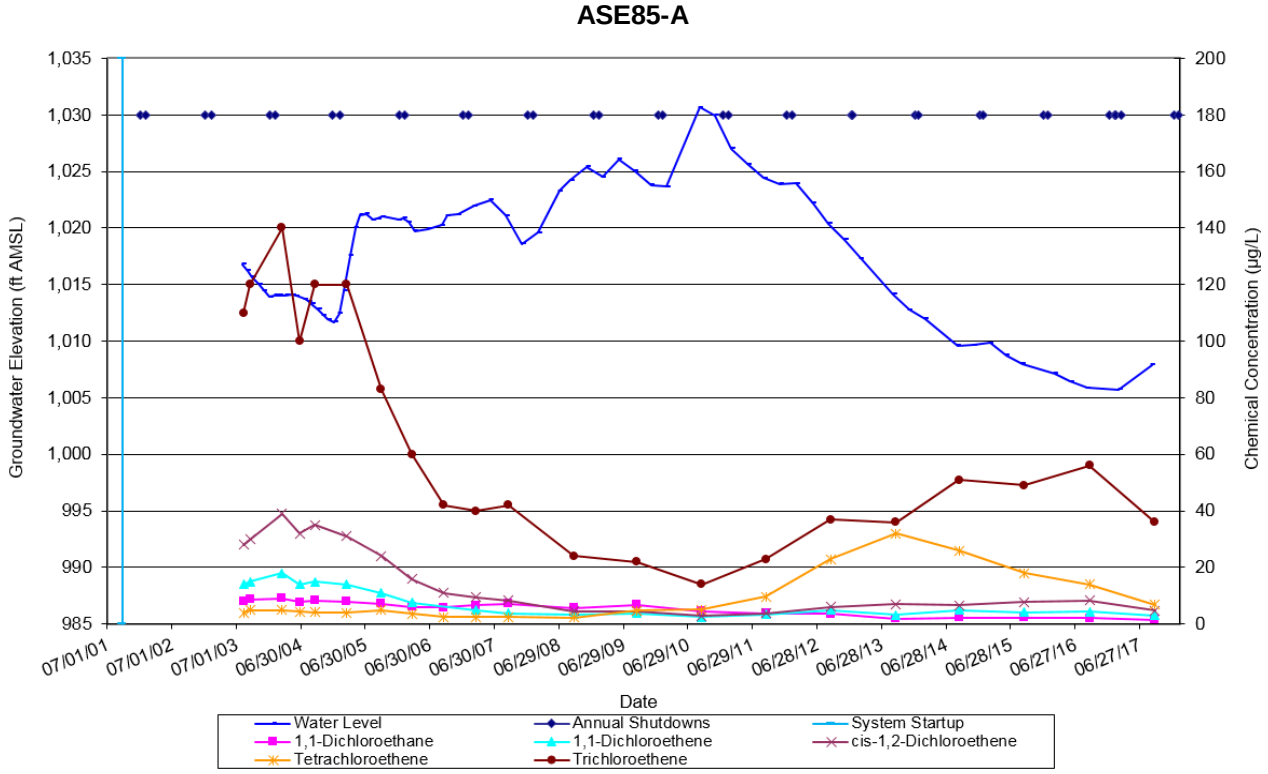
Appendix C Hydrographs and VOC Concentration Charts

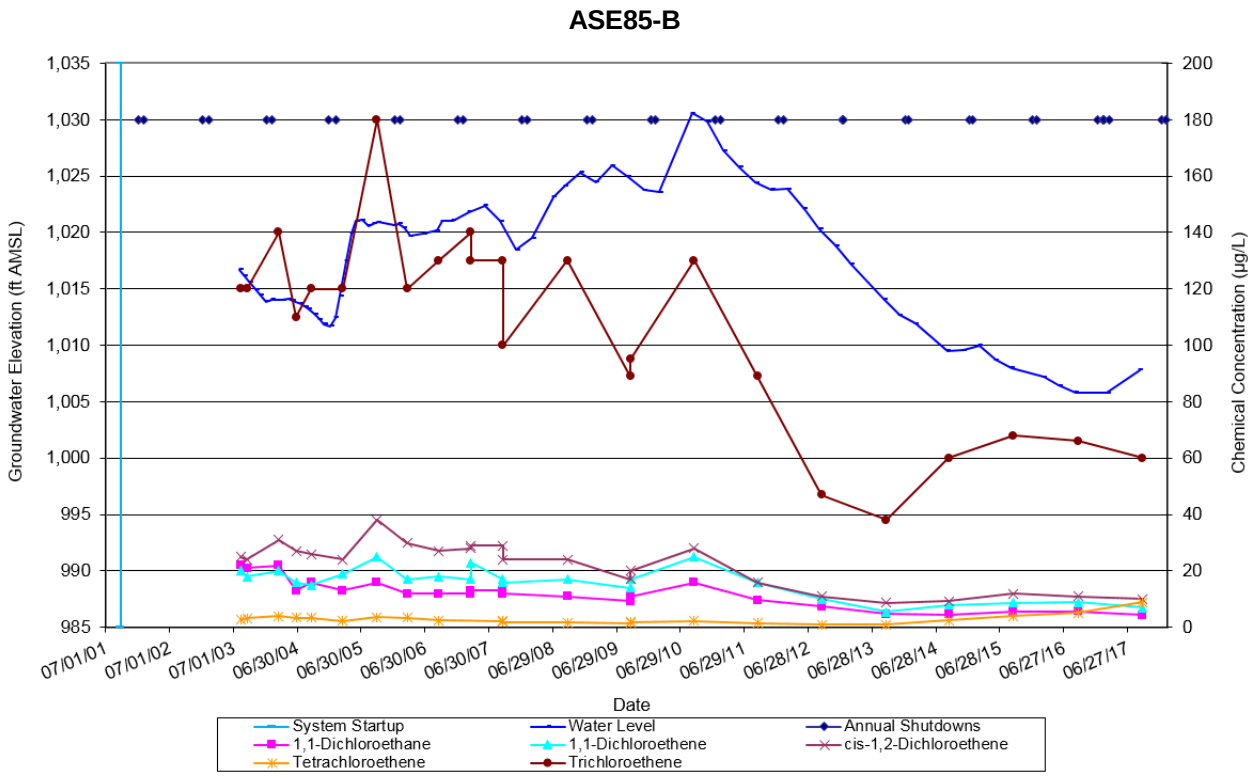


