APPENDIX A

WELL CONSTRUCTION REPORT

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Calumet ☐ Town ☒ Village ☐ City ☐ Charles Town
Check one and give name

RECEIVED
MAY 11 1966
SANITARY ENGINEER

2. Location R.F.D. 4 Chilton Wis S 18, Twn 18 N. R 20 E
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☐ or Agent ☐ Cyril Suttner ~~RF~~
Name of individual, partnership or firm

4. Mail Address R.F.D. 4 Chilton Wis
Complete address required

5. From well to nearest: Building 16 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well None ft.

6. Well is intended to supply water for: home use.

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
10	0	20'	6	20	98

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind	From (ft.)	To (ft.)
6	steel 19.45	0	43'

9. GROUT:

Kind	From (ft.)	To (ft.)
Clay	0	20

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Clay	0	10
Hard pan	10	43'
Lime Stone	43	98

Construction of the well was completed on:
May 4 1966

The well is terminated 12" inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion?
Yes ✓ No

Was the well sealed watertight upon completion?
Yes ✓ No

11. MISCELLANEOUS DATA:

Yield test: 1 Hrs. at 20 GPM.

Depth from surface to water-level: 35' ft.

Water-level when pumping: 35' ft.

Water sample was sent to the state laboratory at: Madison City on 5-4- 1966

Signature Thos. A. Seehafer Registered Well Driller
231, So. Main, St. Brillion Wis. Complete Mail Address

Please do not write in space below

Rec'd MAY 5-1966 No. 52693

An MAY 9 1966

Interpretation Safe Bacteriologically

1165

	10 ml	10 ml	10 ml	10 ml	10 ml
Gas—24 hrs.					
48 hrs.					
Confirm					
B. Coli	0	0	0	0	

Examiner

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
JAN 23 1950
BUREAU SAN. ENG.

1. County Calumet { Town ☒ / Village ☐ / City ☐ } Charlestown
Check one and give name

Sec 18

2. Location T-3-18. Gi-23 Lt 6 & 7. Blk 6 Plat of Vil (Sec 18 T18N R20E)
Name of street and number of premise or Sec. Tn. and R. numbers

T18N R20E

3. Owner ☒ or Agent ☐ Nicholas Lalapa Etux
Name of individual, partnership or firm

4. Mail Address Chilton
Complete address required

5. From well to nearest: Building 14 ft; sewer — ft; drain — ft; septic tank — ft; dry well or filter bed — ft; abandoned well — ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)
5	0	121

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind	From (ft.)	To (ft.)
5	Std Jnt	0	47

9. GROUT:

Kind	From (ft.)	To (ft.)
Concrete	30	47

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Clay & Hardpan	0	47
Rock	47	121

11. MISCELLANEOUS DATA:

Yield test: 4 8 Hrs. at 8 GPM.

Depth from surface to water: 65 ft.

Water-level when pumping: 85 ft.

Water sample sent to laboratory at Green Bay on Sept 7 1949

Signature Jos J. Gosch
Registered Well Driller

Construction of the well was completed on Sept 1 1949

The well is terminated 5 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ____ No X

Was the well sealed watertight upon completion? Yes X No ____

New Holstein
Complete Mail Address
RR #2

11606

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

AUG 11 1978

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Calumet

CHECK ONE: ☐ Town ☐ Village ☒ City

NAME: Chilton

2. LOCATION – ¼ Section: | Section: 18 | Township: 18N | Range: 20E

OR Grid or street no. | Street name: Irish Rd. & Hwy. Y

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: City of Chilton-Arthur T.Pohland,Clerk

ADDRESS: 42 School St.

POST OFFICE: Chilton, WI 53014

4. Distance in feet from well to nearest: (Record answer in appropriate block)

BUILDING	SANITARY SEWER C. I.	SANITARY SEWER TILE	FLOOR DRAIN C. I.	FLOOR DRAIN TILE	FOUNDATION DRAIN SEWER CONNECTED	FOUNDATION DRAIN INDEPENDENT	WASTE WATER DRAIN C. I.	WASTE WATER DRAIN TILE

CLEAR WATER DRAIN C. I.	CLEAR WATER DRAIN TILE	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILO	ABANDONED WELL	SINK HOLE

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: City of Chilton - Well No 8

6. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
24	Surface	21	17	60	165
23	21	60			

7. CASING, LINER, CURBING, AND SCREEN

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
24	0.375"Wall ASTM-53B Black steel	Surface	21
18"	0 375" wall ASTM-53B Black steel	0	60

9. FORMATIONS

Kind	From (ft.)	To (ft.)
clay boulders	Surface	18
limestone	18	80
limestone(streaks of sand)	80	95
limestone	95	163
shale	163	165

8. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
neat cement	Surface	60

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: April 1 19 78

11. MISCELLANEOUS DATA

Yield test: 28 Hrs. at + – 450 GPM

Well is terminated 15 inches ☒ above ☐ below final grade

Depth from surface to normal water level: 16 ft.

Well disinfected upon completion ☒ Yes ☐ No

Depth to water level when pumping: 85 ft.

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to: Marquette University laboratory on: May 1 19 78

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: [signature] Registered Well Driller

COMPLETE MAIL ADDRESS: Milagger Well & Pump Co., 20950 Enterprise Ave., Brookfield, WI 53005

CA 11/67

Please do not write in space below

COLIFORM TEST RESULT	GAS – 24 HRS.	GAS – 48 HRS.	CONFIRMED	REMARKS

REV. 3–71 cc: Pws, 2M Dist, SGS

Wel 6

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

CA-378-U

See Instructions on Reverse Side

1. County Columbia — Town ☐ Village ☑ Arlington City ☐ (Check one and give name)

2. Location Block no 9 Sec 18 T 18 north Rang 20 East
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☑ or Agent ☐ Floyd Bailey
Name of individual, partnership or firm

4. Mail Address R 4 Shelton
Complete address required

5. From well to nearest: Building 8 ft; sewer ____ ft; drain ____ ft; septic tank 55 ft; dry well or filter bed 100 ft; abandoned well ____ ft.

6. Well is intended to supply water for: 1 home

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
8	0	40			
6	40	50			

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
6	Standard Steel	0	40

9. GROUT:

Kind	From (ft.)	To (ft.)
Pressure Cemented	25	40
Drill Cuttings	0	25

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Red Clay	0	23
Limestone	23	59

RECEIVED
JUN 3 1959
ENVIRONMENTAL SANITATION

Construction of the well was completed on: May 27 1959

The well is terminated 12 inches ☑ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No ____

Was the well sealed watertight upon completion? Yes ✓ No ____

11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at 12 GPM.

Depth from surface to water-level: 17 ft.

Water-level when pumping: 20 ft.

Water sample was sent to the state laboratory at: Madison City on May 27 1959

Signature Ray Ditter
Registered Well Driller

Shelton R 3 Wis
Complete Mail Address

Please do not write in space below

Rec'd MAY 29 1959 No. 14472

Ans'd ____

Interpretation UNSAFE

11168

	10 ml	10 ml	10 ml	10 ml	10 ml
Gas—24 hrs.	+				
48 hrs.					
Confirm	+				
B. Coli	5/5				

Examiner ____

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

Vol 6

RECEIVED
AUG 31 1964
SANITARY ENGINEERING

CA-43

See Instructions on Reverse Side

1. County: Calumet — Town ☐ Village ☒ City ☐ — Chilton (Check one and give name)

SE, NW, Sec 18 T18N R20E

2. Location: 150-ft. North of Waterworks
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐: Village of Chilton
Name of individual, partnership or firm

4. Mail Address: Village Hall, Chilton, Wis.
Complete address required

5. From well to nearest: Building 150- ft; sewer _____ ft; drain _____ ft; septic tank _____ ft; dry well or filter bed _____ ft; abandoned well _____ ft.

6. Well is intended to supply water for: Municipal Water Supply

7. **DRILLHOLE:**

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
24	0	77	17	89	137
23	77	89	12	137	181

8. **CASING AND LINER PIPE OR CURBING:**

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
24	Steel	0	77
18"	Steel	0	89
8"	Steel	0	137
6"	Steel	137	168
8"	Everdur Screen	107	137

9. **GROUT:**

Kind	From (ft.)	To (ft.)
Gravel Pack (18"x8")	0	137
Cement (24"x18")	0	89

10. **FORMATIONS:**

Kind	From (ft.)	To (ft.)
Glacial Drift	0	77
Dolomite with sand streaks	77	181

11. **MISCELLANEOUS DATA:**

Yield test: 30 Hrs. at 175 GPM.

Depth from surface to water-level: 20- ft.

Water-level when pumping: 110- ft.

Water sample was sent to the state laboratory at: Madison (City) on Aug. 26 1964

Construction of the well was completed on: August 26th 1964

The well is terminated 18 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes x No

Was the well sealed watertight upon completion? Yes x No

Signature: R E Milaeger
Registered Well Driller

MILAEGER WELL AND PUMP CO. INC.
1245 N. 62nd St., Milwaukee 13, Wis.
Complete Mail Address

Please do not write in space below

Rec'd _____ No. _____

Ans'd _____

Interpretation _____ c.c. SGS. Dr. Ostrom File Dist. 3 2-11-65 Pitt

1171

	10 ml	10 ml	10 ml	10 ml	10 ml
Gas—24 hrs.					
48 hrs.					
Confirm					
B. Coli					

Examiner _____

Ca-27-D
USGS

deleted from WGS paper records per KMP Feb, 84

CALUMET COUNTY
Chilton Malting Company Well

Drilled about 1900

870'ETM

(Log from Company via Mr. Fasbender)
NW, SW, SE, NW, sec. 18, 18N, 20E
Near City #2
Well abandoned & filled.

		depth
Drift	28	0–28
Niagara	170	~198
Richmond	300	~498
Limestone	225	~723
St. Peter	47	770
Red shale	12	782
Red sandstone	5	787
Limestone	53	840
Blue shale	5	845
Limestone	12	857
Limestone	10	867
Red marl	6	873
Limestone	6	879
Flint	5	884
Quartzite	12	896
	896	

1172

RECEIVED
JUN 15 1949
BUREAU SAN. ENG.

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Calumet { Town ☐ Village ☒ City ☐ } Grasser Check one and give name

2. Location Blk 10 Town Charlestown RFD 4
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☒ or Agent ☐ George H. Usban
Name of individual, partnership or firm

NE Sec 18 18N 20E

4. Mail Address Kohler RFD 4 T18N, R20E
Complete address required

5. From well to nearest: Building 6 ft; sewer 45 ft; drain 120 ft; septic tank 45 ft; dry well or filter bed ____ ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)
	0	43

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind	From (ft.)	To (ft.)
6	St. Blk Iron	0	32

9. GROUT:

Kind	From (ft.)	To (ft.)
Clay		

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Clay	0	17
Rock	17	43

11. MISCELLANEOUS DATA:

Yield test: 12 Hrs. at 30 GPM.

Depth from surface to water: 14 ft.

Water-level when pumping: 17 ft.

Water sample sent to laboratory at Green Bay on Jan 12 1949

Signature Jos. J. Lisch
Registered Well Driller

Construction of the well was completed on 3 Jan 1949

The well is terminated 6 inches ☐ above, below ☒ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes will be No ____

New Holstein
Complete Mail Address
RFD 2

1174

page 1 of 3 | no samples

WELL CONSTRUCTION REPORT
WISCONSIN STATE BOARD OF HEALTH
WELL DRILLING DIVISION

MAR 28 1942

Note: Section 32 of the Wisconsin Well Drilling Sanitary Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner Carnation Milk Company — Driller Layne-Northwest Company

Street or RFD Chilton, Wisconsin — Post Office Milwaukee, Wisconsin

Post Office _____ — Date 3/27/42 — Permit No. 29

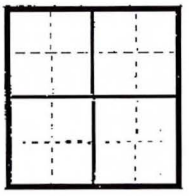
LOCATION OF PREMISES

Calumet (County) — Chilton (Town)

Describe further by subdivision, plat, district, lake, lot,

block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



NE, Sec. 18 ?

Sec. _____

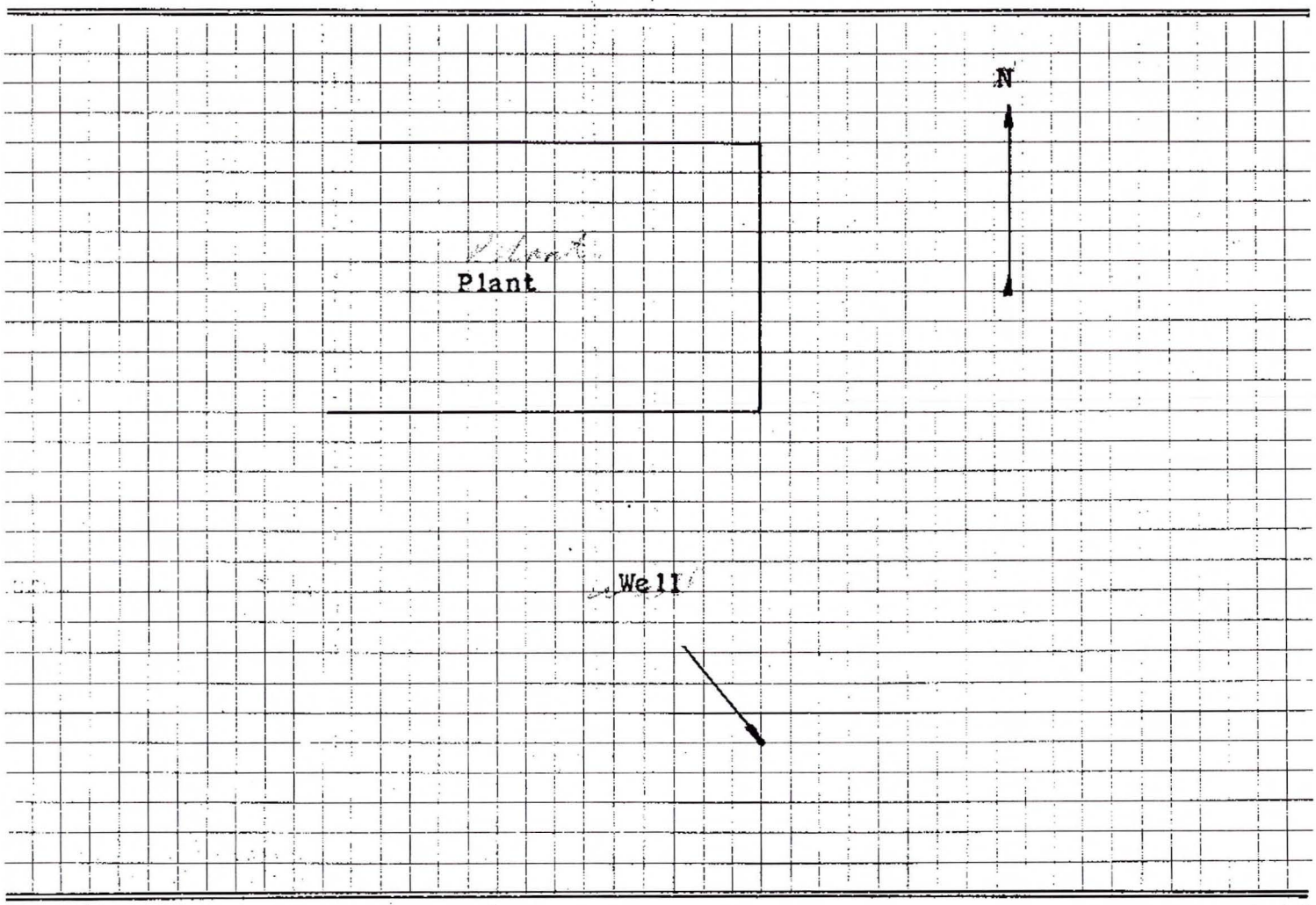
Twp. 18N

Range ~~No. 10~~ E / W

R20E

DIAGRAM OF PREMISES

See discussion and illustration in Part III Well Drilling Code. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.



Additional copies of this form may be obtained in lots of 12 for 25¢. Send remittance with order to State Board of Health, Well Drilling Division, Madison, Wis.

1176

page 162

CA-9

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side CA-9 JAN 16 1946

1. County Calumet { ~~Town~~ ~~Village~~ City Chilton, Wis.

2. Location Property of the Carnation Milk Co. Chilton, Wis. Well #6. about C, S½, NE¼, sec. 18, T 18 N, R 20 E

3. Owner or ~~Agent~~ Carnation Milk Co.

4. Address Oconomowoc, Wis.

5. From well to nearest: Building ____ ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed ____ ft; abandoned well 8 ft.

6. Well is intended to supply water for: Industrial Purposes

7. DRILLHOLE OR EXCAVATION:

Dia. (in.)	From (ft.)	To (ft.)
10"	0	201 ft.

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind	From (ft.)	To (ft.)
10"	Blk. Iron pipe	0	38'6"

9. GROUT:

Kind	From (ft.)	To (ft.)

10. FORMATIONS:

Kind	Thickness (ft.)	Total Depth (ft.)
Sand and Gravel	38'6"	38'6"
Limeston	159'6"	198'
Shale	3'	201'

11. MISCELLANEOUS DATA:

Yield test: 10 Hrs. at 95 GPM.

Depth from surface to water: 16 ft.

Water-level when pumping: 27'6" ft.

Water sample sent to laboratory at

_____ on _____ 19____

Owner will take care of same.

Construction of the well was completed on

Jan. 11th 1946

The well is terminated 18" inches (above) (~~below~~) the permanent grade.

Was the well disinfected upon completion?

Yes ____ No X

Was the well sealed watertight upon completion?

Yes ____ No X

Signature Jos. Egerer
Registered Well Driller

1012 N3rd St. Milwaukee 3 Wis.
Complete Mail Address

1177

APPENDIX B

SIGMA STANDARD METHODOLOGIES

THE SIGMA GROUP, INC.
STANDARD OPERATING PROCEDURES

SOP 1: Field Documentation

During the implementation of field tasks to complete the scope of work, detailed documentation of field activities will be completed. Field documentation will consist of bound field logbooks, sample collection forms, photographs, and electronically recorded field measurements, as needed.

The following is a list of equipment that may be necessary to carry out the procedures contained in this SOP. Additional equipment may be required, pending field conditions.

- Daily logs
- Chain-of-custody (COC) forms
- Field forms and records
- Bound field logbook
- Pen/ sharpie
- Camera/ cell phone
- Field monitoring equipment (as needed)

Field team members will keep a daily record of significant events, observations, and measurements on field forms. All field activities will be recorded on forms specific to the collection activity and will be maintained by the Field Team Leader. Field notes should be maintained for all field activities (e.g., the collection of samples or the gathering of environmental data). The on-site field representative will record on the daily log forms information pertinent to the investigation, including, at a minimum, the following information:

- Project name
- Field personnel on site
- Visitors
- Health and safety discussions
- Sample locations and unique identification
- Date and collection time of each sample
- Observations made during sample collection, including weather conditions, complications, and other details associated with the sampling effort
- Sampling method and description of activities
- Any deviations from the field sampling plan
- Conferences associated with field sampling activities

In addition to maintaining a daily log, sample collection forms or entries into the field database will be completed for each sample. In general, sufficient information will be recorded during sampling so that reconstruction of the event can occur without relying on the memory of field personnel.

Field notes should be kept on paper (logbook), and all field documentation will be made using an indelible, pen. Corrections will be made by drawing a single line through the error, writing in the correct information, then dating and initialing the change. Blank pages or

lines in the field logbook will be lined-out, dated, and initialed at the end of each sampling day. The field forms will be scanned to retain electronic copies upon completion of each sampling event.

SOP 2: Backhoe Test Pits

Backhoe test pits will be completed at predetermined locations selected by the Project Manager. Sigma staff must fully understand OSHA regulations for working near backhoes and trenches prior to entering the site. Sigma staff must follow these regulations while on site and adhere to the Sigma site specific Health and Safety Plan. Prior to excavation activities, Sigma (or on-site contractors) will contact Diggers Hotline and confirm that there are no utilities in the immediate vicinity of the backhoe test pits. The test pits will be completed to aid in evaluating the characteristics of subsurface conditions.

Grab soil/fill samples will be collected from the bucket of the backhoe to the determined terminus of the test pit utilizing stainless steel trowels or fresh nitrile gloves. The approximate depth interval of each soil/fill sample collected will be noted and photo documented. Prior to collecting the soil/fill samples, the stainless-steel trowel will be decontaminated or new gloves will be used to prevent cross-contamination between the sampling intervals. Sampling equipment decontamination procedures will follow the SOP for *Decontamination of Equipment*.

The information collected during the backhoe test pits will be presented on borehole logs that will be prepared by Sigma. The logs will include information on sampling intervals, soil and fill descriptions and other pertinent information related to the test pit activities. A copy of *Soil Boring Logs (WDNR Form 4400-122)* is attached.

Excavated material from the excavation will be temporarily staged on reinforced visquene plastic, and at the terminus of the test pit, will be placed in accordance with the project plan. Soil and fill material will be screened with a PID to determine if they are impacted by volatile constituents per the SOP for *Field Screening and Visual Soil Classification*. The PID readings will be recorded on the borehole log at the sampled interval. Select soil and fill samples will be submitted to the project laboratory for qualitative analyses. Soil and fill samples submitted to the laboratory will reflect the test pit location, the sampled interval, the date collected, and the laboratory analyses required [i.e., Test Pit 1 (TP1)\3 – 4'\5-1-2003\VOCs].

Upon completion of the test pit sampling activities, the test pit will be filled with the material excavated and the surface restored to the extent agreed within the approved scope of services.