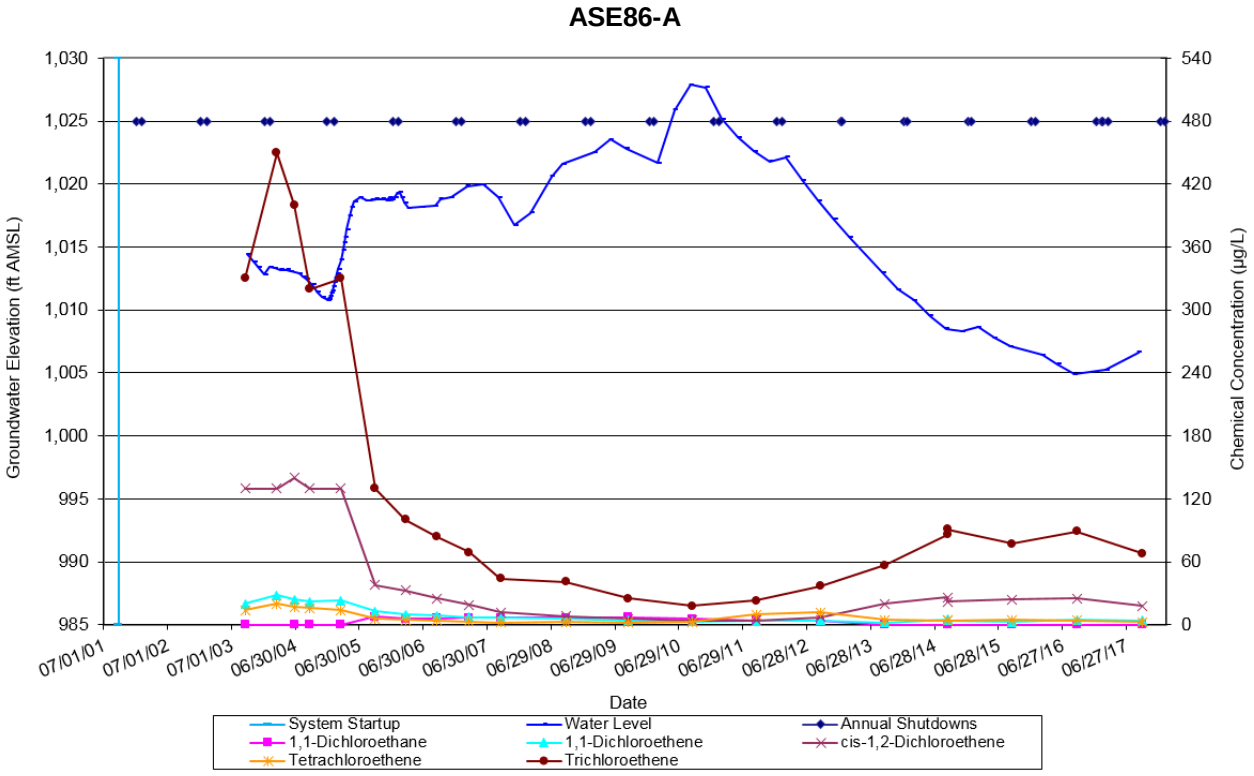


Appendix C Hydrographs and VOC Concentration Charts

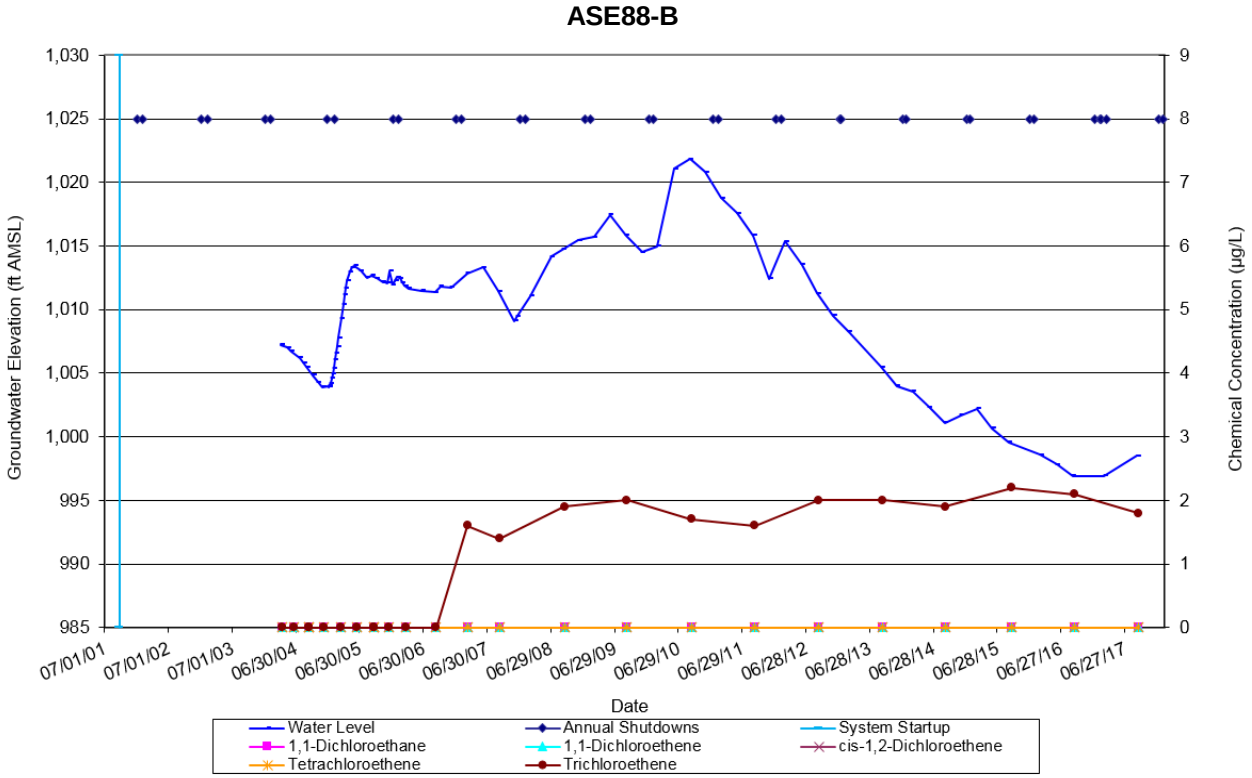


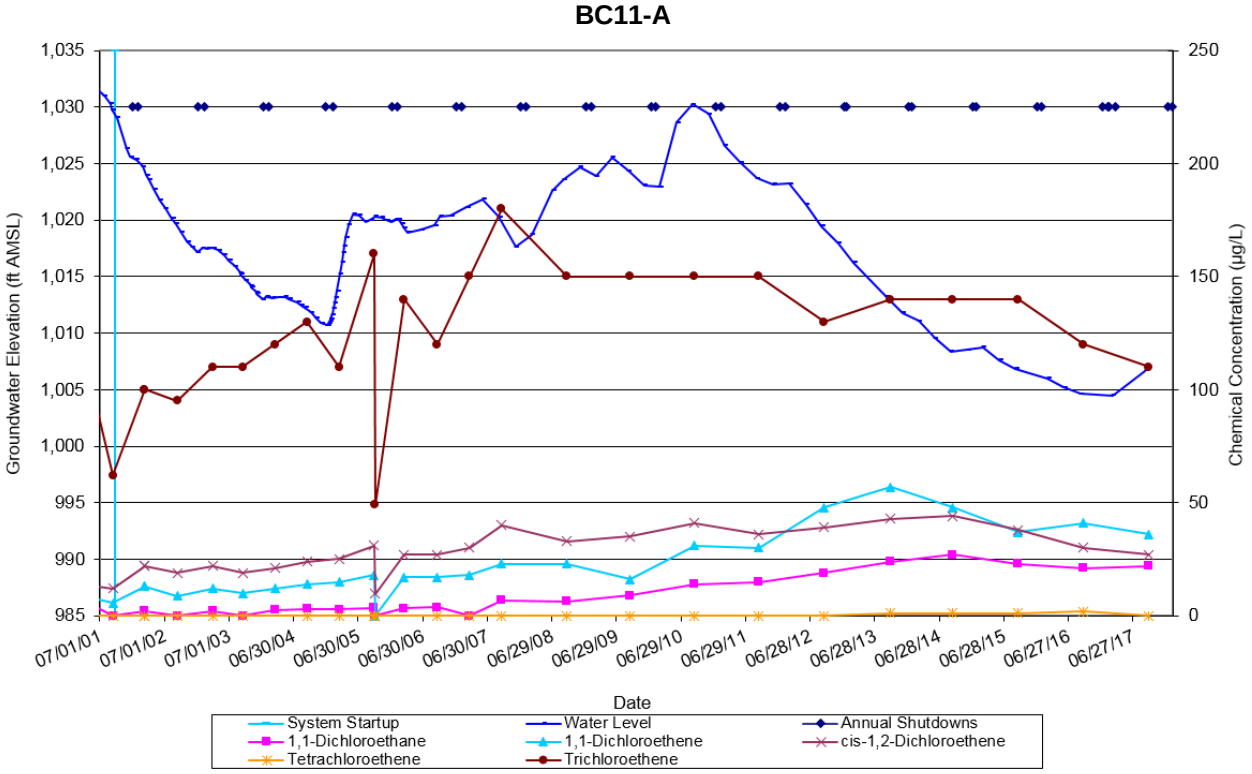



ASE85-B
Groundwater Elevation (ft AMSL)
Chemical Concentration (µg/L)
Date
System Startup
Water Level
Annual Shutdowns