SOP 3: Completion of Soil Borings

Hollow Stem Auger Drilling

Hollow stem augers and steel split-spoon samplers will be used to drill and sample select soil locations. The drilling activities will be completed in general accordance with ASTM standards: D420-87, D1452-80, and D-1586-84. All equipment that may come in contact with the soil samples (i.e., augers, drill rods, center bit, etc.) will be decontaminated with Alconox Solution before the drilling commences and between the borehole locations.

Soil samples will be collected in two-foot continuous intervals utilizing two-inch diameter and 18-inch long steel split spoons. To collect soil samples, first a hole will be drilled utilizing 4¼-inch inside diameter auger flights to a depth of the first sampling interval. Then, the inner rods and center drill bit will be removed leaving the auger fights in place to keep the borehole open. A clean split-spoon will be driven into the soil with a 140-pound hammer striking the drill rod assembly attached to the rod from a height of 30 inches or appropriate hydraulic hammer method. The number of hammer blows required to drive the split spoon into the soil for the last 12 inches will be counted and recorded as the standard penetration resistance (N value). When the split spoon reaches the bottom of the sampling interval, it will be retracted, disconnected from the inner drill rods, and opened to allow access to the soil sample. The inner rods and the center drill bit will then be inserted into the augers and the borehole will be drilled to the next sampling depth interval. The process will continue until the last soil sample is retrieved.

Prior to reinserting the split-spoon for retrieval of another soil sample, the split-spoon will be decontaminated to prevent cross-contamination between the sampling intervals. Sampling equipment decontamination procedures will follow ***SOP 25: Cleaning/ Decontamination of Equipment.***

The information collected during drilling will be presented on final borehole logs that will be prepared on *WDNR Form 4400-122*. The logs will include information on sampling intervals, N Value, and other pertinent information related to the drilling activities.

Following soil boring advancement, soil cuttings generated during drilling will be collected in 55-gallon drums. The drums will be properly labeled and left on site pending receipt of laboratory results and subsequent approval for disposal at a licensed facility.

Geoprobe Advancement

The soil borings will be advanced with a Geoprobe unit designed to retrieve a soil sample from a desired depth interval. The Geoprobe utilizes a two-inch diameter probe rod to reach the desired sampling depth. A clean disposable acetate liner dedicated to each four- or five-foot soil horizon is inserted into the sampling spoon. The sampling spoon is advanced to the desired soil horizon with a hydraulically driven percussion hammer.

When the liner containing soil is brought to the surface and removed from the sampling spoon, the liner is cut open to allow access to the soil. Soil samples will then be collected following ***SOP 5: Soil / Sediment Sample Collection and Analyses.***

Prior to reinserting the sampling spoon for retrieval of another soil sample, the sampling spoon will be decontaminated to prevent cross-contamination between the sampling intervals. A new acetate liner will be inserted into the sampling spoon to be advanced to the next depth interval. The sampling procedure will be repeated at four- or five-foot continuous depth intervals until the termination depth of each boring.

The information collected during drilling will be presented on the final borehole logs that will be prepared on *WDNR Form 4400-122*. The logs will include information on sampling intervals and other pertinent information related to the Geoprobe drilling activities.

Following soil boring advancement, soil cuttings generated during drilling will be collected in 55-gallon drums. The drums will be properly labeled and left on site pending receipt of laboratory results and subsequent approval for disposal at a licensed facility. The used polyethylene liners will be disposed of as general solid waste at a licensed disposal facility.

Hand Auger Advancement

The hand auger is advanced manually by turning the hand auger handle in a clock-wise direction while applying a downward force.

Once the hand auger has been advanced to the desired depth, it is removed from the sampling location by pulling straight up. The hand auger containing the soil is then brought to the surface, and the soil is transferred to a Ziploc® bag for classification and temporary storage prior to laboratory containerization.

Prior to reinserting the hand auger for retrieval of another soil sample, the hand auger collection tube will be decontaminated to prevent cross-contamination between the sampling intervals. The sampling procedure will be repeated until the end of each boring.

The information collected during drilling will be presented on the final borehole logs that will be prepared on *WDNR Form 4400-122*. The logs will include information on sampling intervals and other pertinent information related to the hand auger activities.

Following hand auger advancement, soil cuttings generated during drilling will be collected in 55-gallon drums. The drums will be properly labeled and left on site pending receipt of laboratory results and subsequent approval for disposal at a licensed facility.

SOP 4: PID and FID Field Screening and Visual Soil Classification

A portion of each soil sample will be screened for volatile compound vapors, using a PID. The PID will be equipped with a 10.6 or 11.7 eV lamp. The PID will be zeroed, using ambient air, and then calibrated with 100 parts per million (ppm) isobutylene gas to benzene equivalent in accordance with the manufacturer's specifications prior to use in the field. The PID calibration data will be recorded in a calibration notebook designated for each PID unit.

At the discretion of Sigma's project manager, an FID may be used instead of the PID. If selected, the unit will be calibrated to the manufacturer's specifications prior to use in the field.

The volatile vapor scan technique with either a PID or FID is a screening method used to assess the presence of certain volatile compounds. Field screening will be performed within 15 minutes of sample collection by filling an eight-ounce jar or Ziploc bag approximately half full, sealing the jar/Ziploc bag, and allowing the sample to equilibrate. The probe of the PID/FID will be then inserted into the jar/Ziploc bag, and the highest stable PID/FID reading will be recorded. The appearance of the soil samples and any incidental odors will also be noted during field screening. The sample will be appropriately disposed of with the balance of the investigation derived waste.

Upon completion of visual soil classification, final borehole logs will be prepared on WDNR Form 4400-122 *Soil Boring Log Information* form. The logs will include information on soil type, gradation, color and moisture content, and field PID/FID readings.

SOP 5: Soil / Sediment Sample Collection and Analyses

Field screening of the soil/sediment samples combined with visual and olfactory observations will aid in selecting samples for laboratory analysis. The selected soil/sediment samples will be submitted to the project laboratory for analyses as specified in a site-specific Sampling and Analysis Plan (SAP). These analyses may include diesel range organics (DRO), gasoline range organics (GRO), volatile organic compounds (VOCs), petroleum volatile organic compounds (PVOCs), polycyclic aromatic hydrocarbons (PAHs), semi-volatile organic compounds (SVOCs), total organic carbon (TOC), per- and polyfluoroalkyl substances (PFAS), Resource Conservation and Recovery Act (RCRA) metals, polychlorinated biphenyls (PCBs), cyanide, herbicides, pesticides, and/or waste characterization analyses depending on the specific site.

Upon opening of the soil/sediment sampling device (e.g. split spoon, Geoprobe sample tube, sediment sampling device), soil/sediment will be removed from the sampling device and divided up into two samples (of equal composition). One sample will be placed in a Ziploc® bag for volatile vapor screening within 15 minutes of sample collection, and the other sample will be placed directly into appropriate containers for the analytical parameters to be analyzed. Specific requirements for sample container type, preservation, and holding times are presented in ***Table 4*** of the QAPP.

Generally, soil/sediment to be submitted for DRO, GRO, VOC, and/or PVOC analysis will be immediately collected (via the methods described below). Following the DRO/GRO/VOC/PVOC sample collection, the remainder of the soil/sediment will be divided among the appropriate jars for additional analytes (if applicable). A new pair of Nitrile gloves will be worn for each sampling interval. Sticks, rocks, and large debris will be removed from the soil/sediment samples submitted for laboratory analysis.

The soil/sediment sample collection, storage, and transportation will be performed in general accordance with ASTM and WDNR specifications and follow standard chain of custody requirements. Upon collection and preservation (if applicable), the samples will be placed on ice in a cooler. The sample collection time, sample location, sample interval depth, and sample number will be recorded on the chain of custody and on each container.

Diesel Range Organics/ Gasoline Range Organics/ Volatile Organic Compounds/ Petroleum Volatile Organic Compounds

In order to properly preserve the undisturbed sample, soil/sediment samples selected for VOC/GRO/PVOC analysis will be taken immediately following sample collection. DRO samples will be collected at the same time (if applicable).

Easy Draw Syringe

Sigma will fill the Easy Draw Syringe by placing it in a Power Stop handle, which has been calibrated, by the laboratory, to receive 13 grams of soil/sediment, and plunging it into an undisturbed part of the soil/sediment sample immediately following the sample collection. The soil/sediment contained in the syringe will then be expelled in a 40-ml vial containing 10-ml of methanol for VOC/GRO/PVOC samples, or no preservative for DRO, which has

been supplied by the laboratory. The threads of the vial will be cleaned prior to the placement of the cap. Then the vial will be gently swirled to immerse the sample in the methanol (if applicable).

The quantity of 13 grams of soil/sediment has been requested by the project laboratory to ensure that the minimum soil/sediment quantity necessary for laboratory analysis (10 grams to meet for 1 to 1 ratio) is provided. For VOC/GRO/PVOC samples, the laboratory will evaluate the methanol/sample ratio upon receipt of the sample and will adjust the methanol to meet the 1 to 1 ratio in the laboratory as needed.

Polycyclic Aromatic Hydrocarbons/ Semi-Volatile Organic Compounds/ Total Organic Carbon/ RCRA Metals/ Polychlorinated Biphenyls/ Cyanide/ Herbicides/ Pesticides
Soil/sediment will be packed into a non-preserved labeled container per the sample requirements listed on ***Table 4*** and sealed with an appropriate lid.

Per- and Polyfluoroalkyl Substances
For PFAS analysis, Sigma will follow cross-contamination minimization and decontamination procedures as described in ***SOP 6: PFAS Field Sampling.*** Soil/sediment will be packed into a non-preserved laboratory-supplied 250-ml or 4-ounce HDPE container.

SOP 6: PFAS Field Sampling

Special handling and care must be taken when collecting samples for Per- and Polyfluoroalkyl Substances (PFAS) laboratory analysis due to the potential presence of PFAS in common consumer products and in equipment typically used to collect soil, groundwater, surface water, sediment, and drinking water samples. Best practices to be applied during sampling to avoid sample contamination include the following:

- Wash hands and use new nitrile gloves for each sample collected.
- Wear well-laundered clothing (washed six or more times after purchase) made of synthetic or natural fibers (preferably cotton). No fabric softener.
- Wear boots made with untreated leather, polyurethane, and/or PVC; no water-resistant treated materials.
- Wear natural sunscreen and insect repellent; no cosmetics.
- Groundwater, surface water, or drinking water samples should not be filtered as the glass fiber on the filter can potentially absorb PFAS.
- Use field equipment containing HDPE or PP materials, silicon tubing, loose paper (non-water resistant), aluminum field clipboards, sharpies/pens, and regular ice.
- Collect the PFAS sample first, prior to collecting samples for any other parameters into any other containers; this avoids contact with any other type of sample container, bottles, or package materials.
- Use HDPE or PP sample containers.
- Do not place the sample bottle cap on any surface when collecting the sample, and avoid all contact with the inside of the sample bottle or its cap.
- When the sample is collected, place the samples in an individual sealed plastic bag separate from all other sample parameter bottles.
- Samples must be chilled during shipment and should arrive at the lab at <6 C $+/-2$.
- Use Alconox® and/or Liquinox® to decontaminate field equipment.
- No food or drink allowed on-site. Bottled water and hydration drinks can be consumed in the staging area.

SOP 7: Temporary and Small-Diameter Groundwater Monitoring Well Installation

Temporary groundwater monitoring wells may be utilized at sites to prescreen the groundwater quality to better determine the need and/or the position of Wisconsin Administrative Code Chapter (WAC) NR 141-compliant groundwater monitoring wells. With prior WDNR approval, small-diameter monitoring wells may be utilized at sites were drill rig accessibility or other limitations preclude the installation of NR 141-compliant (2-inch diameter) groundwater monitoring wells. Temporary and small-diameter groundwater monitoring wells will be constructed to intersect the water table as estimated during drilling. Temporary and small-diameter groundwater monitoring wells will be constructed using the following methods:

Temporary Monitoring Well Installation

Temporary monitoring wells will be installed using 5- to 15-foot screens consisting of 1-inch inside-diameter factory cut 0.010-inch slotted schedule 40 PVC pipe. The screens will be attached to a schedule 40 PVC riser pipe with flush threaded joints (no solvents or glues allowed), which will be solid (non-perforated) 1-inch inside-diameter PVC pipe. The length of the riser pipe will vary depending upon the total depth of the monitoring well relative to the ground surface.

The borehole annulus surrounding the monitoring well screen and riser pipe will consist of filter sand #30 Red Flint (or equivalent) filter pack. The filter pack will be manually poured into the borehole surrounding the well materials and will extend to approximately 2 feet below the ground surface. A bentonite chip seal will be placed as an annular space seal above the filter pack up to the ground surface. The bentonite seal will be hydrated prior to completion of the well installation.

Temporary monitoring wells will be finished by extending the PVC riser pipe approximately 3 feet above the ground surface and capping with a PVC cap (same day sampling and abandonment) or with a steel flush mount protective covers (delayed sampling/longer term use). The depths of the borehole bottom, bottom of screen, top of screen, top of filter pack, top of bentonite annular space seal, and top of PVC riser will be measured and recorded in a personal field notebook.

Small-Diameter Monitoring Well Installation

Small-diameter monitoring wells will be installed using 5- to 15-foot factory pre-constructed (prepacked) screens consisting of a ¾-inch inside-diameter factory cut 0.010-inch slotted schedule 40 PVC screen, which is surrounded by ¼-inch thick 20/40 filter sand which has been factory packed within a stainless steel mesh liner to insure the filter pack sand remains in place around the screen. The prepacked screen will be attached to schedule 40 PVC riser pipe with flush threaded joints (no solvents or glues allowed), which will be solid (non-perforated) ¾-inch inside-diameter PVC pipe. The length of the riser will vary depending upon the total depth of the small-diameter monitoring well relative to the ground surface.

During installation, the prepacked well screen will be lowered to the bottom of the borehole through the Geoprobe® drilling rods with threaded PVC riser pipe. After the well assembly is lowered to the desired depth, the probe rods will be retracted to directly above the prepacked well screen. If the Geoprobe® drilling rods are of insufficient diameter to allow the passage of the well assembly, the rods will be extracted from the borehole and the well assembly will then be lowered to the desired depth. Additional filter sand #30 Red Flint (or equivalent) will be manually poured into the borehole annulus surrounding the prepacked screen and PVC riser pipe and will extend to approximately 6 inches to 2 feet above the top of the prepacked well screen. A bentonite chip seal will be placed as an annular space seal above the filter pack up to the ground surface. The bentonite seal will be hydrated prior to completion of the well installation.

Small-diameter wells will be finished by extending the PVC riser pipe approximately 3 feet above the ground surface, capping with a PVC cap, and securing with a stick-up pipe concreted into the ground or with a steel bolt-down flush mount protective cover. The depths of the borehole bottom, bottom of screen, top of prepacked filter screen, top of poured sand filter pack, top of bentonite annular space seal, and top of PVC riser will be measured and recorded in a personal field notebook and *Monitoring Well Construction Form (WDNR Form 4400-113A)* for each small-diameter groundwater monitoring well.

All small-diameter groundwater monitoring well data for the site will be summarized on the *Groundwater Monitoring Well Information Form (WDNR Form 4400-89).*

Upon completion of small-diameter groundwater monitoring well installation and in accordance with WDNR requirements, Sigma will assign Wisconsin Unique Well Numbers (WUWN) to all the small-diameter monitoring wells at the site. A self-adhesive label with the pre-printed WUWN will be placed on the well casing for easy identification in the field. The WUWN will be recorded on the *Monitoring Well Construction Form (WDNR Form 4400-113A).*

SOP 8: Groundwater Monitoring Well / Piezometer Installation

Groundwater monitoring wells and the piezometers will be constructed in general accordance with Wisconsin Administrative Code NR 141. Generally, groundwater monitoring wells will be screened to intersect the water table as estimated during drilling and soil sample collection activities. Piezometers will be screened below the water table. Groundwater monitoring wells will be constructed using 10- to 15-foot screens consisting of 2-inch inside-diameter factory cut 0.010-inch slotted schedule 40 PVC pipe. Piezometers will be constructed using 5-foot screens consisting of the same type of pipe. For either groundwater monitoring wells or piezometers, the screens will be attached to a schedule 40 PVC riser pipe with flush threaded joints (no solvents or glues allowed), which will be solid (non-perforated) 2-inch inside-diameter PVC pipe. The length of the riser pipe will vary depending upon the total depth of the monitoring well/piezometer relative to the ground surface.

The borehole annulus surrounding the monitoring well/piezometer screen will consist of filter sand #30 Red Flint (or equivalent) filter pack. The filter pack will extend a minimum of 1 foot (and up to 2 feet) above the top of the screen. Above the filter pack, a minimum of 6 inches (and up to 2 feet) of washed silica fine sand #45-55 will be placed as part of the filter pack seal. Above the fine sand, a bentonite chip seal will be placed as an annular space seal to a depth of no less than 1.5 foot from the surface. The bentonite seal will be hydrated prior to completion of the monitoring well/piezometer installation.

All monitoring wells and piezometers will be finished with steel bolt-down flush mount protective covers or stick-up pipes concreted above the annular space seal to ground surface to restrict access to the groundwater monitoring well and minimize surface water infiltration. The depths of the borehole bottom, bottom of screen, top of screen, top of filter pack, top of fine sand, top of bentonite annular seal, and top of PVC riser will be measured. The volumes of both sand and bentonite required and used will be calculated and measured. Field data will be recorded on a *Monitoring Well Construction Form (WDNR Form 4400-113A)* for each groundwater monitoring well and piezometer.

All groundwater monitoring well/piezometer data for the site will be summarized on the *Groundwater Monitoring Well Information Form (WDNR Form 4400-89)*.

Upon completion of groundwater monitoring well/piezometer installation and in accordance with WDNR requirements, Sigma will assign Wisconsin Unique Well Numbers (WUWN) to all the monitoring wells/piezometers at the site. A self-adhesive label with the pre-printed WUWN will be placed on the well/piezometer casing for easy identification in the field. The WUWN will be recorded on the *Monitoring Well Construction Form (WDNR Form 4400-113A)*.

SOP 9: Groundwater Monitoring Well Development

Groundwater monitoring wells constructed in accordance with Chapter NR 141 of the Wisconsin Administrative Code or approved with a Chapter NR 141 variance will be developed with plastic disposable bailers using single use Nitrile gloves and new single-use rope or using a peristaltic pump with single use tubing set to a low flow rate of less than 300 milliliters per minute (ml/min) or 0.1 gallons per minute (gal/min). The well development will be completed in accordance with Wisconsin Administrative Code Chapter NR 141.21. If a well cannot be purged dry, the wells will be surged and purged alternatively for a minimum of 30 minutes, and well development will consist of removing ten well volumes or until the water is free of sediment. If the well can be purged dry, the well will not be surged and well development will be considered complete when the well is purged dry three times. The well development procedures will be documented on the *Monitoring Well Development Form (WDNR Form 4400-113B)*.

Groundwater generated as a part of monitoring well development will be contained in drums, which will be properly labeled with the Bureau for Remediation and Redevelopment Tracking System activity number for the site, the site name, well number, initial date of collection, the contents, and Sigma's company name and phone number. The drums will be temporarily staged on-site pending receipt of groundwater analytical results. Free phase product generated during monitoring well development will be contained within separate, properly labeled drums on-site. Based on the laboratory analytical results, the drummed groundwater will be disposed of at an approved wastewater treatment plant or removed and disposed of off site by a licensed waste hauler. If groundwater does not contain any detectable contaminants, it will be dispersed on site. Drummed free product will be properly characterized, removed, and disposed of off-site by a licensed waste hauler.

SOP 10: Groundwater Level Measurements at Monitoring Wells

To the extent practicable, static water level measurements will be conducted on all wells at the site as quickly as possible before any purging or sampling, and in the order of least-to-most contaminated wells. Prior to groundwater purging and sample collection at a monitoring well, the static water level measurements will be made using a Solinst Model 101 electronic water level indicator or equivalent. If the presence of light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPLs) layers are known or suspected, the depth to the immiscible layer and the static water level will be measured with a Solinst 122 Interface Meter or equivalent. Groundwater measurements will be recorded to the nearest 0.01-foot from a surveyed point on the top of the well casing. The water level indicators will be cleaned before and after each measurement with a solution of Alconox and water. (A solution of Simple Green and water will be used instead if Alconox is not available). The depth to water within each well will be recorded at the time the measurement is completed. The data will be recorded on Sigma's *Groundwater Services Summary Form*. The completed form will contain the following information: monitoring well number; date of the static water level measurement; depth to groundwater; type of measuring device used; initials of individuals collecting the data; project number; location of the site; weather conditions; and any additional observations noted.

The groundwater elevations at each well/piezometer will be calculated based on surveyed elevations for the measurement point at the top of the casing of each well/piezometer. If the top of casing is level, the measurement point will be the northern side of well casing. If the top of casing is not level, the measurement point shall be identified (e.g. notched or permanently marked) on the well itself. The survey will be completed using a Trimble GPS receiver (or total station if applicable) and referenced in feet above mean sea level to the USGS's North American Vertical Datum of 1988 (NAVD 1988). The survey data will be recorded on a *Monitoring Well Information Form (WDNR Form 4400-89)*.

If present, the thickness of measured LNAPL or DNAPL layers will be calculated based on the difference from the depth to the immiscible layer and the depth to static water level (or depth to the well bottom).

Groundwater water level measurements for drinking water supply wells are covered under a separate standard operating procedure.