1,1-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene

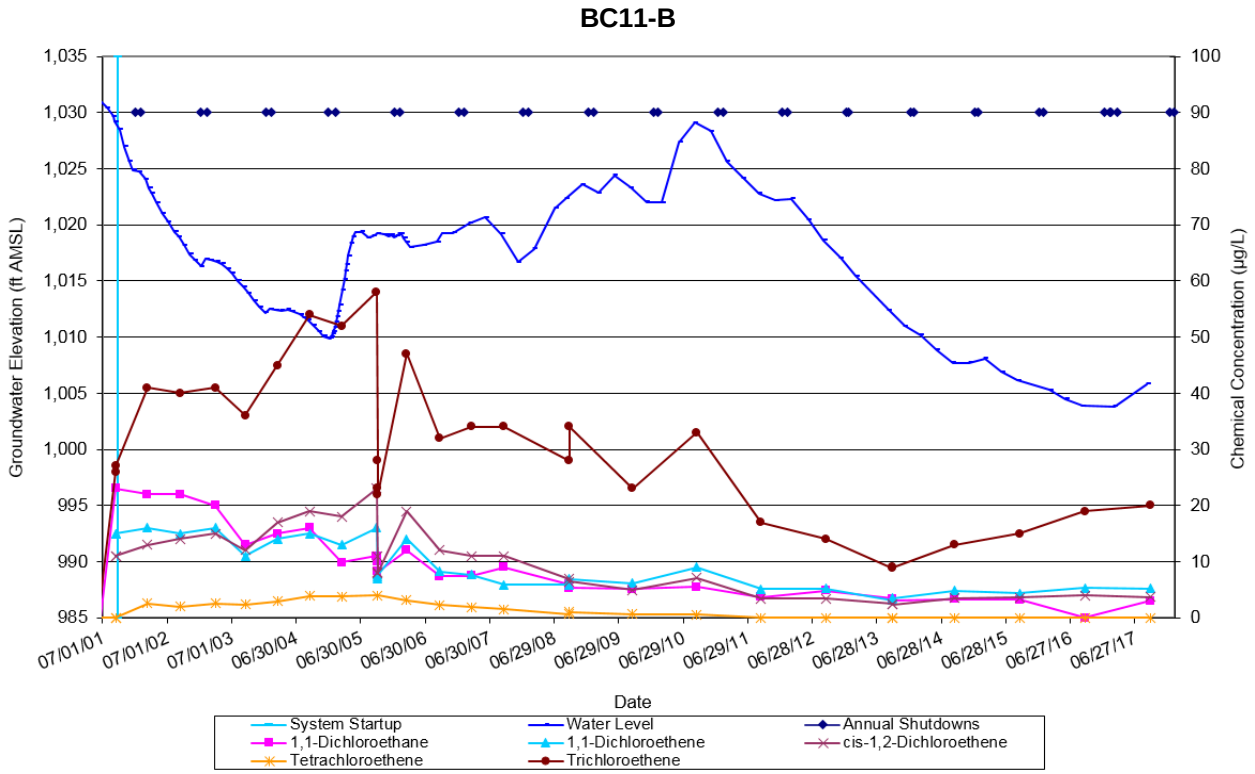

ASE86-A
Groundwater Elevation (ft AMSL)