THE SIGMA GROUP, INC.
STANDARD OPERATING PROCEDURES

SOP 11: Groundwater Quality Measurements

After the collection of groundwater level measurements and prior to collecting groundwater samples, groundwater quality readings will be collected using a YSI Professional Plus multiparameter water quality instrument or equivalent. The following data will be recorded onto Sigma's Groundwater Services Summary Form: project name, project number, date, field personnel, sampling location, depth to water, depth to bottom, dissolved oxygen (D.O.), redox potential, pH, specific conductivity, water temperature, and any additional observations noted. Ferrous iron concentrations will be measured in the field using a Ferrous Iron Test Kit/Hach Kit. A copy of the YSI Professional Plus User Manual as well as Sigma's *Groundwater Services Summary Form* are attached.

YSI PROFESSIONAL PLUS

Maintenance

Always be very careful with the sensors as they are delicate.

Batteries

The instrument requires 2 alkaline C-cell batteries. To replace batteries:

- Unscrew the four screws to remove the battery cover on the back of the instrument
- Replace batteries, ensuring correct polarity alignment
- Replace battery cover and tighten screws carefully – do **not** over-tighten

O-Rings

The o-rings and sealing surfaces must be maintained to prevent water from entering the battery compartment and/or sensor ports of the instrument.

- When the battery compartment lid is removed, inspect the o-ring for damage and debris and clean/replace with identical o-ring if necessary
- When the sensor connectors are removed, inspect the o-rings for damage and debris and clean/replace with identical o-rings if necessary. If no damage or debris is evident, lightly grease the o-rings without removing them from the groove
- See manual for instruction on removing and reinstalling o-rings

Sensor Ports

- Ensure that entire sensor connector ends and sensor ports are completely dry before connecting
- If sensor connectors are corroded, send them in for repair/replacement

DO Sensor (Polarographic)

- The KCl solution and membrane cap should be changed:
  - once a month during regular use
  - if bubbles are visible under the membrane
  - if significant deposits of dried electrolyte are visible on the membrane
  - If the sensor shows unstable readings/issues
- To change the membrane cap:
  - Remove sensor guard to access sensor tip
  - Unscrew and remove old membrane cap

  - Thoroughly rinse sensor tip with distilled or DI water
  - Fill new membrane cap with O2 sensor electrolyte solution prepared according to directions on the bottle. **BE VERY CAREFUL NOT TO TOUCH THE MEMBRANE SURFACE.** Lightly tap the side of the membrane cap to release trapped bubbles
  - Thread the membrane cap onto the sensor – it is ok if some electrolyte solution overflows
- When changing the membrane, examine the gold cathode and silver anode. If the silver anode is black or if the gold cathode is dull, the sensor may need resurfacing using fine sanding disks included in the membrane kit. **DO NOT** resurface the electrode during every membrane change. See manual for detailed instructions on resurfacing and deep cleaning the cathode and anode.

Conductivity Sensor

- Regularly clean the openings on the sensor with a small cleaning brush with clean water
- If deposits have formed on the electrodes, clean them with a mild detergent and brush and rinse thoroughly with clean water, then check the response and accuracy of the sensor with a calibration standard

Temperature Sensor

- Keep the temperature sensor free of buildup. Clean with the conductivity cleaning brush or a toothbrush if needed

pH and ORP Sensors

Cleaning is required whenever deposits or contaminants appear on the glass and/or platinum surfaces or when the sensor's response slows.

- Use clean water and soft cloth/lens tissue/cotton swab to gently remove material from glass and/or platinum surfaces
- Use moistened cotton swab to carefully remove any material blocking the reference electrode junction of the sensor
- If pH and/or ORP response is not restored, consult the manual for additional cleaning steps

Short-term Storage (less than 30 days)

- Keep a small amount of tap water in the sensor storage container during storage to create a humid environment
- Ensure sensors are **not** submersed in water

Long-term Storage (greater than 30 days)

- See manual for long-term storage conditions for each individual sensor

For sensor and/or cable replacement and/or repair instructions, see manual.

Calibration

Sensors should be calibrated at least once every month during regular use or when an issue is detected with one or more sensors. See manual for sensor-specific calibration instructions.

Taking Measurements

Always be very careful with the sensors as they are delicate. If taking measurements down a well, first ensure the well is unobstructed as to not damage the sensors. If the well or sample source does not allow readings to be collected in place with the instrument, use a flow cell. Use a peristaltic pump to pump the sample into the inlet port (bottom) of the flow cell and allow the sample to overflow through the outlet port (top) of the flow cell. Make sure the overflow is collected and added to the purge water. Where the well or sample source does not allow for in-situ measurements or the use of a flow cell (i.e. the well is too deep for the instrument or pumping, or the well is small diameter and has poor recharge therefore not conducive to using a flow cell), it may be necessary to collect a sample and place it in a secondary container that allows for use of the instrument. If taking measurements from a secondary container, please note the instrument readings may differ from true in-situ conditions.

- Remove sensor storage container and place sensor guard for field measurements
- Turn on the instrument with the power button and let it warm up for several minutes
- Submerge the sensors in the sample (either in the water column of the well, in the flow cell with the pump running, or in the secondary container) then give the cable a shake to release any air bubbles from the sensors. Continue stirring to ensure accurate DO reading (DO reading will drop over time if sensor is stationary/stirred too slowly). If using the flow cell, ensure that the sample is continuously flowing past the sensors
- Allow readings to stabilize (could take a few minutes) and record the data on the *Groundwater Services Summary Form*
- Remove sensor from the sample and **gently** rinse cable and sensors with clean water and/or a mild detergent between samples
- At end of day, power off instrument, ensure cable and sensors are clean, remove sensor guard and replace sensor storage container with small amount of tap water, and store instrument in its case

FERROUS IRON TEST KIT

Maintenance

Wash vials/tubes with clean water between samples and dry with a soft cloth. At the end of the day, deep clean the vials/tubes with mild detergent or solvent and wipe dry with a soft cloth.

Calibration

NA

Taking Measurements

- Fill a viewing tube to 5-mL with sample water. This is the blank.
- Place this tube in the top left opening of the color comparator.
- Fill the measuring vial to 25-mL with sample water.
- Add the contents of one Ferrous Iron Reagent Powder Pillow to the measuring vial.
- Swirl/shake to mix. An orange color will develop if ferrous iron is present. Allow three minutes for full color development.
- Fill another viewing tube to 5-mL with the prepared sample.
- Place the second tube in the top right opening of the color comparator.
- Hold comparator up to a light source such as the sky, a window or a lamp. Look through the openings in front.
- Rotate the color disc until the color matches in the two openings
- Read the mg/L ferrous iron in the scale window and record on *Groundwater Services Summary Form*.

SOP 12: Groundwater Sample Collection and Analyses

The groundwater samples will be submitted to the project laboratory for analyses as specified in the SAP. These analyses will initially include volatile organic compounds (VOCs). Additional analyses such as per- and polyfluoroalkyl substances (PFAS), polycyclic aromatic hydrocarbons (PAHs), Resource Conservation and Recovery Act (RCRA) metals, and polychlorinated biphenyls (PCBs) may also be required depending on the specific site.

The groundwater samples may also be analyzed for natural attenuation parameters including ferrous iron during the quarterly groundwater monitoring, if conducted at the site. The ferrous iron will be tested in the field using a field kit. Standard field measurements including temperature, conductivity, pH, dissolved oxygen, and redox potential will also be collected during each quarterly sampling event using a calibrated handheld meter.

Groundwater samples will either be collected from a small-diameter well set in the Geoprobe borehole or from a permanent ch. NR 141 compliant groundwater monitoring well/piezometer. The dates and times of sample collection will be recorded on the sample containers and on the sampling log. The groundwater sample collection, storage, and transportation will be performed in general accordance with ASTM and WDNR specifications and followed standard chain of custody requirements. The specific requirements for sample container type, preservative, and holding times are presented in ***Table 4*** attached with this QAPP.

<u>Purging Activities</u>
In general, prior to groundwater sample collection, approximately four well volumes of groundwater will be removed from the small-diameter monitoring well or ch. NR 141 compliant monitoring well/piezometer using a disposable bailer or peristaltic pump set to less than 300 milliliters per minute (ml/min) or 0.1 gallons per minute (GPM). Other equipment, such as a Whale submersible electric pump, may be utilized depending on site conditions and the depth of the installed well.

For wells which do not purge dry, Sigma will monitor indicator parameters during the purging activities to ensure groundwater stability when sampling. Specifically, purging activities should continue until three consecutive readings, spaced approximately two minutes or 0.5 well volumes or more apart are within the following ranges for the following indicators parameters (as specified by the WDNR publication PUBL-DG-03896):

- Dissolved oxygen, +/- 0.2 mg/l
- Specific Conductance, +/- 5.0 μmhos/cm for values $<$1000 μmhos/cm or +/- 10.0 μmhos/cm for values $>$1000 μmhos/cm
- pH, 0.1 pH units
- Temperature, +/- 0.1°C
- Turbidity $<$5 NTUs (required if metal samples will not be filtered)

For wells which do purge dry, purge the monitoring well until the pump runs dry and the piezometer until the until the water well is below the top of the well screen.

Groundwater Sample Collection Methods

Groundwater samples from small-diameter monitoring wells will be collected by using ½-inch or ¾-inch diameter disposable bailers or peristaltic pump. If possible, groundwater samples for VOC analysis will be collected using a disposable bailer of appropriate diameter to fit the small diameter well. If sampling by bailer is not possible, or other analytes are requested, new ¼-inch. I.D. plastic tubing with peristaltic pump will be used.

Groundwater samples from the ch. NR 141 compliant groundwater monitoring wells/piezometers will be collected in accordance with the WDNR, Bureau of Drinking Water and Groundwater, *Groundwater Sampling Field Manual*, dated September 1996 (PUBL-DG-03896). Within the Field Manual, a copy of the entitled *Sampling Procedures for Monitoring Wells* is included in this QAPP.

Groundwater will be collected from the ch. NR 141 compliant groundwater monitoring wells/piezometers using a 1½-inch diameter disposable bailer for all samples, except, if PAH or dissolved RCRA metals analysis are requested, low flow purging and sampling techniques will be implemented.

Laboratory Analysis

Depending on the type of analyses requested, groundwater collected from the small-diameter monitoring well or ch. NR 141 compliant monitoring well/piezometer will be containerized as described below:

Volatile Organic Compounds

Groundwater collected for VOCs will be placed in three 40-milliliter (ml) glass vials with Teflon® lined lids preserved with hydrochloric acid. The water should form a positive meniscus at the brim of the sample containers and no air bubbles should be present once the sample container is sealed. Trip and field water blank samples will also be analyzed for VOCs to serve as QA checks.

Polycyclic Aromatic Hydrocarbons

Groundwater collected for PAHs will be placed in unpreserved 250-ml amber glass bottles sealed with Teflon® lined lids. Leave approximately ½ inch of air space when filling the sample bottles to allow for expansion. For laboratory QA/QC purposes, one out of every ten samples should be collected and submitted in triplicate.

Per- and Polyfluoroalkyl Substances

For PFAS analysis, Sigma will follow specific sample collection, cross-contamination minimization, and decontamination procedures as described in ***SOP 6: PFAS Field Sampling***. Groundwater collected for PFAS will be placed in two unpreserved 250-ml HDPE bottles and sealed. Leave approximately ½ inch of air space when filling. For laboratory QA/QC purposes, one out of every ten samples should be collected and submitted in triplicate and a field reagent blank should be submitted per each sampling event.

Dissolved RCRA Metals
Groundwater collected for metals will be field-filtered using a 0.45-micron pore size filter (allow 150 milliliters to pass through filter before sampling) and placed in 500-ml HDPE bottles, preserved with nitric acid and sealed.

Polychlorinated Biphenyls
Groundwater collected for PCBs will be placed in unpreserved 250-ml amber glass bottles sealed with Teflon® lined lids. Leave approximately ½ inch of air space when filling the sample bottles to allow for expansion.

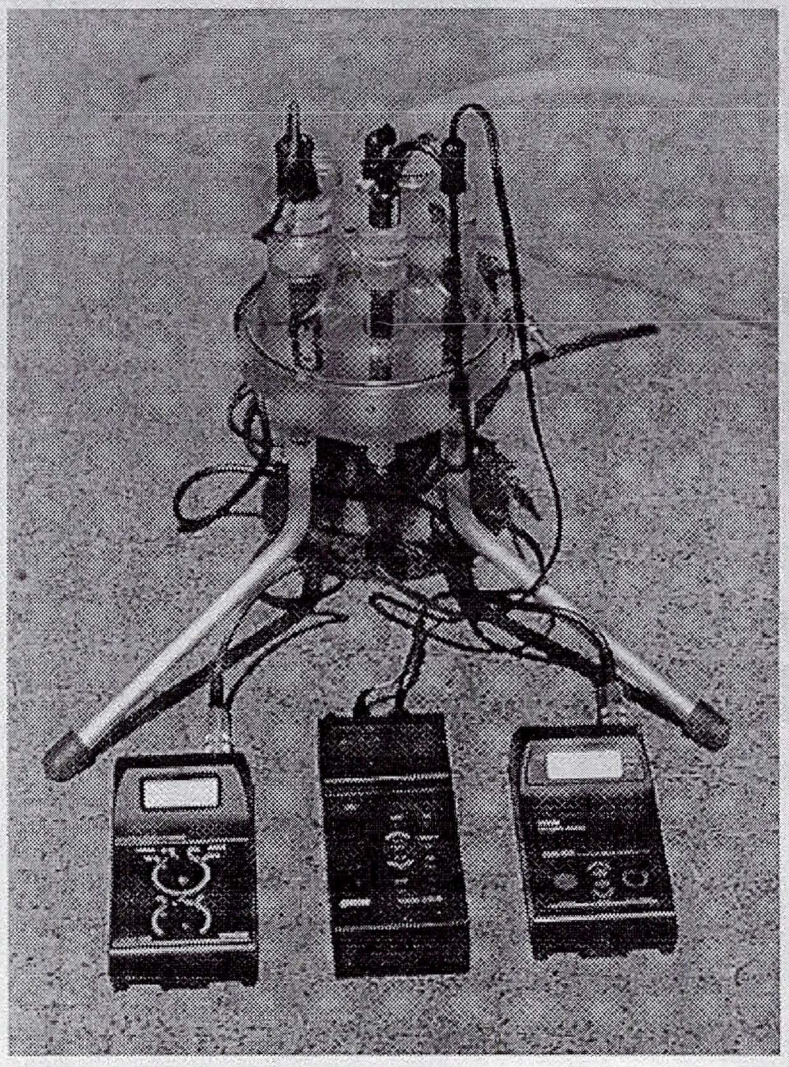
Ferrous Iron
Ferrous iron will be measured in the field using a Hach kit (previously described).

All groundwater samples will be placed on ice in a cooler immediately following collection. Samples will be delivered to the laboratory at the end of the day when they have been collected or will be picked up from Sigma by the laboratory courier the next day.

Groundwater generated, as a part of permanent monitoring well/piezometer purging will be contained in labeled drums and temporarily staged pending receipt of groundwater analytical results. If based on the analytical results, the drummed water contains detectable concentrations of contaminants, the drummed groundwater will likely be disposed of at the Port Washington Waste Treatment Plant or off-site by a licensed waste hauler. If groundwater does not contain any detectable contaminants, it will be dispersed on-site. Due to small quantity, the groundwater evacuated from temporary wells set in Geoprobe boreholes will be dispersed on-site.

Attachment
WDNR PUBL-DG-038 96, Groundwater Sampling Field Manual

Groundwater Sampling Field Manual



PUBL-DG-038 96
Produced by the Wisconsin Department of Natural Resources
Bureau of Drinking Water and Groundwater
September 1996

Groundwater Sampling Field Manual

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DISCLAIMER

The mention of trade names or commercial products in this document does not constitute an endorsement or recommendation by the Wisconsin Department of Natural Resources. Also, while this document and the accompanying Desk Reference include brief mention of health and safety issues, neither document adequately addresses all health and safety issues and requirements. Both documents should be supplemented with other appropriate references, requirements and training on health and safety.

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1.0 INTRODUCTION

1.1 PURPOSE AND USE OF THIS FIELD MANUAL

This field manual provides you with easy-to-use, WDNR-recommended procedures for consistently collecting quality, representative groundwater samples and measurements.

Before going out in the field, you should develop a sampling plan and a QA/QC plan. All sampling personnel should read these plans. The *Groundwater Sampling Desk Reference, PUBL-DG-037-96 REV,* contains detailed information on creating such plans. Consistently follow the procedures and protocols specified in these plans ***throughout a project's life. Always*** clearly document any deviations from them, including reasons for the deviations.

Most sections of this manual contain an "Alternative Methods" subsection to help you consider alternative procedures and equipment not covered in this manual. This manual contains commonly used equipment and procedures and is not intended to limit your choice of procedures and equipment to use for a specific site or project. Therefore, WDNR will allow alternative procedures as long as they provide scientifically valid and legally defensible groundwater data.

This manual uses the ☞ iconic symbol to highlight key points to follow for all procedural options. This manual also uses "***Note***", "***Important note***", "***Caution***", and "***Tip***" to highlight important points that apply to a specific subsection or procedural option (e.g., coated tapes).

1.2 PRELIMINARY SITE DATA

Instructions on collecting subsurface stratigraphy data and preliminary screening discrete-depth groundwater samples are beyond this field manual's scope. Refer to Section 2.0 of the *Groundwater Sampling Desk Reference* for a more detailed discussion on the collection, use and limitations of such data. In addition, refer to the instructions and specifications provided by the manufacturer of your sampling and monitoring equipment.

1.3 VADOSE ZONE SOIL-WATER MONITORING

Instructions on vadose zone soil-water sampling and monitoring are beyond this field manual's scope. Refer to Section 5.0 of the *Groundwater Sampling Desk Reference* for a more detailed discussion on the collection, use and limitations of such data. In addition, refer to the instructions and specifications provided by the manufacturer of your sampling and monitoring equipment.

2.0 SAMPLING PROCEDURES FOR MONITORING WELLS

2.1 PRE-FIELD CHECKLISTS AND DOCUMENTATION

Pre-field Checklists (Included in Appendix A)

Go through the following two checklists before heading out to the field. You may modify these checklists to meet specific project needs.

1. Pre-field Work Procedures Checklist - Monitoring Wells.
2. Equipment Checklist - Monitoring Well Sampling.

Documentation of the Sampling Event

1. **Sampling Plan.** The sampling plan documents the equipment and procedures you use during a sampling event. ***Document any deviations*** from the sampling plan; use the "Field Procedures Documentation" sheet included in Appendix A. Or, create your own form to record deviations.

2. **Well-Specific Field Sheet - Monitoring Wells (Appendix A)** Document well, purging and sampling information, measurements, etc., on this sheet. Or, customize your own data sheet.

3. **Field Procedures Documentation (Appendix A).** If a sampling plan is not available, you may use the "Field Procedures Documentation" sheet included in Appendix A. Customize this sheet as necessary.

4. **Chain of Custody Form (Appendix A).** Document the possession of groundwater samples collected by filling out a chain of custody form. Use this form to document each time the samples change possession. Refer to the "Chain of Custody for Samples Requiring Strict Custody" instruction included in Appendix C when collecting enforcement samples.

2.2 MEASURING STATIC WATER LEVEL

☞ Measure the static water level for a well ***before*** purging, sampling or inserting any other instrument or device into a well's water column.

☞ Collect water level measurements from all site wells within a reasonably short time, preferably the same day.

- ☞ Collect measurements in the order of least contaminated to most contaminated wells (if known). Decontaminate the measuring device between each well.

- ☞ Read water level measurements to the nearest 0.01 foot from a permanently-marked spot on the well (e.g., top of casing or reference elevation).

- ☞ When possible, use one measuring device for all site wells. If using more than one measuring instrument, check the calibration of both instruments against the same well to ensure that they provide the same water level measurements.

- ☞ After removing a ***water/air tight well cap*** (e.g., flush mounted well), allow the water level in the well to stabilize. This may be especially important for wells screened in silt and clay (low permeability) formations. Take several measurements to ensure that the water level has stabilized.

- ☞ Bring along records of previous water level measurements taken on the well.

Electronic Water Level Indicator

1. Lower the decontaminated probe or electrode into the well until the instrument indicates that you've reached the water column.

2. Slowly raise and lower the probe or electrode in and out of the water column until you are satisfied that the instrument is providing a reliable water level reading. If necessary, adjust the instrument's sensitivity according to the manufacturer's instructions.

3. Read the measurement on the cable or tape to the nearest 0.01 foot against the top of casing or reference elevation on the well. Record this measurement as "depth to water."

Popper

1. Lower the decontaminated popper and tape into the well until you hear a "pop," indicating that you've reached the water column.

2. Raise and lower the popper, listening for a repeating "pop" sound. Continue doing this until you are satisfied that you have a reliable reading.

3. Read the measurement on the tape to the nearest 0.01 foot against the top of casing or reference elevation on the well. Record this measurement as "depth to water."

4. You can also use the popper to measure the ***well depth*** by lowering the popper and tape through the water column until the tape becomes slack. Slowly pull the tape up until it just becomes taut again. Read the tape against the top of casing or reference elevation on the well and record this measurement as "depth to well bottom."

Caution! Deep wells, water table wells, high noise areas and floating products in wells may make it difficult to hear the "pop" and collect a reliable "depth to water" reading. Some individuals can "feel" the water surface without hearing a pop; however, if you are not confident you are collecting a reliable reading, use another measuring method.

Indicator Substance

Important Note: If you use a tape coated with an indicator substance, you ***must ensure*** that the indicator substance will not contaminate the well or subsequent samples collected from that well. If you have any doubt, choose another water level measurement method.

1. Coat at least 2 feet of the end of the tape.

2. Lower the coated tape into the well until you hear or feel the tape reach the water column. Lower the tape a few inches into the water and wait at least five seconds.

3. Without moving the tape, read and record the tape measurement to the nearest 0.01 foot against the top of casing or reference elevation on the well.

4. Withdraw the tape from the well and record the measurement where the wetted and dry portions of the tape intersect.

5. Subtract the measurements (Step 3 minus Step 4). Record this measurement as "depth to water."

Alternative Methods

Alternative water level measuring devices or methods are acceptable if they (1) are consistently accurate to ±0.01 foot; (2) do not affect the integrity and chemistry of groundwater samples; (3) do not affect the groundwater geochemistry or well materials; and (4) can be thoroughly decontaminated between wells. Document the type of alternative device or alternative method used. Include this information in the sampling plan and groundwater data reports generated for the site or project. Follow the manufacturer's instructions for the instrument's use and its limitations.

Refer to the *Groundwater Sampling Desk Reference* regarding procedures for using transducers, air-line or bubble tubes, float methods or ultrasonic methods for measuring depth to water in a well.

Calculating Groundwater Elevation

After obtaining depth to water measurements, subtract the "depth to water" from the "top of casing or reference elevation" and record this data as "groundwater elevation."

2.3 MEASURING AND SAMPLING IMMISCIBLE LAYERS

☞ Measure and sample light non-aqueous phase liquid (LNAPL) and dense non-aqueous phase liguid (DNAPL) layers***before*** purging a well.

☞ Disposable equipment (e.g., disposable bailers or disposable peristaltic pump tubing) is recommended because equipment decontamination may be quite difficult.

☞ A single or double check valve bailer works well for LNAPL collection and double check valve bailer works well for DNAPL collection. Peristaltic pumps may also be effective.

Measuring the Thickness of Immiscible Layers

1a. Measure **LNAPL** thickness with either an LNAPL/water interface probe or a weighted tape coated with a water and LNAPL-sensitive substance to distinguish between the air/LNAPL and LNAPL/water interfaces.

1b. You may also measure **DNAPL** thickness with an interface probe.

Sampling Immiscible Layer > 1 foot Thick in Well

Sampling LNAPLs

1. Slowly lower the bailer into the LNAPL, but not into the water, and then bring the LNAPL sample to the surface.

2. If both water and LNAPL are present in the bailer, allow the liquids to separate, then drain the water into a waste container.

3. Fill the sample containers with the remaining LNAPL.

Sampling DNAPLs

1. Slowly lower a double check valve bailer to the bottom of the well and allow it to fill with the DNAPL. ***Slowly*** raise the bailer out of the water column.

2. Drain any sediment-laden DNAPL or water into a waste container.

3. Fill the sample containers with the remaining DNAPL.

Sampling Immiscible Layer < 1 foot Thick in Well

Note: A ***top-filling*** stainless steel bailer or weighted top-filling bailer usually works best. Most bottom emptying bailers can be temporarily sealed at the bottom.

Sampling LNAPLs

1. Use the apparent LNAPL thickness and depth to water sample measurements to determine how far to lower the top of the bailer into the well. Slowly lower the bailer until its ***top*** is in the upper half of the LNAPL's thickness. Allow the bailer to fill with the LNAPL.

2. After a few seconds, raise the bailer out of the well. If both water and LNAPL are present, allow the liquids to separate, then drain the water into a waste container.

3. Fill the sample containers with the LNAPL remaining in the bailer.

Sampling DNAPLs

1. Use the same procedures just described for DNAPLs in layers thicker than 1 foot.

2.4 PURGING AND SAMPLING PROCEDURES

The ***goal of purging*** is either to remove stagnant water from the well or prevent stagnant water from entering samples as you are collecting them. Stagnant water does not represent groundwater.

The ***goal of sampling*** is to collect unaltered samples that represent the physical and chemical composition of groundwater.

☞ Purge and sample wells in order of least-to-most contaminated. (This is not necessary if you use dedicated or disposable equipment.) If you do not know this order, sample the upgradient wells first, then the furthest down-gradient or side-gradient wells, and finally the wells closest to, but down-gradient of the most contaminated area.

☞ Wait at least one week before sampling a newly-constructed and developed well; waiting a month or more may be appropriate for wells constructed in silt or clay.

☞ When using a bailer, purge and sample ***SLOWLY AND CAREFULLY***. Use a bottom-emptying device to decant samples from the bailer.

☞ Do ***not*** use cotton or cloth rope or line; use stainless steel cord, Teflon®-coated cord, nylon, or equivalent cord that can be decontaminated between each well. Or, use disposable rope or line.

☞ Decontaminate all equipment and accessories between use in each well. Store and transport all equipment in clean containers.

☞ Place a clean plastic sheet or other protective covering around the base of the well to prevent the equipment from contacting the ground. If you do not use a protective covering, ensure that your equipment does not touch the ground or a contaminated surface.

Wells that do NOT Purge Dry

This section applies to wells that take less than ~ 1 hour for their water levels to recover, or nearly so, after they have been purged.

The following purging and sampling procedures are recommended for wells that do not purge dry. The first procedure (A) consistently yields the ***highest level of data quality.*** The last procedure (C) may yield a ***lower level of data quality.***

A. Low-flow Purging < 1 L/min (0.26 gpm), Low-flow Sampling < 300 ml/min (0.3 L/min or 0.1 gpm) and Monitoring Indicator Parameters for Stability in a Closed Flow-through Cell

1. SLOWLY lower the pump to the ***middle*** of the well's screened area. (A dedicated system is recommended.) Securely fasten the power cable and sample tubing at the top of the well. Connect the power source, controller box, gas source, etc., to the pumping equipment.

2. Connect the sample tubing to the water entry point of the closed flow-through cell.

   Closed Flow-Through Cell

   Air pockets may exist in the upper neck of each port hole that has a probe inserted into it – this is not a problem. Just make sure the probe's sensors are completely submerged in water during use.

   Avoid exposing the flow-through cell to extreme heat and sun in the summer and freezing temperatures in the winter.

3. Set up and calibrate all indicator parameter instruments and place each probe into its respective port of the closed flow-through cell.

4. Set the pump controller to the desired purging rate (i.e., < 1 L/min). D***o not*** use a valve to reduce the flow from a pump; valves can cause an "orifice" effect that can cause sample agitation and alteration.

5. Record the "purging time start," and start purging the well at a rate of 1 L/min or less. During purging, the water level in the well should not decrease significantly and should stabilize after purging for a few minutes. If the water level continues to decline while purging, decrease the purging rate if possible. Record the "purging flow rate" as an average. Use a graduated beaker, cylinder, calibrated bucket or other device to measure the flow rate while purging and sampling.

6a. Purge the well until you have taken at least three consecutive readings, spaced ~ 2 minutes

or ~ 0.5 well volumes or more apart, are within the following ranges for the following indicator parameters:

Dissolved Oxygen	± 0.2 mg/L
Specific Conductance	± 5.0 µmhos/cm for values < 1000 µmhos/cm ± 10.0 µmhos/cm for values > 1000 µmhos/cm
pH	± 0.1 pH units
Temperature	± 0.1 °C
Turbidity	< 5 NTUs (***Required*** if metals samples will not be filtered. ***Recommended*** if sorptive compounds or elements are collected. ***Optional***, but recommended, if other compounds or elements are collected).
Eh (***optional***)	± 30 mv

Stable dissolved oxygen, specific conductance and turbidity readings are considered the most reliable parameters for indicating that stagnant water has been replaced by formation water. You may adjust the ± ranges and which indicator parameters you use to indicate that stagnant water has been replaced by formation water to reflect site-specific data, geochemistry, and hydrogeologic conditions.

Turbidity stabilization and NTU readings below 5 are required if you will not be filtering metals samples. In addition, monitor turbidity stabilization when collecting sorptive, hydrophobic, or high octanol-water partition coefficient (Kow) compounds or elements.

OR

6b. Purge the well until the readings for indicator parameters listed above (or well-specific indicator parameters) vary within ±10% over three or more consecutive readings, spaced ~2 minutes or ~ 0.5 well volumes or more apart.

7. Record the final three stable readings for each indicator parameter on the "Well Specific Field Sheet - Monitoring Wells" (Appendix A). Or, use your own customized data sheet. Record indicator parameter data measured before stabilization on graph paper. Or, customize your own data sheet.

8. Record the "volume purged," "purging time stop," "purged dry (Y/N)," and any problems purging.

9. Collect samples as described under Section 2.5. Record "sample flow rate" as an average, "time sample collected," and any other pertinent information related to the sampling event.

B. Purging FOUR Well Volumes with a Standard pump and Sampling with a Pump or Grab Sampler

1. SLOWLY lower the pump to the***middle*** of the screened area of the well. Securely fasten

the power cable and sample tubing. Connect the power source, controller box, gas source, etc., to the pumping equipment.

2. Use **Equation 1** or **Table 1** (see the following this section) to calculate the number of gallons to remove ***four*** well volumes from the well. Record this data as "four well volumes."

3a. Using a **pump** to *purge* ***and*** *sample* the well: Record the "purging time start" and start purging the well. Minimize well drawdown; it should stabilize before sampling. If the water level continues to decline during purging, try using a lower purging rate. Use a graduated beaker, cylinder, calibrated bucket or other device to calculate the flow rate while purging and sampling.

3b. Using a **pump** to *purge* the well and then using a **grab sampler** to *sample* the well: Record the "purging time start" and start purging the well with the pump's inlet at the ***top*** of the water column. As you are purging, ***slowly lower the pump*** so that, after four well volumes are purged, the pump's inlet is near the bottom of the well (within ~ 1 foot). ***Important note:*** Before collecting samples with a grab sampler, you must lower the pump while purging the well, thus removing any stagnant water before collecting samples.

4. Record "purging flow rate" as an average, "volume purged," "purging time stop," "purged dry (Y/N)," and any problems purging.

5a. If you use a **pump** to collect samples, the sampling flow rate should be as low as possible, and preferably less than the purging flow rate.

5b. If you use a **grab sampler**, try not to disturb the samples. If you use a bailer, use a bottom-emptying device to decant your samples.

6. Collect samples as described under Section 2.5. Record "sample flow rate" as an average, "time sample collected," and any other pertinent information related to the sampling event.

C. Purging FOUR Well Volumes with a Bailer and then Sampling with a Bailer or Other Grab Sampler

1. Use **Equation 1** or **Table 1** (see the following section) to calculate the number of gallons needed for removing ***four*** well volumes. Record this data as "four well volumes."

2. Record the "purging time start." Lower and raise a decontaminated bailer in and out of the water column ***very slowly*** and purge four well volumes.

> ***Tip!*** To hasten purging and sampling with a bailer, tie an overhand knot, string or other easily-removable marker to the rope or cable just short of the well's depth to

water. You can then rapidly lower the bailer into the well to just above the water column, then ***gently and slowly*** lower it into, then out of the water column.

3. Use a calibrated bucket or other device to keep track of the volume of water you remov Purge four well volumes.

4. Record "volume purged," "purging time stop," "purged dry (Y/N)," and any problems purging.

5. Sample the well by ***slowly and gently*** lowering the bailer until it is submerged and in the middle of the well screen. Do not allow the bailer to contact the bottom of the well ***Very slowly and carefully*** raise the bailer out of the water column and to the surface. Do not bang it against the side of the well (typical of the "helicoptering" technique).

6. Collect samples as described under Section 2.5. Use of a bottom-emptying device to decant samples from a bailer. Record "time sample collected" and any other pertinent information related to the sampling event.

EQUATION 1
Volume to be Purged from a Monitoring Well

$$V = \pi \times (D/2)^2 \times H \times 4 \times 7.48 \text{ gallons/ft}^3$$

Where: **V** = Total purge volumes (i.e., four well volumes in gallons)

π = Pi (3.1416)

D = Inside diameter of well casing (feet)

H = Feet of water in well (depth to well bottom minus depth to water)

TABLE 1

Four Well Volumes of Water (in gallons) per One-Foot Section of Well Casing

Nominal casing or pipe size (inch)	Well casing or pipe schedule	Actual inside diameter of well casing (inch)	Four well volumes per one foot of water in well
1	40	1.05	0.18
1	80	0.96	0.15
1.25	40	1.38	0.31
1.25	80	1.28	0.27
1.5	40	1.61	0.42
1.5	80	1.50	0.37
2	5	2.25	0.82
2	40	2.07	0.70
2	80	1.94	0.61
3	40	3.07	1.54
3	80	2.90	1.37
4	5	4.33	3.07
4	40	4.03	2.65
4	80	3.83	2.39

How to calculate four well volumes using Table 1

Step 1: Measure the actual inside diameter of the well casing - find on column three of chart. You may also use the nominal pipe size and schedule in lieu of a measurement.

Step 2: Calculate feet of water in the well casing (depth to well bottom minus depth to water).

Step 3: Multiply step 2 by the applicable value in column four. For example, you have a 2-inch, schedule 40 casing that measures 2.07 inside diameter and you have 20 feet of water (step 2) in the well. Multiply 20 feet by 0.70 (column 4) = 14 gallons; therefore, you must purge 14 gallons from the well before collecting

samples.

To Convert:

Gallons to liters, multiply gallons by 3.785
Liters to gallons, multiply liters by 0.2642
Milliliters to gallons, multiply milliliters by 0.0002642
Feet to meters, multiply feet by 0.3048
Centimeters to feet, multiply centimeters by 0.03281

Wells that Purge Dry

This section applies to wells that take ~ 1 or more hours to recover, or nearly so, after they have been purged dry, or nearly so.

A. Low-flow Purging and Sampling in a WATER TABLE WELL (water level intersects the well screen)

1. Slowly lower the pump to the***lower portion*** of the screened area of the well but without setting it at the very bottom of the well. Secure the power cable and sample tubing. A dedicated system is recommended over a portable system.

2. Record the "purging time start" and start purging the well at < 300 ml/min or <0.1 gpm. Purge until drawdown reaches the top of the pump or until the pump runs dry, then shut the pump off immediately! (***Caution!*** Some pumps can be damaged by running them dry - follow the manufacturer's instructions.) Record the "purging flow rate" as an average.

   Note: A pressure transducer or electric water level indicator can assist in determining when drawdown reaches the top of the pump. If you use an electric water level indicator, lower the probe tip to the well pump and turn the instrument on before pumping. Start pumping, then shut off the pump when the water level indicator shuts off.

3. Allow the well to recover, or nearly so. If time permits, purge the well a second time and allow the water to recover again before sampling. To save time, purge a well the first time, move on to the next well and purge it, then come back to the first well to purge it again before sampling. (With portable equipment - decontaminate first.) Record "volume purged," "purging time stop," "purged dry (Y)," and any problems purging.

4. Collect samples as described under Section 2.5. (Collect samples within 24 hours of purging, if possible.) Record "sampling flow rate" as an average, "time sample collected," and any other pertinent information related to the sampling event.

B. Low-flow Purging and Sampling in a PIEZOMETER (water level is above the top of well screen)

1. SLOWLY lower the pump to the***lower portion*** of the screened area of the well but do not set the pump on the very bottom of the well. Secure the power cable and sample tubing at the top of the well. A dedicated system is recommended over a portable system.

2. Record the "purging time start" and start purging the well at <300 ml/min or <0.1 gpm. Purge the well until the water level is just below the top of the well screen. (Use a pressure transducer, water level indicator or similar method.) Shut off the pump and

record the "purging flow rate" as an average, "volume purged," "purging time (stop)," "purged dry (Y)," and any problems purging.

3. Allow the well to recover, or nearly so, then begin collecting samples as described under Section 2.5. (Collect samples within 24 hours of purging, if possible.) If the water level in the well reaches the top of the screen before all samples are collected, shut off the pump, allow the well to recover again, then resume collecting the rest of the samples. Record "sample flow rate" as an average, "time samples collected," and any other pertinent information related to the sampling event.

C. Purging and Sampling with a BAILER, or other grab sampler, in a Water Table Well or Piezometer

1. Record "purging time start" and bail the well dry, or nearly so. Take extra care to purge the well very slowly and very gently. Do not allow the bailer to contact the bottom of the well.

2. Allow the well to recover, or nearly so. If time permits, purge the well dry, or nearly so, a second time. Record "volume purged," "purging time stop," "well purged dry (Y)," and any problems purging.

3. Collect samples as described under Section 2.5, within 24 hours of well recovery, if possible. Use a bottom-emptying device to decant samples from the bailer. Record "time sample collected" and any other pertinent information related to the sampling event.

Alternative Methods

Alternative purging and sampling methods and equipment are acceptable if they provide representative groundwater samples. Your purging and sampling method and your equipment must not adversely affect sample integrity, chemistry, temperature and turbidity. In addition, alternative equipment must have minimal or no effect on groundwater geochemistry, aquifer permeability and well materials. Equipment materials must minimize sorption and leaching. Use the equipment in a manner that minimally alters the groundwater samples. If you meet these conditions, WDNR pre-approval is not required; however, verbal or written approval from WDNR is recommended before you use alternative purging and sampling equipment or procedures.

Document and describe any alternative equipment and procedures you use to purge a well and collect samples. Include this information in the sampling plan and groundwater data reports you generate for a site or project.

2.5 SAMPLE COLLECTION

Sample Collection and Filling Procedures

☞ Take in-field water quality measurements before or ***immediately*** after sample collection. (See Section 2.6.)

☞ Open only one sample container or one set of sample containers immediately before filling. Preserve samples within 15 minutes of collection and immediately place on ice.

☞ Minimize the contact of extraneous contamination with sample containers and equipment. Common extraneous contaminants include perfumes, cosmetics, bug spray, sun tan lotion, Sharpie®, spray lubricants (e.g., WD-40®) and engine fumes. Sample up wind or remove extraneous contaminants before opening containers and collecting samples.

☞ Use waterproof labels. Write on them with a permanent, waterproof marking device (e.g., grease pencil). Labels should include:

- ✓ A unique sample number and WUWN (if applicable).
- ✓ Site/project name or other identifier.
- ✓ Date and time sample collected.
- ✓ Sample collectors initials.
- ✓ Type of preservation added and analysis required.

☞ Appendix C includes a table that indicates a substance's potential to volatilize from a water sample during sample collection. Use extra caution when collecting samples that have a "medium" or "high" potential to volatalize from water.

☞ Remember to keep complete and accurate records. Record all field information before proceeding to the next well.

Order of Filling Sample Containers

Collect sample parameters in the following order:

1. Unfiltered samples for in-field water quality measurements. (This is not necessary if you take down-well or closed flow-through cell measurements.)
2. Volatile organic compounds (VOCs).
3. Non-filtered, non-preserved (e.g., sulfate, total chromium VI, mercury, semi- and non-volatiles, pesticides, PCBs).
4. Non-filtered, preserved (e.g., nitrogen series [ammonia, nitrates, nitrites, etc.], phenolics, total phosphorous, total metals, cyanide, total organic carbon).
5. Filtered, non-preserved (e.g., dissolved chromium VI).
6. Filtered, preserved immediately (e.g., dissolved metals)
7. Miscellaneous parameters.

Note: Collect sulfate samples before sulfuric acid preserved samples (e.g., nitrogen series). Collect nitrogen series samples before nitric acid preserved samples (e.g., boron, dissolved metals).

Procedures for Filling Sample Containers

Note: If a sample container already has preservative in it before you fill it (common for VOC vials), do not rinse the container before filling and take care to minimize sample overflow that may dilute the preservative.

1. Tip the sample container at a slight angle and allow a slow steady stream of water to run down its inner wall. Hold the sampling discharge tube close to the sample container but do not touch it.

2. Immediately after filling a sample container, if not already done, add any required preservative (filter first, if required), replace the cap, add the label, and place the sample in a plastic bag (optional) on ice in a cooler.

3. Record the "time sample collected." To avoid confusion, you may wish to record sample collection time in military time (e.g., 1300 instead of 1:00 pm, 1845 instead of 6:45 pm, etc.,)

Volatile Organic Compounds (VOCs)

Note: Do ***not*** filter VOC or other organic samples. Turn off any nearby gasoline engines or sample up wind of any engine exhaust. Remember to store one trip blank per cooler when collecting volatile (VOCs, GRO, and PVOCs) samples. Store empty VOC containers on ice to help you reduce VOC volatilization when you fill them.

1. If a laboratory hasn't already done so, add sufficient preservation to the container.

2. Tip the container at a slight angle and allow a slow, steady stream of water to run down its inner wall.

3. Fill the sample container until the water forms a positive meniscus at the brim, then immediately replace the cap.

4. Invert the sample container and tap it lightly to check for bubbles. If bubbles are present, fill a new sample container (containing preservative) and check for bubbles the same way. If bubbles are unavoidable, collect numerous samples and save those with the least amount of bubbles. Do not try to reopen and add more water to samples that have bubbles.

   Refill a ***used*** container only if you again add sufficient preservative ***and*** refill it with water from the same well, to avoid cross-contamination between samples.

5. Label the sample, place it in a plastic bag (optional), then immediately place it on ice in a cooler. Record the "time sample collected."

Semi-volatiles and Pesticides

When collecting semi-volatiles and pesticides, unless project objectives or regulations require otherwise, use similar, but less rigourous, procedures as those described for collecting VOC samples. Use the same equipment decontamination and storage procedures you use for collecting VOC samples.

When collecting semi-volatiles and pesticides, the type of sample container, volume and preservative may be quite different than that required for VOC samples. In addition, leave approximately ½ inch of air space when filling sample bottles to allow for expansion. Otherwise, the bottles may break.

> *Note:* The number of sample bottles required depends on the number of different extraction, clean-up, analytical methods and quality control (QC) needed for the project. Remember that laboratories are required to duplicate and spike samples at a set frequency. Collecting insufficient sample volumes may result in higher detection limits, because sample volume must be reduced to accommodate QC requirements.