Chemical Concentration (µg/L)
Date
System Startup
Water Level
Annual Shutdowns
1,1-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene

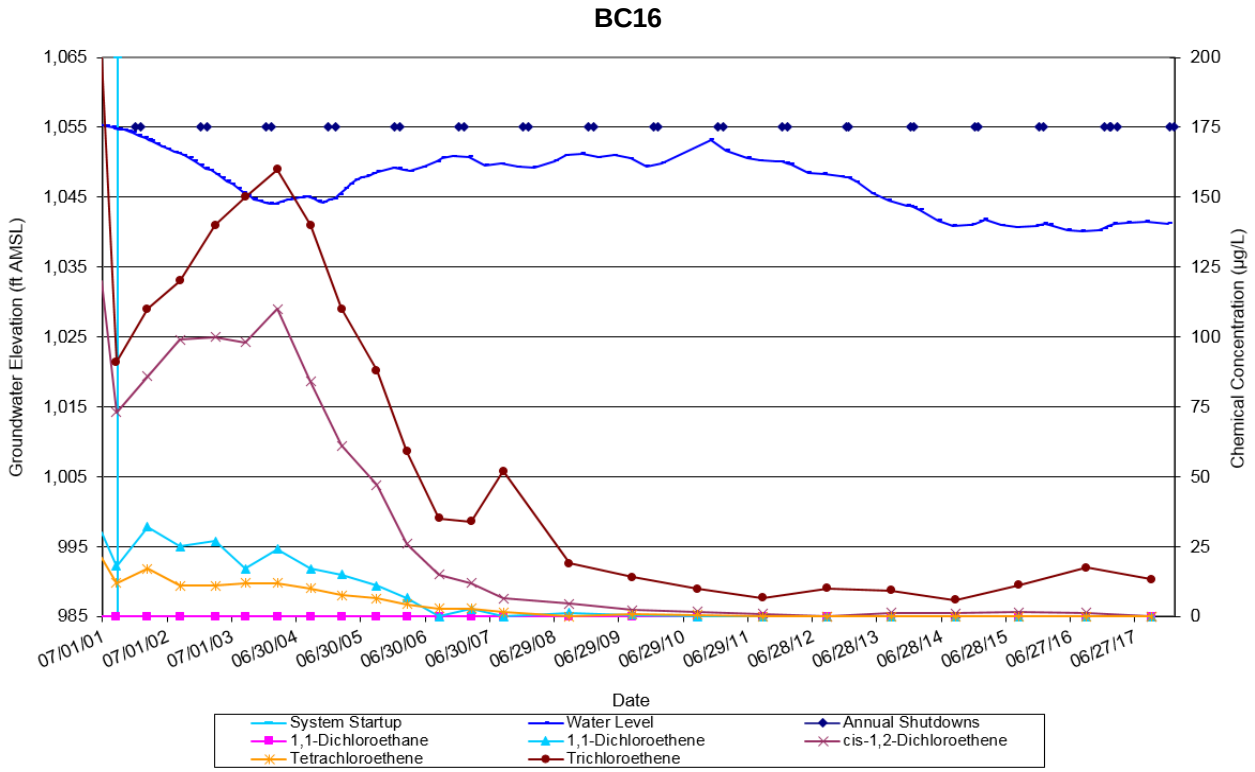
Appendix C Hydrographs and VOC Concentration Charts



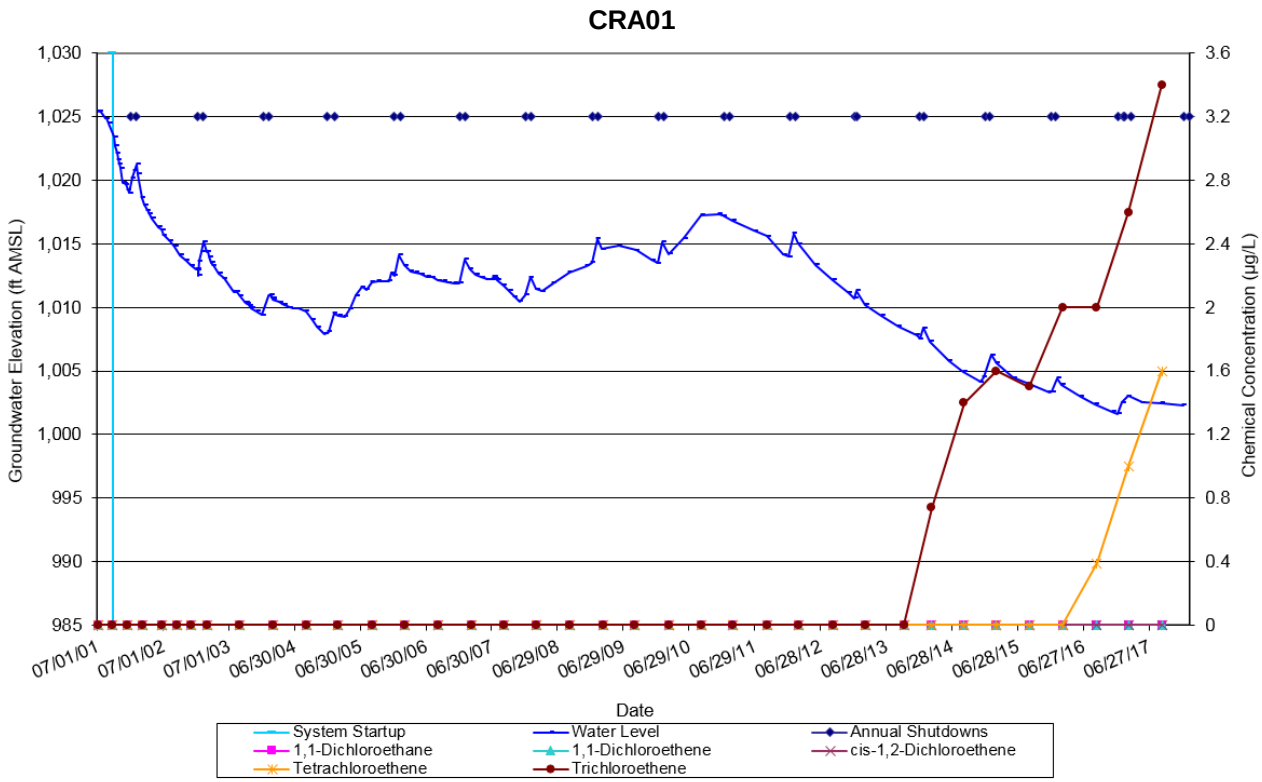