Inorganics

Inorganic samples (e.g., dissolved metals) are quite susceptible to aeration, oxidation, precipitation, coprecipitation, extraneous contamination and cross-contamination during sampling, filtering and handling. Therefore, take extra care to avoid sample aeration before filtering (if required) and preserving. Unless WDNR requires or approves otherwise***field filter*** inorganic samples and***preserve immediately*** after collection. Refer to Section 2.7 regarding filtering procedures.

Other Sample Parameters

Other sample parameters subject to rapid change (by aeration and subsequent changes in redox state, or addition or loss of dissolved gasses) once groundwater is removed from a well include: chromium VI, pH, Eh, oxygen, inorganic carbon, alkalinity, TOC, ammonium, nitrate/nitrite, sulfide, cyanide, molybdenum, mercury, selenium, dissolved iron (ferrous iron - Fe^{2}), manganese, zinc, cadmium, lead, vanadium, arsenic and phosphate. Take precautions to avoid altering these parameters during sampling. Add preservative, if required,***immediately*** and place on ice in a cooler.

For those interested in monitoring indicators of biodegredation that may be occurring in groundwater at a site, use a field test kit (e.g., colorimetric), sensor probe or other field test (e.g., portable gas chromatogram) to quantify pH, dissolved oxygen, nitrate, sulfate, ferrous iron, redox potential and manganese ***in the field*** immediately after sample collection. In addition, alkalinity, methane and carbon dioxide should be measured in the field immediately after collection, or less preferably, in the laboratory.

Contact a qualified laboratory for specific directions on collecting, preserving and handling samples not discussed in this manual.

2.6 FIELD WATER QUALITY MEASUREMENTS

- ☞ Use a closed flow-through cell. Or, you can use a down well measuring probe; however, well water must be flowing past the probe during measurements (i.e., the probe is near the pump's inlet during purging or is lowered and raised in the screened portion of the well).

- ☞ If you do not use a closed flow-through cell or a down-well probe, take in-field measurements immediately, or less preferably, within 30 minutes of collection.

- ☞ Avoid exposing instruments and samples to extreme heat or cold.

- ☞ Specific conductance, pH, dissolved oxygen and Eh can change rapidly due to aeration, oxidation and the loss or gain of dissolved gasses as you remove groundwater from a well. Minimize atmospheric contact with the sample.

Following are procedures for ***'out of the well'*** (i.e., closed flow-through cell or sample bottle) water quality measurements. Your equipment's operation manual may deviate from guidelines provided here. Follow the manufacturer's instructions for your instrument and familiarize yourself with the methodology in the most recent version of*Standard Methods for the Examination of Water and Wastewater.*

Temperature

1. Place the thermometer or probe into a closed flow-through cell or sample bottle and allow the purge water to continuously flow past the thermometer or probe. If you use a sample bottle, allow the water to overflow while measuring temperature.

2. Allow the thermometer or probe to equilibrate with the water for a minute or more, then record the temperature. Do not remove the thermometer or probe from the water when taking the reading.

3. Decontaminate the thermometer or probe and store properly.

Specific Conductance (conductivity and electric conductance)

Note: Measure specific conductance***before*** pH (unless using a flow-through cell).
In addition, as specific conductance is a temperature sensitive measurement, adjust readings to 25°C.

1. Calibrate the conductivity instrument and probe against a standard potassium chloride (KCl) solution. Do this in the field, or less preferably, in the laboratory. Calibrate the instrument

according to the manufacturer's instructions. Recalibrate at least daily; more often is recommended and prudent. Record calibration data.

2. If required, set the instrument to the anticipated range for measurement (e.g., 100 µmhos/cm).

3a. If your instrument ***automatically compensates for temperature***, record the measurement as "field specific conductance at 25°C." Don't forget to multiply the measurement by the range at which the instrument is set.

3b. If your instrument ***does not automatically compensate for temperature***, measure the temperature of the sample and set the instrument's temperature dial to the sample temperature. Record the measurement as the "field specific conductance at 25°C." Don't forget to multiply the measurement by the range at which the instrument is set.

3c. If your instrument cannot compensate for temperature, apply a correction factor as specified in the manufacturer's instructions or by using the following formula:

$$\text{specific conductance @ } 25^{\circ}\text{C} = \frac{\text{sample conductivity (µmhos/cm)}}{1 + 0.0191x \text{ (sample temp. in } ^{\circ}\text{C} - 25)}$$

Note: Conductivity meters that do not automatically correct readings to 25°C usually include a conversion table or chart for correcting data to 25°C.

4. Decontaminate the electrode and store properly.

Note: Most problems related to collecting poor conductivity data include: weak batteries; fouling of the electrode (chemical cleaning may be necessary); insufficient submersion of the probe into the sample; allowing the probe to touch the container walls; improper or no instrument calibration; not allowing the probe to equalize with the sample temperature; and improperly or not converting readings to 25°C.

pH

1. Calibrate the pH instrument with pH buffer solutions that span the range of expected groundwater pH values. Two fresh pH buffer solutions (7.00 and 4.00 ***or*** 7.00 and 10.00) having temperatures within 5°C of the groundwater samples are required for instrument calibration. Properly fill the probe with a salt solution, if required. Follow the manufacturer's instructions for the procedures and frequency of instrument calibration. Calibrate the instrument at least daily; more often is recommended and prudent. Record calibration data.

2a. Place the calibrated pH probe into a closed flow-through cell and allow the purge water to continuously flow past the probe.

2b. If you measure pH from a sample container, fill a container for this measurement ***only.*** Do not insert a pH probe into a sample that will later be analyzed for other parameters.

3. Allow the pH probe to equilibrate with the water for a minute or more, then record pH. Do not

remove the pH probe from the water while taking the reading. Read pH measurements to the nearest 0.1 pH units.

4. Rinse the pH probe with reagent grade water and storin the buffer solution or as recommended by the equipment's manufacturer.

Turbidity

Measure the turbidity of a sample the same day you collect it, preferably in the field immediately after collection.

If you cannot measure sample turbidity soon after collection, you may store samples in the dark for up to 24 hours before measuring turbidity. Shake the sample vigorously before measuring*Standard Methods for the Examination of Water and Wastewater*discusses interferences and procedures for measuring turbidity.

1a. Use a turbidity meter according to the manufacturer's instructions. Read turbidity to the nearest 0.1 Nephelometric Turbidity Unit (NTU) and record your measurement. In addition, provide this measurement to the laboratory if any well samples will be analyzed for metals.

1b. When you do not use a turbidity meter, describe the turbidity (e.g., slight, moderate) and record your observations or have a laboratory determine sample turbidity within 24 hours of sample collection.

Dissolved Oxygen

You can measure dissolved oxygen (DO) with an electrometric method (dissolved oxygen meter), colorimetric method, the Winkler method, or with the iodometric method. (See most recent version of *Standard Methods for the Examination of Water and Wastewater*) Dissolved oxygen meters usually require calibration before use and a visual check of the probe to verify that the membrane is not damaged.

To function properly, most DO probes require that water continuously flow past the membrane while measurements are being taken. Therefore, for down-well measurements of DO after purging a well, use either a DO probe equipped with a stirring rod or, less preferably, slowly raise and lower the probe in the water column while taking readings. If you use a DO probe on a water sample removed from the well, either use a probe equipped with a stirring rod or, while purging the well, allow the purge water to overflow from the sample container while taking DO readings.

If your DO meter is not responding as expected or is very sluggish, you may need to change the probe's membrane; follow the manufacturer's instructions for doing this. Lowering a probe into a deep well may also result in sluggish performance because signal strength weakens with cable distance.

Color

1. Note the color against a white background. If filtering is required, note the color ***after*** filtering. Document whether you noted sample color for a filtered or nonfiltered sample.

2. Describe the color by common descriptors (e.g., light gray), or use an industry-recognized and standardized color description method (e.g., a color comparison disk for water). Record your observations.

Odor

Important Note: WDNR neither requires nor advocates smelling groundwater samples.

1a. If you do not know the type and approximate concentration of substances in a sample, do ***not*** attempt to smell it. Record sample odor only if you notice it unintentionally.

1b. If the type and concentration of substances are known and below safe values as established by Occupational Safety and Health Association (OSHA) or the National Institute for Occupational Safety and Health (NIOSH)*Pocket Guide to Chemical Hazards*, carefully wave your hand over the sample and note any distinct odor. Do not "stick your nose" in the sample to check for odor. Record any noticeable odor (e.g., pungent, solvent).

Eh (Oxidation-reduction potential)

Eh is usually measured with a noble metal (e.g., platinum) and a reference electrode system using a pH meter that reads millivolts. Take field measurements of Eh in an air-tight flow-through cell or similar air-tight device. Read Eh measurements to the nearest 10 millivolts (mV).

Follow the equipment manufacturer's instructions and refer to the most recent version of *Standard Methods for the Examination of Water and Wastewater*.

Other Water Quality Measurements

Other water quality measurements that may change physically and chemically soon after collection include dissolved carbon dioxide and alkalinity. These parameters are best measured in-field and immediately after collection. Follow the equipment manufacturer's instructions and the most recent version of *Standard Methods for the Examination of Water and Wastewater* for measuring these parameters.

2.7 SAMPLE FILTRATION

- WDNR ***strongly recommends*** direct, in-line filtering of samples. It is fast, simple and greatly reduces sample alteration. Direct, in-line filtering means that you attach the filter ***directly*** to a pump's discharge line or to the discharge tube of a grab sampler (e.g., bailer). If you place a sample into any type of container or transfer vessel before filtering, any filtering that follows is not direct, in-line filtering.

- If you do not use direct, in-line filtration, filter samples ***immediately*** after collection, document when you filtered the samples.

- Use a 0.45 micron pore size filter membrane for filtering. If possible, rinse or flush the filter membrane and filtering device with a minimum of 0.5 liters (500 mls) of reagent grade water before use.

- Avoid applying high pressure (>50 psi) when filtering samples. For silt-laden or turbid samples, try using a pre-filter (e.g., glass microfiber), a filter membrane of larger diameter or larger surface area, or a slower pumping rate or bailing technique. If high turbidity is a recurring problem, the well may need to be redeveloped or rehabilitated.

- If possible, allow 150 mls or so of sample to pass through the filtering device before filling sample containers. If possible, rinse sample containers once with filtrate.

Filtration Procedures

IMPORTANT: ***Immediately*** after or during collection, ***field filter*** samples collected for metals analyses. There are three exceptions:

1) Total metals results are required. This requirement may be in a Wastewater permit, administrative rule, sampling contract or other requirement or agreement.

2) WDNR grants a verbal or written approval to the responsible party, or its representative, allowing unfiltered metal sample results.

3) Low-flow sampling procedures are used, three consecutive in-field turbidity readings (spaced ~2 minutes or ~ 0.5 well volumes or more apart) are all 5 NTUs or less ***and*** WDNR grants verbal or written approval to the responsible party, or its representative, allowing unfiltered metal sample results.

A. <u>Low-flow Purging and Sampling, NO FILTRATION and Three Consecutive Turbidity Readings of 5 NTUs or less</u>

This procedure involves purging a well at 1 L/min (0.26 gpm) or less and sampling the well at 300 ml/min (0.3 L/min or 0.1 gpm) or less. The sample does not require filtering if low-flow sampling procedures are used, three consecutive in-field turbidity readings (spaced ~2 minutes or

~ 0.5 well volumes or more apart) are all 5 NTUs or less ***and*** WDNR grants verbal or written approval to the responsible party, or its representative, allowing unfiltered metal sample results. Record that the samples were not filtered and that they have turbidity readings of 5 NTUs or less.

Under this scenario, purging and sampling rates should be at or less than natural flow conditions existing in the aquifer. Low turbidity values (<5 NTUs) for the sample should reflect the naturally mobile colloids and particulates moving through the groundwater.

B. Low-flow Purging and Sampling, and Direct, In-line Filtration

1. After completing well purging as described under Section 2.4, reduce the pumping rate as low as possible to deliver a slow discharge. Do not use a valve to reduce the flow rate.

2. Attach the direct, in-line filter ***directly*** to the pump's discharge line. (If applicable, remove the sample tubing from the flow-through cell first.)

3. Discard the first 150 mls or so of filtered sample. Collect the subsequent filtered samples into appropriate sample containers.

4. Immediately preserve the samples, replace the cap, label the samples, and place them on ice in a cooler.

5. Record "sample field filtered (Y)" and the "time samples filtered." Dispose of the used in-line filter - ***do not*** reuse it.

C. Purging and Sampling with a Bailer and Direct, In-line Filtration

1. Purge and sample the well as described under Section 2.4.

2. Connect the direct, in-line filter to the bailer as described by the manufacturer's instructions. Pressure-fed systems are recommended over gravity-fed systems.

3. If the bailer's volume allows, discard the first 150 mls or so of filtered sample. Collect the subsequent filtered samples into appropriate sample containers.

4. Immediately preserve the samples, replace the cap, label the samples and place them on ice in a cooler.

5. Record "sample field filtered (Y)" and the "time samples filtered." Dispose of the used in-line filter - ***do not*** reuse it.

D. Sample Transfer and Pressure Filtration: Field Filtering Immediately After Sample Collection

Note: Use positive pressure filtration rather than vacuum filtration, which causes excessive sample aeration and agitation.

1a. If you use a **self-contained filtering device**, gently pour the sample (preferably directly

from the pump's or grab sampler's discharge line) directly into the self-contained device fitted with a disposable filter membrane. Attach the pressure line to the device.

1b. If you use a **transfer vessel**, gently pour the sample (preferably directly from the pump's or grab sampler's discharge line) into the transfer vessel. Set up the reusable filtering device with a disposable filter membrane or use a disposable, in-line filter in conjunction with the transfer vessel.

Note: Some laboratories may recommend a dilute nitric acid/reagent grade water rinse of the filtering equipment (i.e., described in "1a" and "1b") to prevent extraneous contamination of filtered samples.

2. If you have sufficient sample volume, discard the first 150 mls or so of filtered sample. Collect the rest of the filtered sample into appropriate sample containers.

3. Immediately preserve the samples, replace the cap, label the samples and place them on ice in a cooler. Record "time samples filtered" and "samples field filtered (Y)."

4. Dispose of the used filter membrane -***do not*** reuse it. Decontaminate the transfer vessel and filtering device and store for later use.

E. Sample Transfer and Filtration: Field Filtering NOT Done Immediately or Sample is Filtered Later in a Laboratory

Unless the parameters being collected are not subject to change during sample storage (e.g., changes in dissolved gas content, pH, Eh, redox potential, and dissolved/solid phases), filter samples in the field ***immediately*** after collection. If a sample is not subject to change and is held for extended periods of time, filtering may be done later. Record the filtering place, time and method.

Alternative Methods

Alternative filtration techniques are acceptable if you use a 0.45 micron pore size filter membrane that is nonsorptive and does not leach contaminants into the sample. The materials and operation of the filtering device must have little or no physical or chemical effect on the sample being filtered. Follow the manufacturer's instructions for proper use.

Document and describe the device, membrane and procedure used for filtering. This information must appear in your sampling plan and groundwater data reports for a site or project.

2.8 SAMPLE PRESERVATION AND HANDLING

Sample Preservation

Appendix C includes sample preservation for a variety of compounds and parameters. You may add preservative to sample bottles before or immediately after sample collection. (Filter the sample, if required, before adding preservative.) If you add preservative to a container before adding the sample, take care to minimize sample overflow that may dilute the preservative.

Checking and Adjusting the pH of a Preserved Sample

Note: Do ***not*** check the pH of VOC samples.

When using a pH meter to check the pH of a preserved sample, follow these procedures:

1. If applicable, check and fill the reference electrode with solution as recommended by the instrument's manufacturer.

2. Calibrate the instrument according to the manufacturer's instruction. Two fresh pH buffer solutions (7.00 and 4.00 ***or*** 7.00 and 10.00) having temperatures within 5°C of the groundwater samples are typically required for instrument calibration.

3. Pour a small portion of the preserved sample into a separate container. Immerse the electrode into the separate container and wait for the reading to stabilize. Do not swirl or stir the electrode while taking the reading unless recommended by the manufacturer.

4a. If sample pH needs adjustment, add additional preservative to the original sample and repeat Step 3.

4b. If sample pH is acceptable, dispose of the separate sample (do ***not*** pour it back into the original sample container), replace the lid on the original sample and place it on ice in a cooler.

5. Rinse the electrode with reagent grade water and store the electrode in the buffer solution or as recommended by the manufacturer.

When using pH paper to check the pH of a preserved sample, follow these procedures:

1. Gently tip the sample container on its side to wet the inside of the lid and remove the lid.

2. Touch the pH paper to the droplets inside the lid and read the pH. Do ***not*** put the pH paper directly into the sample container. Compare the color of the pH paper to color-pH provided by the manufacturer.

3a. If sample pH needs adjustment, add additional preservative to the sample, rinse the container lid with reagent grade water, replace the container lid and repeat Steps 1 and 2.

3b. If sample pH is acceptable, rinse the container lid with reagent grade water, shake the lid to remove any excess water and replace the lid.

Sample Handling and Storage

After samples are collected, filtered (if required), labeled and preserved (if required), they must be placed ***immediately*** on ice. Keep samples at or below 4°C, but above freezing throughout storage, handling and shipping. Make sure there is enough ice for the duration of sample storage and transport. WDNR ***discourages*** using frozen cold packs (e.g., "blue ice"). If you do use them, place a temperature blank in the cooler so the laboratory can document the temperature of the samples when they arrive.

Breakable sample containers (e.g., glass VOC vials) should be separated by bubble wrap, foam, ice, etc. At least a portion of each container must contact the ice, otherwise the protective layer (e.g., bubble wrap) may insulate the sample from the cooling effects of the ice. Placing samples in a plastic bag can help minimize the chance of cross-contamination among samples should a container break.

2.9 QUALITY ASSURANCE/QUALITY CONTROL

☞ Field QA/QC efforts must match the data quality objectives established or required for the project and sampling event.

☞ Remember that QA/QC procedures and samples are not optional. Each WDNR program may have different QA/QC requirements. Check WDNR program guidance or contact a WDNR project manager for details.

☞ All QA/QC samples must be collected, handled and processed in the ***same exact manner*** as the other analytical samples being collected. Make sure the laboratory receives sufficient sample volumes or additional containers to perform required QC procedures.

☞ All purging, sampling and decontamination wastewaters and materials must be stored, handled and disposed of properly. Contact your WDNR project manager or WDNR program for details.

Quality Control Samples

Trip Blank

Include one trip blank per cooler if collecting volatiles (i.e., VOCs, GRO, or PVOCs).

Prepare trip blanks with laboratory***reagent grade water. Do not*** prepare them with water (even if distilled or deionized) purchased at a store; there is no guarantee that store-bought water is free of contamination. Trip blanks must be analyzed by the same laboratory that is analyzing the volatile samples. The trip blanks should not be opened until they are analyzed.

WDNR typically requires one trip blank per vehicle and one trip blank per cooler. Store, transport and ship all volatile samples in one cooler to minimize the number of trip blanks.

Note: If holding times permit, trip blanks do not need to be analyzed if VOC, GRO and PVOC compounds are not detected in***any*** of the groundwater samples. The holding time for a trip blank begins when groundwater samples are being collected.

Field Blank (field rinsate blank, decontamination blank, equipment blank)

Collect one field blank for every 10 samples or less collected.Decontaminate the sampling equipment for the field blank the same way you do when collecting other samples. After decontaminating the sampling device (e.g., bailer or pump), fill it with laboratory ***reagent grade water***, then collect a sample of the reagent grade water - this is your field blank. Collect the field blank from equipment used in a site's most contaminated well, if possible. The field blank should be analyzed for the same parameters as the samples. Field blanks are***not*** required if you use dedicated sampling equipment ("permanently" left in the well) or disposable sampling equipment.

Field Duplicate

Collect one field duplicate for every 10 samples or less collected.Collect the field duplicate from the most contaminated well, if possible. The field duplicate should be analyzed for the same parameters as the samples. When using a grab sampler (e.g., bailer), collect the duplicate from the same bailer of water as the original sample is collected, bailer volume permitting.

Field Split Samples

Typically not required. Collect the sample from the well, filter if required, and dispense into two or more containers. Preserve the samples if required and send them to separate

laboratories for analysis. The samples must be analyzed by identical laboratory analytical methods to be comparable.

Sequential Samples

Typically not required. Sequential samples are taken from the same well during the same sampling event but are collected with different equipment or procedures. These samples can be used to detect variability in analytical results caused by different sampling equipment or procedures.

Equipment Decontamination

Check with your laboratory for recommended equipment cleaning solutions and procedures for each analyte you are sampling. Collection of inorganic compounds may necessitate a dilute acid equipment rinse first. Collection of organic compounds may require a pesticide grade isopropanol, acetone, methanol or hexane equipment rinse. If you use pesticide grade hexane, take extra safety precautions because hexane is quite flammable. Use your professional judgment to decide which of the following procedures to use:

Minimum Decontamination Procedures

1. Disassemble the equipment if possible. Use a weak non-phosphate detergent (e.g., Alquinox®, Liquinox®) and water solution, and scrub the equipment inside and out. Visually inspect the equipment to ensure no visible contamination is present.

   Note: If welfare or indicator parameters (Table 2 and 3, respectively, of ch. NR 140), or non-sorptive elements or compounds are the only contaminants to come in contact with the equipment, Step 1 may not be necessary. Consult with WDNR staff if you are uncertain.

2. Thoroughly rinse the equipment with organic-free tap water. Reassemble the equipment, if applicable.

3. Store and transport the equipment in clean plastic, aluminum foil, or a container that will protect the equipment from extraneous contamination.

More Rigorous Decontamination Procedures

1. Wash equipment with a non-phosphate detergent solution and scrub with an inert brush. For internal mechanisms and tubing, circulate the detergent solution through the equipment.

2. Thoroughly rinse the equipment with organic-free tap water.

3a. For ***organic*** (e.g., VOCs) sample collection, rinse equipment with an organic desorbing

agent (e.g., pesticide grade isopropanol, acetone, methanol or hexane).

3b. For ***inorganic*** sample collection, rinse equipment with inorganic desorbing agent (e.g., dilute [0.1 Normal] reagent grade hydrochloric acid or nitric acid solution). For stainless steel and low-carbon steel, a more dilute hydrochloric acid solution (1 percent) is recommended.

Note: If you use organic or inorganic desorbing agents, check with your laboratory regarding potential analytical interferences caused by desorbing agents and their proper use and disposal.

4. Rinse the equipment with organic-free tap water only if you are using a ***inorganic*** desorbing agent.

5. Rinse with laboratory reagent grade water. If practical, allow the equipment to air dry before its next use or storage.

6. Store and transport the equipment in clean plastic, aluminum foil or a container that will protect it from extraneous contamination.

Other decontamination methods such as high pressure steam cleaning, hot-water power wash, ultrasonic cleaning and other methods decontaminate most equipment satisfactorily. Refer to the manufacturer's instructions for use.

Note: Dedicated sampling equipment ("permanently" left in the well) significantly reduces the need for equipment decontamination. Sampling equipment used in wells containing free product should be dedicated (suspended above the water column) or disposable.

Sample Tracking, Security and Chain of Custody Procedures

Sample tracking, security and chain of custody procedures provide a legal record of sample transport, possession and handling.

Sample Identification

Use waterproof labels or a similar method to identify each sample container. Use a permanent waterproof marker. Avoid placing labels on container lids; however, if you do place a label on a lid, make sure it's attached to the container as well. Labels should include the following information:

- ✓ a unique sample number and WUWN (if applicable)
- ✓ site/project name
- ✓ date and time sample collected
- ✓ sample collectors initials
- ✓ preservation and analysis required

Sample Seals

Some sampling protocols require sample seals. Affix the seal to the sample container so that it has to be broken to open the container. Write your initials, the date and time on the seal.

Shipping Custody Seal

Use tape or a lock to seal the container for shipping. If you use tape, write your signature, the date and time on the tape.

Chain of Custody Record

Complete a chain of custody (COC) record for each sampling event. Each time the samples change possession, whoever relinquishes and whoever receives the samples must sign, date and time the chain of custody form.

> ***Note:*** If you place the chain of custody record in a sealed shipper, you do not need to have the commercial courier (e.g., UPS) sign, date and time the record; however, the courier should have a record of when he or she picked up the samples and where they were sent.

Appendix A includes an example chain of custody form. Check with the WDNR program, WDNR project manager, and the laboratory for more specific chain of custody procedures or forms required. Appendix C contains "Chain of Custody for Samples Requiring Strict Custody" when collecting enforcement samples.

3.0 SAMPLING PROCEDURES FOR WATER SUPPLY WELLS

Important note: This section addresses the collection and measurement of ***raw, untreated groundwater samples*** from water supply wells. Ch. NR 809 and SDWA compliance monitoring and sampling are beyond this manual's scope and intent; contact a WDNR water supply specialist or investigator when collecting these samples.

3.1 PRE-FIELD CHECKLISTS AND DOCUMENTATION

Pre-field Checklists (Included in Appendix B)

Go through the following two checklists before heading out to the field. You can modify these checklists to meet specific project needs.

1. Pre-field Work Procedures Checklist - Water Supply Wells.
2. Equipment Checklist - Water Supply Well Sampling.

Documentation of the Sampling Event

1. **Sampling Plan.** The sampling plan documents equipment and procedures used during a sampling event. All sampling personnel must read it before heading out to the field and must bring it to each sampling event. Any deviations from the sampling plan must be documented on the "Field Procedures Documentation" sheet included in Appendix B, or on a customized documentation sheet.

2. **Well-Specific Field Sheet - Water Supply Wells (Appendix B)** Document well information, purging and sampling information, measurements, etc., on this sheet or customize your own data sheet.

3. **Field Procedures Documentation (Appendix B).** If a sampling plan is not available, you can use the "Field Procedures Documentation" sheet included in Appendix B. Customize this sheet to meet specific needs.

4. **Groundwater Monitoring Inventory Form (Appendix B).** Complete this form if a well has not previously been monitored. This form documents information about the well so it can be entered into WDNR's computerized data base.

5. **Assigning a Wisconsin Unique Wdl Number (WUWN).** All public and private water supply wells must be documented with a WUWN. Each well must have only ***one*** WUWN. Refer to Section 3.2 for WUWN private well labeling procedures.

6. **Chain of Custody Form (Appendix B).** Document the possession of samples collected from water supply wells by completing a chain of custody form and documenting each time the samples change procession.

3.2 INITIAL PROCEDURES

Coordination with the Well Owner/Operator

1. Call the well owner/operator at least 24 hours before you plan to collect measurements and samples from the well. If you are sampling a private or domestic well, call the well owner at least one week in advance. Briefly explain to the well owner what you plan to do and why. Explain your procedures for measuring the water level, well casing depth and total well depth, and for collecting any samples.

2. If the well owner/operator allows you to perform these measurements, ask if it is all right to add chlorine or an alternative disinfectant to the well after taking the measurements. Explain to the owner why disinfection is essential and what disinfection technique you plan to use. If the owner rejects having the well disinfected, do not take measurements on the well. If obtaining measurements is crucial, ask an appropriate WDNR representative in the Bureau of Drinking Water and Groundwater to talk to the well owner to further explain the necessity of the measurements and that the well will be properly disinfected afterwards.

3. If the well owner/operator allows measurements and disinfection of the well, ask the well owner/operator to use a minimal amount of water in the morning/afternoon before your arrival, so the water level in the well recovers before being measured.

4. Before collecting any water level, well casing depthor well depth measurements, ask the well owner to turn off the pump to avoid an electrical hazard and to prevent the pump from starting when you are collecting measurements.

Initial Coliform Bacteria Testing

Before performing ***any*** tasks on the well, collect a water sample for coliform bacteria analysis using sampling procedures described under Section 3.7.

Wisconsin Unique Well Number (WUWN) Labeling Procedures

1. Determine if the well already has a WUWN - this is ***absolutely*** necessary to ensure that each well has ***only one*** WUWN assigned to it! WDNR water supply specialists/investigators at WDNR regional offices can tell you which water supply wells already have a WUWN - ask them for the most up-to-date list.

2. Determine which type of WUWN label is needed for the private well (i.e., printronix, blank, and preprinted labels). If you are uncertain which label is required, refer to the *Groundwater*

Sampling Desk Reference or contact a WDNR regional office water supply specialist/investigator. If you assign a WUWN to a private well, you must fill out a "Groundwater Monitoring Inventory Form" (Form 330-67 Rev. 12-92), and send it to the Bureau of Drinking Water and Groundwater, P.O. Box 7921, Madison, WI 53707-7921.

3. If the well owner consents to it, you should place WUWN labels on the well's fuse box and sampling tap. Attach one of the WUWN labels to the home's main electric fuse box. Attach a second label to the pipe next to the sampling tap located ***before*** the pressure tank. Wipe the pipe as clean and dry as possible and wrap duct tape around the pipe to provide a dry surface to affix the label. Attach the label horizontally to the duct tape.

   Note: While public water supply wells have WUWNs assigned to them, they normally do ***not*** have WUWN labels placed on them unless requested by the public water utility, in which case a specialized label is provided. Contact the Bureau of Drinking Water and Groundwater in Madison for further details.

3.3 MEASURING WATER LEVEL, CASING DEPTH AND TOTAL WELL DEPTH

☞ Measure the water level, well casing depth, and total well depth only after receiving training from someone experienced in the proper procedures. If the well has a pitless adaptor, it may be impossible to collect these measurements.

☞ If available, use a well construction log to obtain well casing depth and total well depth information. If this information is not available, you may need to remove the well's pump, if the well owner permits, before measuring well casing depth or total well depth. Use ***extreme care*** so as not to damage or contaminate the well or pump. A licensed well driller, arranged for far in advance, should remove and replace the pump.

☞ Before taking any well measurements, ask the well owner/operator to turn off the pump. This is for your own personal safety and to protect the pump from damage as equipment is lowered into the well. Make sure the well and wiring are not damaged during measuring and sampling.

Disinfection Procedures for Equipment

Important Note: Before placing ***any*** equipment into a water supply well, potable or non-potable, properly disinfect the equipment.

1. Disinfect all equipment before and after placing it into the well to prevent the introduction of coliform bacteria, iron bacteria, or any other source of contamination.

2. Rinse all equipment parts inside and out that will enter the well (e.g., steel tape, water level indicator, weighted magnet, etc.,). Rinse with a dilute chlorine solution, about 50 ppm, i.e., about 2 capfuls of liquid chlorine bleach to 1 gallon of water. The liquid chlorine bleach must not contain any additives such as "fresh scent." You may also use dry calcium hypochlorite granules to make the chlorine solution.

3. If there are no inside parts that may become contaminated, you may use a clean cloth or paper towels soaked in a dilute chlorine solution to sterilize your equipment. Do not reuse the towels.

4. Place disinfected equipment on a clean cloth or on plastic, not on bare ground.

Measuring Water Level

Note: Refer to Section 2.2 when using an electric water level indicator, popper or coated tape to measure the static water level in a well.

1. Take a series of water level measurements to determine if the well is still recovering. If at least three consecutive readings separated by a minute or more are within ± 0.01 foot, then use this as your reading. Record the reading and method used to collect this measurement. Disinfect the equipment.

2. If you are taking water level measurements to determine groundwater elevations, mark the side of the casing where the water level is measured to provide a marking point for surveying.

Measuring Well Casing Depth

1. Use a weighted magnet that is strong enough to cling to the steel casing but will also slide down it. The tape or cable should be calibrated and marked to tenths of a foot.

2. Lower the disinfected magnet, which is attached to a marked disinfected cable, along the steel casing until the magnet slips off the end of the casing.

3. Measure the length of the steel casing to it top. Repeat this process until you are satisfied you have a reliable reading.

4. Record this measurement and the method used for collecting it. Disinfect the equipment and store properly.

Measuring Total Well Depth

1. Measure the total well depth with a weighted synthetic tape or cord (*not* cotton or cloth) calibrated and marked to tenths of a foot. Any tape or cord used must have very little or no stretch under tension.

2. Lower the disinfected weighted tape or cord through the water column until it becomes slack. Slowly pull the tape or cord until it just becomes taut.

3. Read the tape against the top of the well casing to the nearest 0.1 foot and record the measurement. Disinfect the equipment and store properly.

Disinfection of Well after Measurements

Properly disinfect the well after taking any measurements. While there are no formal standards for proper concentrations of the chlorine disinfection solution, a 50 ppm chlorine solution should be adequate for chlorinating wells as a preventive assurance method.

After Water Level Measurements

1. Pour one cup of full-strength liquid chlorine bleach or drop three to five HTH tablets down the well to disinfect 20 feet of standing water in a 6-inch diameter well. Re-seal the well.

2. Allow the solution to remain in the well at least 30 minutes, although at least 8 hours is recommended.

3. Tell the well owner/user to run all taps until the chlorine odor and taste disappear (usually less than one hour).

After Well Casing and Total Well Depth Measurements

If you are measuring only the well casing depth, the amount of 50 ppm chlorine solution you need to displace the affected portion of the well will depend upon how far you lower the magnet into the water. If measuring total well depth, disinfect the entire well by displacing all water out of the well. The total amount of 50 ppm chorine solution to add will depend upon the diameter, depth, and amount of water in the well. For a 50 ppm chlorine solution made from common household bleach (approx. 5 percent available chlorine as sodium hypochlorite):

> Add about 1 gallon of bleach (no additives) to 1,000 gallons of water or about 1 pint of bleach to 125 gallons of water.

For a 50 ppm chlorine solution made from dry calcium hypochlorite (approx. 70 percent available chlorine):

> Add about 1 pound (approx. 16 oz.) of dry hypochlorite to 1,000 gallons of water or about 0.1 pounds (approx. 2 oz.) to 100 gallons of water.

Approximate amount of chlorine solution (CS) to displace the water in a well:

2" diameter well	Add 2 gallons of CS per 10 feet of well water
4" diameter well	Add 7 gallons of CS per 10 feet of well water
6" diameter well	Add 15 gallons of CS per 10 feet of well water
8" diameter well	Add 25 gallons of CS per 10 feet of well water

1. Mix the appropriate amount of chlorine solution for the volume of water to be displaced.

2. Pour the entire chlorine solution, in a circular motion, down the well's inside casing, pump equipment and wiring. Reseal the well.

3. Activate the well pump and turn on alltaps, both hot and cold, until you detect a bleach smell at each tap, then shutoff all taps. To save energy, turn off the hot water heater.

4. Allow the chlorine solution to remain in the well and piping at least 8 to 12 hours, preferably 24 hours, to ensure that the well and piping are thoroughly disinfected.

5. After at least 8 hours, tell the well owner to flush the well and piping system free of the chlorine solution.

Discharge of Chlorinated Water

Unfortunately, there really is no good place to discharge the chlorine solution that comes out of the well and faucets. Do not discharge the solution directly to a lake, stream, wetland, lawn, garden, sanitary or storm sewer. Large quantities of chlorine may disrupt a septic system. Discharge the pumped water to an area that will not harm fish or sensitive plants.

Probably the best place to discharge the chlorine solution is onto a driveway or other paved area, preferably on a hot, sunny day so the solution can evaporate. Discharging the chlorinated solution to a ditch may also be appropriate.

Post Disinfection Coliform Bacteria Testing Procedures

After the system is ***completely*** free of any chlorine smell and taste, and after waiting several days to a week, collect a second coliform bacteria sample (refer to Section 3.7) from the same tap as the first sample. Properly-trained well owners, WDNR staff, local health staff or special consultants may collect the sample. When collecting post-disinfection coliform samples, you may need to use a thiosulfate sample bottle since a chlorine residual may remain in the well.

If either the initial coliform test or the post disinfection coliform test is ***positive*** for bacteria, ***immediately*** contact a WDNR drinking water specialist/investigator for further instructions.

3.4 WELL PURGING

☞ Draw a diagram of where you purge the well and collect samples.

Large Water Supply Systems (i.e., public water supplies with distribution systems)

1. Purge and collect samples from a sample tap or faucet near the pump and ahead of treatment, storage or pressure systems.

2. Make sure the pump is activated, that water is flowing from the tap for at least five minutes and that the water is cold before you collect any samples.

Small Water Supply Systems (i.e., private water supply and distribution systems)

1. Purge and collect samples from a sample tap as close to the well's pump as possible, before the water passes through any softener, heater, storage or pressure system, or tank. Document if you cannot collect a sample located before a water heater or treatment system.

2. If possible, remove any aerators, filters or other devices from the tap before collecting any samples. If you must collect the sample from an outside tap, remove any hoses first.

3a. If you collect samples from a tap located ***before*** the pressure tank, first make sure the pump is activated and allow the water to run from the tap for at least two minutes – until the water is cold or for one full pump cycle.

3b. If you collect samples from a tap located ***after*** the pressure tank, first allow the water to run from the tap for at least five minutes – until the water is cold or for one full pump cycle. Run the water until the pressure tank and pump cycle the water two or three times. Document that you've collected samples from a tap located after the pressure tank.

3.5 FIELD WATER QUALITY MEASUREMENTS

Take in-field water quality measurements on unfiltered water supply well samples according to the procedures in Section 2.6.

3.6 SAMPLE FILTRATION

Do ***not*** filter groundwater samples from water supply wells.

3.7 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

Collect, preserve and handle water supply samples according to the procedures, where applicable, described in Sections 2.5 and 2.8. Collection of bacteriological samples are an exception; those procedures are described in this section.

Procedural exception when collecting VOCs from water supply wells:

If the sampling tap has an aerator, filter or other device, remove it. Run the water for at least two minutes, until cold. Reduce the water flow to a thin stream, then collect the VOC samples as described in Section 2.5.

Bacteriological Sampling

Select a sampling faucet least likely to provide an erroneous "unsafe" test result due to bacteriological contamination originating from the faucet. Use the following criteria to select a faucet:

- Choose cold-water faucets only.
- Choose a faucet ***not*** connected to the building's water softener.
- Avoid swing faucets.
- Choose a smooth-end faucet over a threaded-end faucet, if possible.
- Never sample from a flexible hose.
- Never sample a drinking fountain.
- Never sample a faucet that cannot be thoroughly flamed, such as a dripping faucet, outside hose bibb with an unremovable vacuum breaker, a faucet with an unremovable aerator, a plastic bathroom fixture, or a metal fixture with external plastic or rubber inserts (sometimes on the bottom of the fixture).
- Avoid faucets that cannot deliver a smooth stream of water.
- Avoid faucets that are seldom used.
- Never sample a fire hydrant.

1. Remove the aerator and any washers.

2. Run water from the faucet to determine if it can deliver a smooth stream of water.

3. Flame the faucet for at least 15 seconds. Use a propane or butane torch. D***not*** use a candle, cigarette lighter, rolled newspaper, etc. Flame the outside and inside of the faucet. The flame must come into direct contact with the inside of the faucet. If possible, look at the inside surface of the faucet – if it is still wet, keep flaming.

4. Do ***not*** touch the faucet after it has been flamed.

5. Before collecting a sample run the water for at least three minutes. Turn the faucet on so it delivers a smooth steady stream of water with minimal splashing. The flow rate should be high enough to deliver a smooth stream of water but low enough to permit the filling of sample bottles without turning the valve down before sampling.
   Rule of thumb: The longer the water runs from the faucet, the greater your chance

for collecting a representative sample.

6. Do ***not*** readjust the flow rate before collecting samples. Fill the sample bottles ¾ full. This provides space for the laboratory to shake the sample to ensure uniform sample quality.

7. Replace the sample cap tightly! Place the sample container in a clean, unused sealable plastic bag to minimize exposure to any extraneous contamination during storage and transport. Bacteriological samples usually have to be analyzed soon after collection (within 30 hours of their collection for samples sent to the SLOH).

   Important note: If you even ***think or suspect*** that a sample may have become accidentally contaminated, throw it out and collect a new sample following Steps 1 to 7.

Other Sample Parameters

Make sure you have the appropriate sample bottles as required by your laboratory and that they are pre-cleaned as appropriate for the parameters you are analyzing. Follow your laboratory's instructions for sample collection.

If you are unfamiliar with proper sampling procedures or need to know from which sample taps to collect other parameters (e.g., inorganic, radiological, total trihalomethanes [TTHM], etc.), ask a WDNR representative in the Water Supply program for instructions.

3.8 QUALITY ASSURANCE/QUALITY CONTROL

Refer to and follow the procedures described in Section 2.9. Appendix B includes an example chain of custody form you may use when collecting water supply well samples.

APPENDIX A

MONITORING WELLS

Checklists

- Pre-field Work Procedures Checklist - Monitoring Wells
- Equipment Checklist - Monitoring Well Sampling

Documentation Sheets and Forms

- Well Specific Field Sheet (WSFS) - Monitoring Wells
- Groundwater Sampling Field Procedures Documentation
- Chain of Custody Form for the LUST Program (Form 4400-151)

* Master copies of the above forms are also located in the plastic sheet protector at the back of this manual. Please keep these masters and copy as needed.

PRE-FIELD WORK PROCEDURES CHECKLIST - MONITORING WELLS

All the following procedures may not be necessary for each sampling event. Use those procedures applicable to your sampling plan or customize this list.

LOGISTICS

___ Arrange for site access with the land/home/facility owner and tenants.
___ Locate the nearest post office, UPS office, Fedex drop off spot, etc., if you will need to ship the samples from the field. (UPS has a 70 lb. restriction per container.)

LABORATORY ARRANGEMENTS

___ Select a qualified laboratory to perform the sample analysis. Check that the laboratory (and subcontracted lab) is certified to perform the required analysis.
___ Make sure you have sufficient numbers, types, and volumes of sample containers -**get extras!** Remember QA/QC sample containers and trip blanks.
___ Discuss sample preservation, holding time, shipping requirements, and QA/QC expectations with the laboratory.
___ Inform the laboratory of the date and number of samples you will send.
___ Familiarize yourself with chain of custody and other sample tracking procedures.

SITE HISTORY

___ Review past water quality data or SAP to determine the well sampling order.

EQUIPMENT AND FIELD PREPARATION

___ Review the sampling and analysis plan (SAP) and QA/QC plan.
___ Organize equipment (Equipment Checklist - Monitoring Well Sampling).
___ Check that equipment is in good working condition:

- ✓ Test and recharge/replace batteries as necessary.
- ✓ Test the equipment with tap water or calibration standards.
- ✓ Inspect the equipment for defects, loose bolts, frayed wiring, etc.
- ✓ Check the instruments' ability to calibrate and function properly.

___ Check that all equipment is properly decontaminated and stored for transport.
___ Fill out the Well Specific Field Sheet (WSFS) as much as possible before heading out to the field.

HEALTH AND SAFETY EQUIPMENT AND PREPARATION

___ If required, prepare and follow a health and safety plan (HSP).
___ Inform sub-contractors and other site personnel of contaminants and site hazards.

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EQUIPMENT CHECKLIST - MONITORING WELL SAMPLING

All the following items may not be necessary for each sampling event. Check those items applicable to your sampling plan or customize this list.