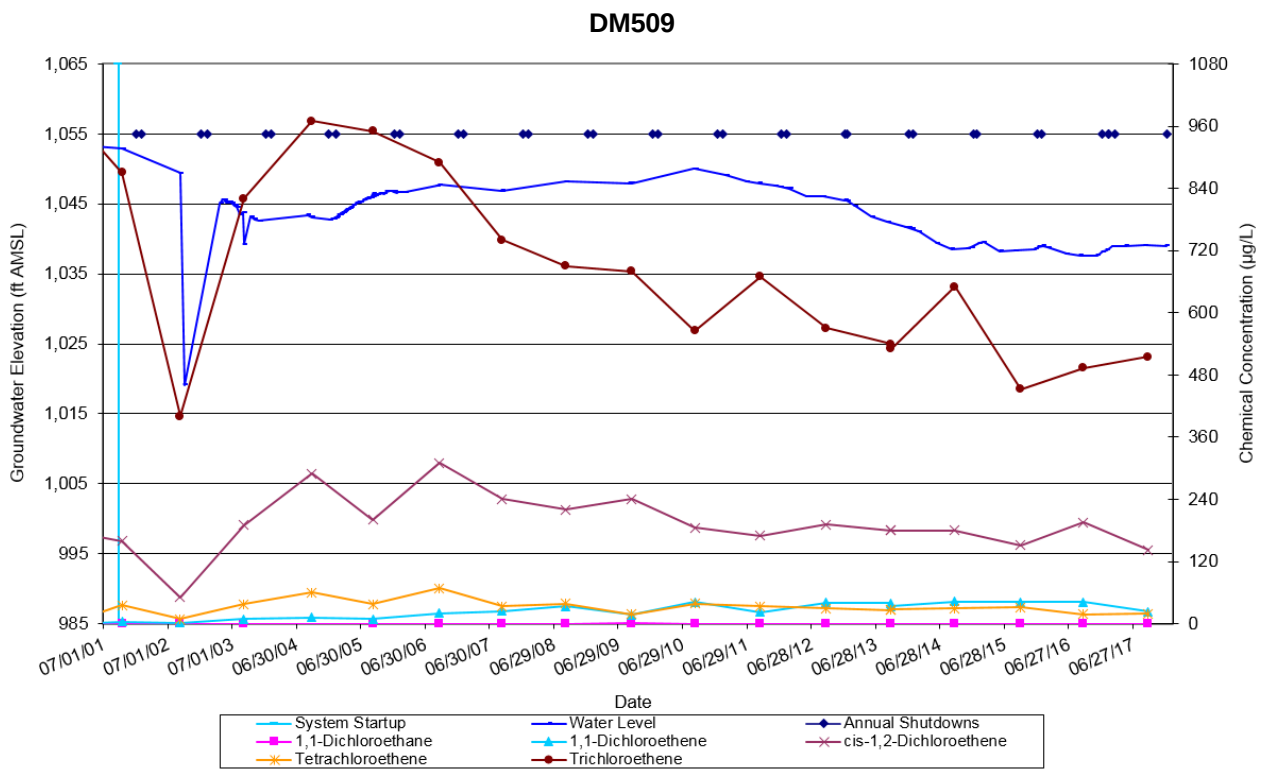
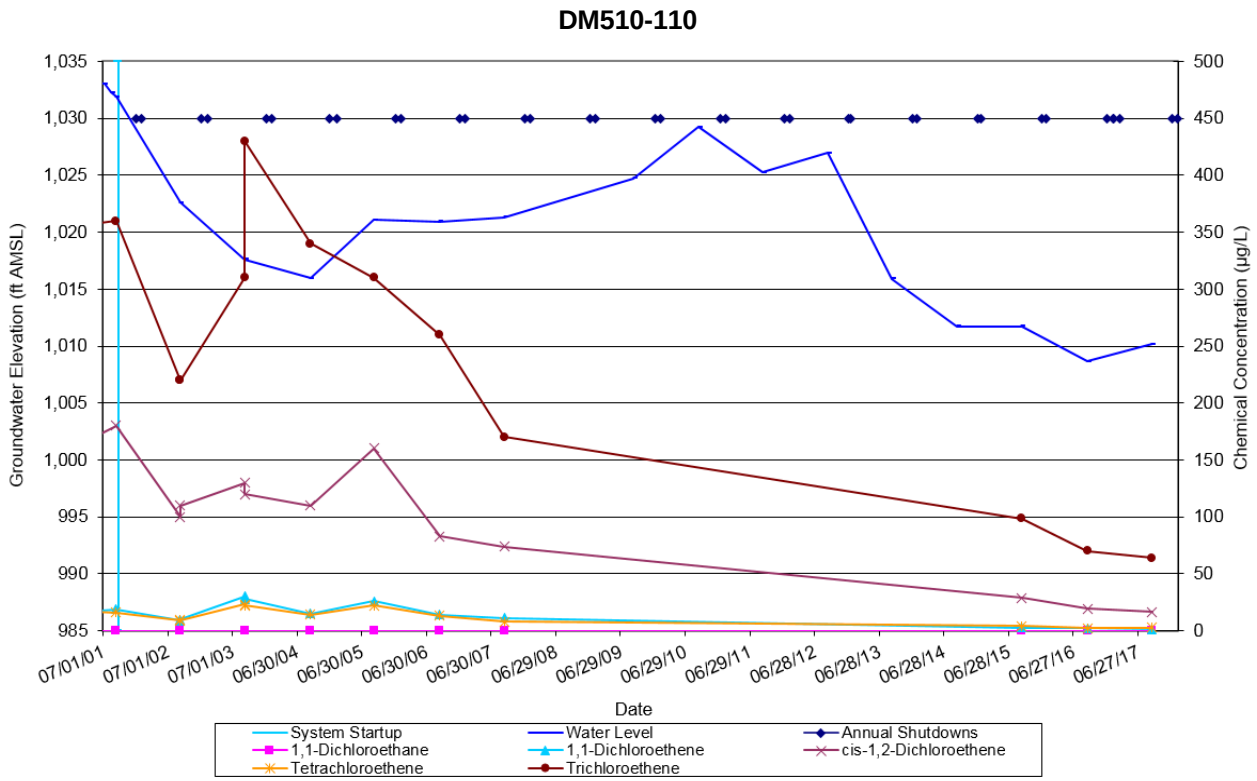
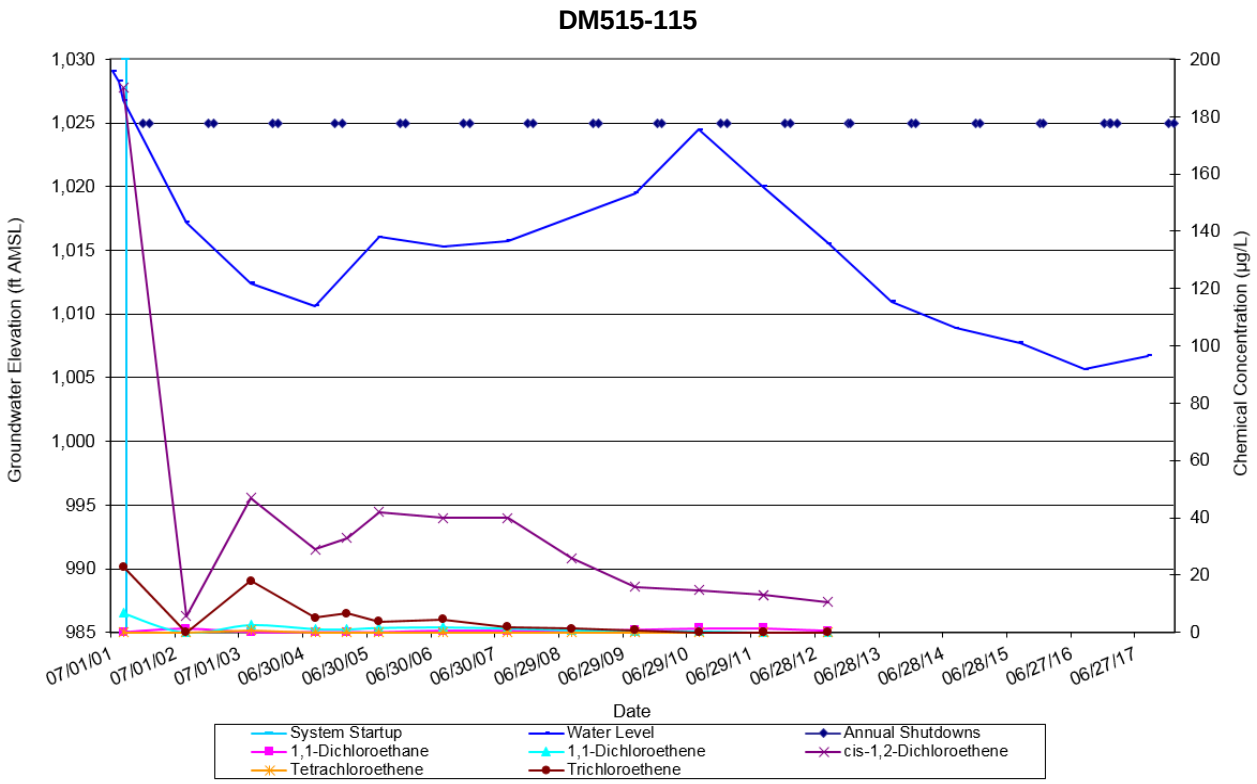
Appendix C Hydrographs and VOC Concentration Charts





Appendix C Hydrographs and VOC Concentration Charts





Appendix C Hydrographs and VOC Concentration Charts