GENERAL AND LOGISTICS

___ Permission/notification to land/home owner/tenant
___ Directions to the site and site access roads/site access keys
___ Contact names, addresses and phone numbers
___ Site map showing well locations, keys for well locks
___ Calculator and/or purge volume conversion tables
___ _____

DOCUMENTATION AND REFERENCE MATERIALS

___ *Groundwater Sampling Field Manual*
___ Sampling and analysis plan (SAP), QA/QC plan, and health and safety plan (HSP)
___ Well Specific Field Sheet(WSFS) and Field Procedures Documentation sheet
___ Well and boring logs
___ Field note book and waterproof pens
___ Clipboard with waterproof cover
___ Chain of custody forms and other sample tracking forms
___ Camera and film
___ _____

PURGING AND SAMPLING EQUIPMENT

___ Plastic sheet or equivalent ground cover
___ Purging pump or bailer and accessories (inert material)
___ Sampling pump or bailer and accessories (inert material)
___ Pump or bailer rope/cable (no cotton or cloth) and tripod
___ Pump sample tubing (inert material)
___ Pump power supply, air compressor, inert gas, etc.
___ Calibrated buckets or similar device for purge water
___ Waterproof grease markers or pens (Sharpies™ are a potential source of VOCs)
___ Sample containers (provided by lab) -**bring extra,** and water proof labels/tags
___ QA/QC sample bottles (VOC trip blanks filled by lab)
___ Sample transfer containers and wide mouth funnel
___ Filtering apparatus and all accessories
___ Filter membranes (0.45 micron) and pre-filters, or
___ Disposable in-line filters
___ 55 gallon drums for wastewater and drum labels
___ _____

FIELD MEASUREMENTS AND EQUIPMENT

___ Water level measuring instrument (0.01 foot increments) and backup device
___ Thermometer or temperature instrument
___ Conductivity meter and calibration standards (KCl)
___ pH meter, buffer solutions (pH 4, 7 and 10) and beakers
___ Dissolved oxygen meter and membrane replacement kit and/or Eh meter
___ Turbidity meter
___ All meters fully charged and operational; spare batteries
___ Closed flow through cell
___ Squirt bottles filled with reagent grade water
___ _____

DECONTAMINATION EQUIPMENT

___ Non-phosphate cleaner and scrub brushes
___ Wash and rinse tubs or buckets and wastewater containers
___ Laboratory reagent grade water (two gallons/well usually sufficient)
___ Clean containers to transport equipment
___ _____

SAMPLE PRESERVATION AND SHIPPING

___ Sample preservatives, transfer pipettes and pH paper
___ Coolers sufficiently large to hold all samples, including QA/QC samples
___ Crushed or cubed ice (frozen cold packs discouraged, need temp. blank)
___ Bubble wrap, Ziplock™ bags or equivalent to protect sample containers
___ Strapping tape, postage, Fedex or UPS shipping labels, COC forms, etc.,
___ _____

TOOLS AND MISCELLANEOUS

___ Extra locks, keys for wells, flashlight, raingear, etc.
___ Propane torch for frozen locks and bolt cutters for corroded locks
___ Adjustable wrench, screw drivers, hammer, scissors, knife, duct tape, etc.
___ Plastic garbage bags for contaminated waste
___ Bailer retrieval device (e.g., weighted hook)
___ Drum bung wrench and racket socket set (typ. 15/16" socket for 55 gallon drums)
___ _____

PERSONAL PROTECTIVE EQUIPMENT

___ Respirators and cartridges (compatible for contaminants)
___ Safety glasses and/or splash shield
___ Inner and outer gloves (compatible for contaminants)
___ Hard hat and steel toed boots
___ Air monitoring equipment
___ First aid kit and eye wash kit
___ _____

WELL SPECIFIC FIELD SHEET - MONITORING WELLS (Sheet ___ of ___)

Facility/Project Name:_____ Date: _____
Section/Grid or Address:_____
License or Permit #:_____
Weather today and past weeks (precipitation):_____
Persons Sampling:_____

Well Name					
DNR Well ID No.					
Wis. Unique Well No. (WUWN)					
Damage to Well? (Y/N)					
Top of Casing or Reference Elevation (MSL)					
Depth to Water (to 0.01 ft)					
Groundwater Elevation (MSL)					
Depth to Well Bottom (ft)					
4 Well Volumes (gal. or liters)					
Purging Device; dedicated (D) or portable (PT)					
Purge Device Intake Depth (ft)					
Purging Time (start - stop)					
Average Purging Flow Rate (gpm or L/min)					
Volume Purged (gal. or liters)					
Purged Dry? (Y/N)					
Problems Purging? (Y/N)					
Sampling Device (D or PT)					
Sampler Intake Depth (ft)					
Average Sampling Flow Rate (gpm or L/min)					
Time Sample Collected					
Preservative (e.g., HCL)					
Field Temperature (C)					
Field Specific Conductance					

Time Measured					
Well Name					
Field pH (standard units)					
Time Measured					
Turbidity (NTUs or describe)					
Time Measured					
Dissolved Oxygen (mg/l)					
Time Measured					
Eh - redox potential (mv)					
Time Measured					
Color (describe - grey, etc)					
Odor (describe - pungent, etc)					
Sample Field Filtered? (Y/N)					
Time Samples Filtered					
Well Capped & Locked? (Y/N)					

Comments (Discuss well damage, purging or sampling problems, deviations from sampling plan, etc.):

Sheet Completed by_____ Date_____

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GROUNDWATER SAMPLING FIELD PROCEDURES DOCUMENTATION

Facility/Project Name:_____ Date: _____

Section/Grid Location or Address:_____

Facility Type:_____ License/Permit #:_____

DNR Regulatory Program:_____

Weather (temp., cloudiness, bar. pres., wind):_____

_____

Persons Sampling and Title:_____

_____

_____

Water Level Equipment (type, model):_____

Purging Equipment (type, model, material):_____

_____

Purging Method (4 well vol. or stabilization):_____

How Purge Volume Measured? (eg., calibrated bucket):_____

Sample Collection Equipment (type, model, material):_____

_____

Method of Sample Withdrawal (bottom emptying device, low flow):_____

Type of Transfer Containers:_____

Filtering Equipment (type, material):_____

Filter Membrane (type, pore size):_____

When Were Samples Sent to Lab?_____

What Lab Were the Samples Sent to?_____

Were Enforcement Samples Sent?_____

How Were Samples Kept Cool (ice, other)?_____

Equipment Decontamination Procedures?_____

_____

Decontamination Water Disposal?_____

_____

pH Meter (type, model):_____

Person calibrating:_____

Frequency calibrated:_____

Calibration procedures (buffers used):_____

Problems with meter:_____

Conductivity Meter (type, model):_____

Person calibrating:_____

Frequency calibrated:_____

Calibration procedures:_____

Problems with meter:_____

Turbidity Equipment (type, model):_____

Person calibrating/set-up:_____

Frequency calibrated:_____

Calibration procedures:_____

Problems with meter:_____

Dissolved Oxygen Meter (type, model):_____

Person calibrating/set-up:_____

Frequency calibrated:_____

Calibration procedures:_____

Problems with meter:_____

When Were In-field Measurements Taken (immediately after collection or XX minutes after collection)?:_____

Comments (difficulties, questionable data, deviations from sampling plan, etc):_____

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State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151 Rev. 4-93

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s)	Title/Work Station/Company	Telephone Number (include area code)
Property Owner	Property Address	Telephone Number (include area code)

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished by (Signature)	Date/Time	Received By (Signature)
Relinquished by (Signature)	Date/Time	Received By (Signature)
Relinquished by (Signature)	Date/Time	Received for Laboratory By (Signature)

Sample Condition on Receipt by Laboratory
LABORATORY USE ONLY

Temperature of temperature blank:

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all the ice was melted, the temperature of the melt may be substituted for a temperature blank.

Field ID Number[1]	Date Collected	Time Collected	Sample Type[2]	Sample Device[3]	Preserv. Type	Field Screening	Description	Analysis Type	Lab ID Number	No./Type of Containers	Cracked /Broken	Improperly Sealed	Good Condition	Other Comments

[1]Sample description must clearly correlate the sample ID to the sampling location shown on a map.
[2]Specify groundwater, surface water, soil, leachate, sludge, etc.
[3]Type of sampling device; split spoon, hand auger, metal spatula, soil syringe, etc.

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS

Disposition of unused portion of sample

Laboratory should: ☐ Dispose ☐ Retain for _ days ☐ Return ☐ Other

DEPARTMENT USE ONLY

Split Samples: Offered? ☐ Yes ☐ No (Check One)
Accepted? ☐ Yes ☐ No (Check One)

Accepted By: _____
Signature

APPENDIX B

WATER SUPPLY WELLS

Checklists

- Pre-field Work Procedures Checklist - Water Supply Wells
- Equipment Checklist - Water Supply Well Sampling

Documentation Sheets and Forms

- Well Specific Field Sheet (WSFS) - Water Supply Wells
- Groundwater Sampling Field Procedures Documentation
- Groundwater Monitoring Inventory Form
  (Form 330-67 Rev. 12-92)
- Chain of Custody Form

* Master copies of the above forms are also located in the plastic sheet protector at the back of this manual. Please keep these masters and copy as needed.

PRE-FIELD WORK PROCEDURES CHECKLIST - WATER SUPPLY WELLS

All the following procedures may not be necessary for each sampling event. Use those procedures applicable to your sampling protocol or customize this list.

LOGISTICS

___ Contact the well owner to confirm the location, sampling date and time, and to discuss any site access issues.
___ Determine if the well has been inventoried. If not, obtain a WDNR well inventory number (Wisconsin Unique Well Number - WUWN).
___ Locate the nearest post office, UPS office, Fedex drop off spot, etc., if you will need to ship samples from the field. (UPS has a 70 lb. restriction per container.)

LABORATORY ARRANGEMENTS

___ Select a qualified laboratory to perform the sample analysis. Check that the laboratory (and subcontracted lab) is certified to perform the required sample analysis.
___ Make sure you have sufficient numbers, types, and volumes of sample containers needed**~~get~~ extras!**Remember QA/QC sample containers and trip blanks.
___ Discuss sample preservation, holding time, shipping requirements, and QA/QC expectations with the laboratory.
___ Inform the lab of the date and number of samples you will send.
___ Familiarize yourself with chain of custody and other sample tracking procedures.

SITE HISTORY

___ Review past water quality data to determine the well sampling order.
___ Review the site hydrogeology and information available on the well.

EQUIPMENT AND FIELD PREPARATION

___ Organize equipment (Equipment Checklist - Water Supply Well Sampling).
___ Check that equipment is in good working condition:

- ✓ Test and recharge/replace batteries as necessary.
- ✓ Test equipment with tap water or calibration standards.
- ✓ Inspect the equipment for defects, loose bolts, frayed wiring, etc.
- ✓ Check the instruments' ability to calibrate and function properly.

___ Check that all the equipment is properly decontaminated and stored for transport.

HEALTH AND SAFETY EQUIPMENT AND PREPARATION

___ If required, prepare and follow a safety and health plan (SHP).
___ Inform sub-contractors and other site personnel of contaminants and site hazards.

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EQUIPMENT CHECKLIST - WATER SUPPLY WELL SAMPLING

All the following items may not be necessary for each sampling event.

GENERAL AND LOGISTICS

___ Permission/notification to well owner and site access keys
___ Directions to the site, access roads and location of wells
___ Contact names, addresses and phone numbers
___ _____

DOCUMENTATION AND REFERENCE MATERIALS

___ *Groundwater Sampling Procedures Field Manual* sampling plan & QA/QC plan
___ Field note book, waterproof pens and clipboard
___ Inventory sheets or field data sheets
___ Chain of custody forms and other sample tracking forms
___ _____

EQUIPMENT AND SUPPLIES

___ Thermometer or temperature instrument
___ Conductivity meter and calibration standards (KCl)
___ pH meter, buffer solutions (pH 4, 7 and 10) and beakers
___ All meters and equipment fully charged/operational; spare batteries
___ Reagent grade water, gloves, ground cloth
___ Paper towels or disposable clean rags
___ Inert plastic bags to transport pump sample tubing, etc.
___ _____

PURGING AND SAMPLING

___ Special tap connection(s) and sampling tube for inaccesable sample taps
___ Calibrated buckets or similar device for purge water
___ Waterproof grease markers (Sharpies™ are a potential source of VOCs)
___ Sample containers (provided by lab)**bring extra** and waterproof labels/tags
___ QA/QC sample bottles (VOC trip blanks filled by lab)
___ _____

PRESERVATION AND SHIPPING

___ Sample preservatives, transfer pipettes and coolers with ice
___ Bubble wrap, Ziplock™ bags or equivalent to protect sample containers
___ Strapping tape, postage, Fedex or UPS shipping labels, etc

TOOLS AND MISCELLANEOUS

___ Flashlight and first aid kit
___ Adjustable wrench, screw drivers, hammer, scissors, knife, duct tape, etc.
___ _____

WELL SPECIFIC FIELD SHEET - WATER SUPPLY WELLS

Name of Well Owner:_____ Date:_____

Section/Grid or Address:_____

License or Permit #:_____

Weather Conditions (temp, rain):_____

Person(s) Sampling:_____

Well verified on well construction report?_____

Does well have a WUWN and what is it?_____

Depth to water in well to nearest 0.1 feet[1] _____

Depth to bottom of well casing[1] _____

Depth to bottom of well[1] _____

Location of tap used for purging (before or after pressure tank)_____

_____

Length of time well purged (minutes)_____

Location of tap used for collecting the samples (before or after pressure tank)_____

_____

Time sample collected_____

Field temperature (°C) _____

Field Specific Conductance @ 25°C _____Time _____

Field pH (standard units)_____Time _____

Color (describe)_____

Odor (describe) _____

Turbidity (NTUs or describe)_____

Comments (problems, procedures):_____

_____

_____

_____

_____

_____

[1] Describe how measured in comments

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GROUNDWATER SAMPLING FIELD PROCEDURES DOCUMENTATION

Facility/Project Name:_____ Date:_____

Section/Grid Location or Address:_____

Facility Type:_____ License/Permit #:_____

DNR Regulatory Program:_____

Weather (temp., cloudiness, bar. pres., wind):_____

_____

Persons Sampling and Title:_____

_____

_____

Water Level Equipment (type, model):_____

Purging Equipment (type, model, material):_____

_____

Purging Method (4 well vol. or stabilization):_____

How Purge Volume Measured? (eg., calibrated bucket):_____

Sample Collection Equipment (type, model, material):_____

_____

Method of Sample Withdrawal (bottom emptying device, low flow):_____

Type of Transfer Containers:_____

Filtering Equipment (type, material):_____

Filter Membrane (type, pore size):_____

When Were Samples Sent to Lab?_____

What Lab Were the Samples Sent to?_____

Were Enforcement Samples Sent?_____

How Were Samples Kept Cool (ice, other)?_____

Equipment Decontamination Procedures?_____

_____

Decontamination Water Disposal?_____

_____

pH Meter (type, model):_____

Person calibrating:_____

Frequency calibrated:_____

Calibration procedures (buffers used):_____

Problems with meter:_____

Conductivity Meter (type, model):_____

Person calibrating:_____

Frequency calibrated:_____

Calibration procedures:_____

Problems with meter:_____

Turbidity Equipment (type, model):

Person calibrating/set-up:

Frequency calibrated:

Calibration procedures:

Problems with meter:

Dissolved Oxygen Meter (type, model):

Person calibrating/set-up:

Frequency calibrated:

Calibration procedures:

Problems with meter:

When Were In-field Measurements Taken (immediately after collection or XX minutes after collection)?:

Comments (difficulties, questionable data, deviations from sampling plan, etc):

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Department of Natural Resources

GROUNDWATER MONITORING INVENTORY FORM

Form 3300-67 Rev. 8-93

Wisconsin Unique Well Number ☐☐☐☐☐ ☐ Add ☐ Change

Inventory Completed By (Last Name, First, MI) _____ Date __ __/__ __/__ __ __ __ (m m d d y y y y) With ☐ DNR ☐ _____

Facility ID # _____

Facility Name _____ Local Well ID _____

High Cap Well # _____

Primary Contact Name (Last, First, MI)

Telephone Number ( )

Mailing Address

City State Zip Code

☐ Owner ☐ Driller ☐ Operator ☐ Business ☐ Occupant ☐ Facility ☐ Consultant ☐ Sampler ☐ Manager ☐ Other ☐ Contractor

Other Contact Name (Last, First, MI)

Telephone Number ( )

Mailing Address

City State Zip Code

☐ Owner ☐ Driller ☐ Operator ☐ Business ☐ Occupant ☐ Facility ☐ Consultant ☐ Sampler ☐ Manager ☐ Other ☐ Contractor

Well Location

☐ Town ☐ City ☐ Village | Fire # (If avail.) | County

Grid or Street Address or Road (If avail.)

Govt. Lot # _____

OR

____1/4 of ____1/4 of Section _____

Subdivision Name | Lot | Block

T _____; R _____ ☐ E ☐ W

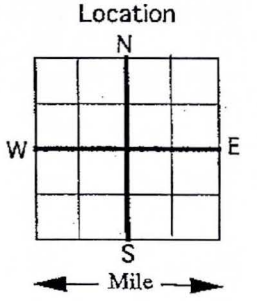
OR Deg. Min. Sec.

Latitude _____ _____ _____

Longitude _____ _____ _____

(X) 1/4 1/4 Sec.

Location



Construction Type

☐ Drilled ☐ Dug ☐ Driven Point ☐ Spring ☐ Jetted ☐ Other

Land Surface Elevation _____ ft. MSL

Number of Wells on Property _____

Construction Date __ __/__ __/__ __ __ __ (m m d d y y y y)

Constructor

Well Use

☐ Private Potable ☐ Community-Municipal ☐ Priv. Non-Potable ☐ Community OTM ☐ Monitoring Well ☐ Non Transient Non-Com. ☐ Transient Non-Com.

Source of Well Data

☐ Well Report ☐ Owner/Occupant ☐ Other*

Well Status

☐ Active Use ☐ Inactive ☐ Perm Filled

Depth From Land Surface To:

Bedrock _____ ft.

Well Bottom _____ ft.

Static Water _____ ft.

Casing Bottom _____ ft.

Casing Diameter _____ in.

Water Bearing Formation

☐ Unconsolidated ☐ Sandstone ☐ Shale ☐ Limestone ☐ Crystalline

Comments: eg. Reason for inventory, Samples taken, Directions to property, Details of well location on property.

*For "Other", enter a description in the comment area if needed.

Instructions

1. All wells sampled by DNR employees must be inventoried and assigned a Wisconsin Unique Well ID in the Depamenes data system. Use this form to create a new inventory record or to change an existing record for a well. Use a separate form, for each well.

2. Mandatory fields are indicated by shadowing and MUST be completed or your form will not be entered into the computer system. Fill in all applicable portions of the fonn as completely as possible.

3. If the well is being inventoried for the first time, check the 'add" box in the upper right comer of the form. If there is a change to existing information, check the "change' box in the upper right corner and then fill in the Wisconsin Unique Well Number and ONLY THE INFORMATION THAT NEEDS TO BE CHANGED.

   If the form is filled out by DNR staff, check the DNR box. If the person completing this inventory fon-n is associated with another agency; fill in the agency acronym letters.

4. For a private wW, the primary contact should be the well owner or the resident occupant of the property served by the well, if the owner or occupant is known.

5. **Check only ONE contact @ code box for each contact name. Check the one that is the most relevant if more than one applies. If the well owner is the occupant, check "Owner' as the contact @. Check the facility or business box ONLY if there is not person to contact,**

6. **Wells should be located as precisely as possible. If the well is located by Public Land Survey, record the T, R, S, 1/4 1/4 section. If the well is located by latitude and longitude, record the location to the nearest second. If the well is located in a government lot, record the latitude and longitude as well as the government lot number.**

7. **Check only ONE box in the Well Use section. If a spring is being inventoried, check Spring under Construction Type in addition to the well use box.**

8. **County Codes and Names:**

1. Adams	19. Florence	37. Marathon	55. Rusk
2. Ashland	20. Fond Du Lac	38. Marinette	56. St. Croix
3. Barron	21. Forest	39. Marquette	57. Sauk
4. Bayfield	22. Grant	40. Menominee	58. Sawyer
5. Brown	23. Green	41. Milwaukee	59. Shawano
6. Buffalo	24. Green Lake	42. Monroe	60. Sheboygan
7. Burnett	25. Iowa	43. Oconto	61. Taylor
8. Calumet	26. Iron	44. Oneida	62. Trempealeau
9. Chippewa	27. Jackson	45. Outagamie	63. Vernon
10. Clark	28. Jefferson	46. Ozaukee	64. Vilas
11. Columbia	29. Juneau	47. Pepin	65. Walworth
12. Crawford	30. Kenosha	48. Pierce	66. Washburn
13. Dane	31. Kewaunee	49. Polk	67. Washington
14. Dodge	32. La Crosse	50. Portage	68. Waukesha
15. Door	33. Lafayette	51. Price	69. Waupaca
16. Douglas	34. Langlade	52. Racine	70. Waushara
17. Dunn	35. Lincoln	53. Richland	71. Winnebago
18. Eau Claire	36. Manitowoc	54. Rock	72. Wood

9. **Return this form to the DNR Bureau of Water Supply, Box 7921, Madison, WI 53707, unless you are part of a special sampling program and have been instructed to return the form elsewhere.**

State of Wisconsin
Department of Natural Resources

CHAIN OF CUSTODY RECORD
Form 4100-145 7-87

Sample Collector(s)	Title/Work Station	Telephone No. (include area code)
Property Owner	Property Address	Telephone No. (include area code)

Split Samples: Offered? ☐ Yes ☐ No (Check One)
Accepted? ☐ Yes ☐ No (Check One) Accepted By: _____
Signature

Field ID No.	Date	Time	Sample Type		Station Location Sample Description	Lab ID Number	No. of Containers	Comments
			Comp	Grab				

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received by: (Signature)
Relinquished By (Signature)	Date/Time	Received by: (Signature)
Relinquished By (Signature)	Date/Time	Received for Laboratory By: (Signature)

Disposition of Unused Portion of Sample:

Dispose _____ Retain for _____ days

Return _____ Other _____

APPENDIX C

REFERENCE MATERIALS

- Sample Containers, Preservation and Holding Time Requirements
- Chain of Custody Procedures for Enforcement Samples
- Potential of a Substance for Volatilizing from a Water Sample
- Equivalency and Conversion Tables

Sample Containers, Preservation and Holding Time Requirements

Parameter	Volume[3] (ml)	Container[1]	Preservation[2]	Holding Time
Alkalinity ($CaCO_3$)	200	G,P	Cool 4°C	14 days
BOD - 5 Day	500 - 1000	G,P	Cool 4°C	48 hrs
BOD - Long Term	500	G,P	Cool 4°C	24 hrs
Boron	50 - 100	P	HNO_3 pH<2 Cool 4°C	28 days
Chemical Oxygen Demand (COD)	50 - 250	G,P	H_2SO_4 pH<2 Cool 4°C	28 days
Chloride	100 - 200	G,P	Cool 4°C	28 days
Chloride - I.C.[4]	25	G,P	Cool 4°C	28 days
Color	50 - 500	G,P	Cool 4°C	48 hrs
Corrosivity	1000		Cool 4°C	
Cyanide - Total[6]	1000	G,P	NaOH pH>12 Cool 4°C	14 days
Cyanide - Amendable to chlorination[6]	1000	G,P	NaOH pH>12[6] Cool 4°C	14 days
Fluoride	250 - 300	G,P	Cool 4°C	28 days
Metals - dissolved (except mercury & Cr^{+6})	250 - 1000[5]	P	Filter immed. HNO_3 pH<2 Cool 4°C	180 days
Hexavalent Chromium (Cr^{+6})	50 - 100	P	Cool 4°C	24 hrs
Mercury - dissolved	500[5]	P or Teflon®	Filter immed. HNO_3 pH<2 Cool 4°C	28 days

Parameter	Volume[3] (ml)	Container[1]	Preservation[2]	Holding Time
NITROGEN				
Ammonia	500	G,P	H_2SO_4 pH<2 Cool 4°C	28 days
Nitrate + Nitrite	100 - 200	G,P	H_2SO_4 pH<2 Cool 4°C	28 days
Nitrate/Nitrite (Drinking water only)	100	G,P	Cool 4°C	48 hrs
Nitrate - I.C.[4]	60	G,P	Cool 4°C	48 hrs
Nitrite - I.C.[4]	60	G,P	Cool 4°C	48 hrs
Total Kjeldahl	500	G,P	H_2SO_4 pH<2 Cool 4°C	28 days
Oil & Grease	2000	G only widemouth	H_2SO_4 pH<2 Cool 4°C	28 days
Pesticides & PCBs	Consult Laboratory	G amber/TLS	Cool 4°C	7 days to extraction
pH	25	G,P	None	immed. & on-site
Phenolics	1000[5]	G only/TLS	H_2SO_4 pH<2 Cool 4°C	28 days
PHOSPHOROUS				
Dissolved (soluble)	50 - 250	G,P	Filter, H_2SO_4 Cool 4°C	28 days
Total	50 - 250	G,P	H_2SO_4 pH<2 Cool 4°C	28 days
RESIDUE				
Dissolved Filterable	100	G,P	Cool 4°C	48 hrs
Total & Total Volatile	100	G,P	Cool 4°C	7 days
Semi-volatiles	2 liters	G amber/TLS	Cool 4°C to extract	7 days
Silica - dissolved	50 - 100	P only	Cool 4°C	28 days

Specific Conductance	100	G,P	Cool 4°C	28 days

Parameter	Volume[3] (ml)	Container[1]	Preservation[2]	Holding Time
Sulfate	50 - 100	G,P	Cool 4°C	28 days
Sulfide	100 - 625[5]	G,P	2 ml 2 N zinc acetate and NaOH ph>9 Cool 4°C	7 days
Sulfite	100 - 625[5]	G,P	Add EDTA Cool 4°C	immed.
Surfactants (MBAS)	250	G,P	Cool 4°C	48 hrs
Turbidity	100 - 250	G,P	Cool 4°C store in dark	48 hrs
Volatile Organics (VOCs)	2 to 4 40 ml vials	G vials/TLS	HCL pH<2 No headspace Cool 4°C	14 days

ABBREVIATIONS and ENDNOTES:

G Glass bottle (typically borosilicate)
P Plastic bottle (typically polypropylene, polyethylene or PVC)
TLS Teflon® lined septa

1 In many cases, Teflon® and stainless steel containers (except for metals) are acceptable. For metals, polyethylene with a polypropylene cap (no liner) is preferred - a dilute nitric acid rinse may be recommended by some laboratories.

2 Preserve samples immediately after collection. Consult the laboratory for volumes of preservative required per sample. Verify the pH of the sample (except VOCs).

3 Volume listed may not include quality control (QC) volume required by laboratory (except those volumes that include a number 5 superscript). Check with the laboratory if unsure of the laboratories QC volume requirements.

4 Ion chromatography (IC) analysis only. Ion chromatography is not universally available at certified laboratories and may require special arrangements.

5 Volume includes quality control (QC) effort required by laboratories.

6 Cyanide samples containing residual chlorine should be treated with 0.6 grams ascorbic acid/L of sample at the time of collection. Sulfide will interfere with the cyanide test and must be removed before the pH is adjusted. Contact the laboratory for special instructions for collecting samples containing sulfide.

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Chain of Custody for Samples Requiring Strict Custody

To be admissible as evidence, sample results must be traceable back through their collection, storage, handling, shipment and analysis so that the court is satisfied how the sample results submitted as evidence were collected, transferred and claimed. This is accomplished by a written record documenting the sample identity from collection to introduction as evidence.

Field records identifying sampling personnel, equipment, collection, storage and transfer techniques, and field conditions are required. The sample collector is responsible for maintaining sample custody and integrity until the samples are transferred via a dated and signed chain of custody form to a carrier or are personally delivered and transferred directly to the laboratory.

A sample is in custody if it is:

1. In physical possession, or
2. In view, after being in physical possession, or
3. Secured so that no one can tamper with it.

The courts have accepted two degrees of chain of custody. The first, described below, involves physical possession of the sample from collection to laboratory possession. With this chain of custody method, the sample collector or other person to which sample possession was transferred to delivers the samples to the laboratory. The second chain of custody method is by shipping the samples through a mail carrier. Mail carriers may not assume any liability or responsibility for compromised sample integrity during shipping (e.g., broken samples and/or containers, ice melting in cooler, etc.).

In both cases, a written record must be transferred with the samples. However, when using the second method described above, the sample collector fills out a chain of custody record, seals it in a shipping container, and mails it by a carrier to the laboratory. Upon arrival, a pre-determined laboratory custodian receives the samples, notes the shippers condition (whether sealed or unsealed), each sample container's condition (broken samples, ice present in cooler, etc.), and assumes custody of the samples by signing and dating the chain of custody record. The laboratory maintains possession of the chain of custody record until the sample analysis is complete and then sends the analytical results, along with the chain of custody record, to the sample collector or other pre-designated receiver of the analytical results and chain of custody records.

For routing surveillance samples, the second chain of custody method should suffice. If enforcement action may occur based on the type of samples and/or regulatory programs or agencies involved, the first chain of custody method involving the sample collector physically delivering and transferring possession of the samples to the laboratory is recommended.

Field Chain of Custody Procedures

1. Limit sample collection and handling to as few people as possible. If sample transfers are necessary, use signed receipts of possession. The chain of custody record must accompany the samples. Keep a copy of the chain of custody record for your own records.

2. If the samples are known or suspected of being hazardous, give a receipt for each sample collected to the property or facility owner (s. 144.69, Wis. stats.). The property or facility owner may request split samples.
3. If the samples are known or suspected of being hazardous (e.g., explosion or corrosion hazard), special shipping procedures may be required by the mail carrier. Check with the mail carrier for restrictions and procedures.

4. Follow the Quality Assurance/Quality Control procedures discussed in Section 2.9 of this manual and in the *Groundwater Sampling Desk Reference Manual.*

5. Record field measurements and other important data in a bound field note book, on field measurement data sheets provided by WDNR, or on modified data sheets that meet site-specific needs. For legal purposes, indelible ink should be used for recording all data and errors in field records should be crossed out with one line and initialed.

6. Complete appropriate laboratory tracking forms and attach them to the chain of custody record. Complete these forms in indelible ink.

7. When required or applicable, document with photographs sample locations, pollution sources, violations, etc. If possible, use cameras that print the date the photos were taken.

8. Maintain physical possession and sample integrity of the collected samples until they are properly transferred to the laboratory custodian or the mail carrier.

9. Obtain a sample possession transfer receipt (a copy of the dated and signed chain of custody record) after transferring possession of the samples to the laboratory custodian or the mail carrier.

Sample Security When Strict Custody Procedures are Necessary

Use the following procedures when securing and transferring possession of strict custody samples:

1. Use sample seals. Tape the sample container so that the tape must be cut or ripped to open the container. Use nylon-reinforced tape or other tape that cannot be tampered with without being noticed upon receipt. Sign and date the tape across the top.

2. Using an indelible permanent marker or ink, write the following information on the security tape, writing across the overlapping ends:

    a. Name of the sample collector(s), date, time, well number, facility name, etc., where the samples were collected.

    b. Write the words "**Strict Custody Requirements**," or similar language indicating that sample security is critical.

    c. Write "To be opened by _____ personnel only." In the blank, specify water chemistry unit, pesticide and organic chemistry unit, water microbiological unit, or

other appropriate personnel.

d. If all the samples are organic, specify "organic." If they are all inorganic, specify "inorganic." If the samples are a combination of both or others, specify accordingly.

By overlapping and writing over the edges of the security tape, it will be possible to detect if someone has tampered with the sample container. If someone were to remove the tape and then reseal it, it would be difficult to seamlessly realign the writing.

Do not use sealing wax to seal the tape. Sealing wax is brittle and will chip and break during normal use. This gives the appearance of tampering even when none has occurred.

Sample containers labeled "Strict Custody Requirements," or with similar language, must be locked up by the laboratory upon receipt and not removed from the locked refrigerator until ready to be analyzed. The laboratory will hold all strict custody samples until notified otherwise. When the case is resolved, either by trial or stipulation, the enforcement specialist should notify the laboratory that the samples associated with the case may be discarded or destroyed.

Potential of a Substance for Volatilizing from a Water Sample

Substance	CAS Number	Henry's Law Constant (atm-m^3/mole)	Potential for Volatilizing from Water
Acenaphthylene	208-96-8	1.1×10^{-5}	Low
Acetone	67-64-1	3.9×10^{-5}	Low
Aldicarb	116-06-3	1.4×10^{-9}	Low
Ammonia	7664-41-7	3.2×10^{-4}	Moderate
Anthracene	120-12-7	6.5×10^{-5}	Low
Atrazine	1912-24-9	2.6×10^{-13}	Low
Benzene	71-43-2	5.6×10^{-3}	High
Benzo(a)pyrene	50-32-8	1.1×10^{-4}	Moderate
Benzo(b)fluoranthene	205-99-2	1.1×10^{-4}	Moderate
Bromodichloromethane	75-27-4	1.6×10^{-3}	High
Bromoform	75-25-2	5.5×10^{-4}	Moderate
Bromomethane	74-83-9	6.2×10^{-3}	High
Carbaryl	63-25-2	4.4×10^{-9}	Low
Carbofuran	1563-66-2	9.2×10^{-5}	Low
Carbon tetrachloride	56-23-5	3.0×10^{-2}	High
Carbon disulfide	75-15-0	3.0×10^{-2}	High
Chlordane	57-74-9	4.9×10^{-5}	Low
Chloroethane	75-00-3	6.2×10^{-4}	Moderate
Chloroform	67-66-3	2.7×10^{-3}	High
Chloromethane	74-87-3	8.8×10^{-3}	High
Chrysene	218-01-9	9.5×10^{-5}	Low
1,2-Dibromoethane (EDB)	106-93-4	6.7×10^{-4}	Moderate
Dibromochloromethane	124-48-1	8.7×10^{-4}	Moderate
1,2-Dibromo-3-chloropropane	96-12-8	1.5×10^{-4}	Moderate
Dibutyl phthalate	84-74-2	1.8×10^{-6}	Low
Dicamba	1918-00-9	7.9×10^{-9}	Low
1,2-Dichlorobenzene	95-50-1	1.9×10^{-3}	High
1,3-Dichlorobenzene	541-73-1	3.3×10^{-3}	High
1,4-Dichlorobenzene	106-46-7	2.4×10^{-3}	High
Dichlorodifluoromethane	75-71-8	3.4×10^{-1}	High
1,1-Dichloroethane	75-34-3	5.6×10^{-3}	High

Substance	CAS Number	Henry's Law Constant (atm-m^3/mole)	Potential for Volatilizing from Water
1,2-Dichloroethane	107-06-2	9.8×10^{-4}	Moderate
1,2-Dichloroethylene (cis)	156-59-2	4.1×10^{-3}	High
1,2-Dichloroethylene (trans)	156-60-5	9.4×10^{-3}	High
1,1-Dichloroethylene	75-35-4	2.6×10^{-2}	High
2,4-Dichlorophenoxyacetic acid	94-75-7	1.0×10^{-8}	Low
1,2-Dichloropropane	78-87-5	2.8×10^{-3}	High
1,3-Dichloropropene (cis/trans)	542-75-6	1.8×10^{-2}	High
Di (2-ethylhexyl) phthalate	117-81-7	3.6×10^{-7}	Low
Dimethoate	60-51-5	6.2×10^{-11}	Low
2,4-Dinitrotoluene	121-14-2	1.3×10^{-7}	Low
2,6-Dinitrotoluene	606-20-2	7.5×10^{-7}	Low
Dinoseb	88-85-7	4.6×10^{-7}	Low
Dioxins	1746-01-6	5.6×10^{-3}	High
Endrin	72-20-8	7.5×10^{-6}	Low
Ethylbenzene	100-41-4	8.4×10^{-3}	High
Fluoranthene	206-44-0	6.5×10^{-6}	Low
Fluorene	86-73-7	1.0×10^{-4}	Moderate
Fluoride	16984-48-8	6.0×10^{-8}	Low
Fluorotrichloromethane (freon 11)	75-69-4	9.7×10^{-2}	High
Formaldehyde	50-00-0	1.7×10^{-7}	Low
Heptachlor	76-44-8	1.1×10^{-3}	High
Heptachlor epoxide	1024-57-3	3.2×10^{-5}	Low
Hexachlorobenzene	118-74-1	1.3×10^{-3}	High
Lindane	58-89-9	1.4×10^{-5}	Low
Mercury	7439-97-6	1.1×10^{-2}	High
Methanol	67-56-1	4.5×10^{-6}	Low
Methoxychlor	72-43-5	1.6×10^{-5}	Low
Methyl isobutyl ketone	108-10-1	1.4×10^{-4}	Moderate
Methyl ethyl ketone (MEK)	78-93-3	2.7×10^{-5}	Low
Methylene chloride	75-09-2	2.0×10^{-3}	High
Monochlorobenzene	108-90-7	3.8×10^{-3}	High
n-Hexane	110-54-3	1.4×10^{-2}	High
Naphthalene	91-20-3	4.8×10^{-4}	Moderate

Substance	CAS Number	Henry's Law Constant (atm-m^3/mole)	Potential for Volatilizing from Water
Pentachlorophenol	87-86-5	2.4×10^{-6}	Low
Phenol	108-95-2	3.3×10^{-7}	Low
Polychlorinated biphenyls	1336-36-3	1.1×10^{-3}	High
Pyrene	129-00-0	1.1×10^{-5}	Low
Pyridine	110-86-1	8.9×10^{-6}	Low
Simazine	122-34-9	2.7×10^{-9}	Low
Styrene	100-42-5	2.8×10^{-3}	High
1,1,1,2-Tetrachloroethane	630-20-6	2.4×10^{-3}	High
1,1,2,2-Tetrachloroethane	79-34-5	4.6×10^{-4}	Moderate
Tetrachloroethylene	127-18-4	1.8×10^{-2}	High
Toluene	108-88-3	6.6×10^{-3}	High
Toxaphene	8001-35-2	6.6×10^{-6}	Low
1,2,4-Trichlorobenzene	120-82-1	1.4×10^{-3}	High
1,1,1-Trichloroethane	71-55-6	1.7×10^{-2}	High
1,1,2-Trichloroethane	79-00-5	9.1×10^{-4}	Moderate
1,2,3-Trichloropropane	96-18-4	3.4×10^{-4}	Moderate
Trichloroethylene	79-01-6	1.0×10^{-2}	High
2,4,5-Trichlorophenoxy-propionic acid (2,4,5-TP)	93-72-1	8.7×10^{-9}	Low
Trifluralin	1582-09-8	2.6×10^{-5}	Low
1,2,4-Trimethylbenzene	95-63-6	5.6×10^{-3}	High
Vinyl chloride	75-01-4	2.7×10^{-2}	High
Xylene (mixed o-, m-, and p-)	1330-20-7	7.0×10^{-3}	High

CAS Number: Chemical Abstract Service (CAS) registry numbers are unique numbers assigned to a chemical substance and are widely used in scientific publications.

Note: Most metals (exception - mercury) and inorganics are not susceptable to volatilizing from a groundwater sample under normal sampling conditions and temperatures.

(Sources: USEPA Superfund Chemical Data Matrix [SCDM] March 1993 data tables. U.S. Environmental Protection Agency (EPA). 1990. *Basics of Pump-and-Treat Ground-Water Remediation Technology*U.S. Environmental Protection Agency, Washington, D.C. EPA/600/8-90/003.)

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Equivalency and Conversion Tables

Volume Equivalents

unit	cc	in^3	liters	Quarts	Gals	ft^3
cc	1	.06102	.001	.00106	.00026	.00004
in^3	16.387	1	.01639	.01732	.00433	.00058
Pints	473.18	28.875	.47318	.5	.125	.01671
liters	1000	61.023	1	1.0567	.26417	.03531
Quarts	946.36	57.75	.94636	1	.25	.03342
Gallons	3785.4	231	3.7854	4	1	.13368
ft^3	28317.0	1728	28.317	29.922	7.4805	1
$meter^3$	100000	61023.4	1000	908.08	227.02	35.314

Equivalent Pumping Rate Table

Milliliters per Minute (ml/min)	Liters per Minute (L/min)	Gallons per Minute (gpm)
100	0.1	0.026
200	0.2	0.05
300	0.3	0.08
400	0.4	0.11
500	0.5	0.13
600	0.6	0.16
700	0.7	0.18
800	0.8	0.21
900	0.9	0.24
1000	1	0.26
2000	2	0.53
3000	3	0.79
4000	4	1.06
5000	5	1.32

Conversion formulas for rates not included in this table:

Liters per minute X 0.26417 = gallons per minute
Gallons per minute X 3.7854 = liters per minute

Length

To Convert From	To	Multiply By
inches	centimeters	2.540
inches	feet	0.0833
feet	meters	0.3048
feet	miles	0.0001894
meters	miles	6.214×10^{-4}
meters	yards	1.094

1 meter = 10 decimeters = 100 centimeters = 1000 millimeters

Volume

To Convert From	To	Multiply By
cubic centimeters	cubic inches	0.06102
cubic inches	cubic feet	0.00058
cubic inches	liters	0.01639
cubic inches	gallons	0.00433
liters	gallons	0.14546
gallons	cubic feet	0.13368

1 liter = 1 cubic decimeter = 10 deciliters = 100 centiliters = 1000 milliliters = 1000 cubic centimeters

Water attributes

Cubic foot	Gallon
7.48 gallons	231 cubic inches
28,317 milliliters	3,785 milliliters
28.317 liters	3.785 liters
62.428 lbs	8.345 lbs

Liter	Cubic meter
0.2642 gallons	1,000 liters
61 cubic inches	264.2 gallons
2.205 lbs	22.045 lbs

SOP 13: Private Well Water Sample Collection and Analyses

Private well water samples may be collected for sites located adjacent to a known or suspected groundwater or surface water contaminant plume for analyses as specified in an SAP. These analyses for drinking water may include volatile organic compounds (VOCs), per- and polyfluoroalkyl substances (PFAS), Resource Conservation and Recovery Act (RCRA) metals, and polychlorinated biphenyls (PCBs) depending on the specific site.

Private well water samples will be collected as described below. The dates and times of sample collection will be recorded on the sample containers and on the sampling log. The private well water sample collection, storage, and transportation will be performed in general accordance with ASTM and WDNR specifications and followed standard chain of custody requirements. The specific requirements for sample container type, preservative, and holding times are presented in ***Table 4*** attached with this QAPP.

Purging Activities

In general, prior to sample collection, water will be purged from the sampling point for approximately 10 to 15 minutes. Depending on site conditions, field personnel may monitor indicator parameters during the purging activities to ensure well water stability when sampling. Specifically, purging activities should continue until three consecutive readings, spaced approximately two minutes or more apart are within the following ranges for the following indicators parameters (as specified by the WDNR publication PUBL-DG-03896):

- Dissolved oxygen, +/- 0.2 mg/l
- Specific Conductance, +/- 5.0 μmhos/cm for values <1000 μmhos/cm or +/- 10.0 μmhos/cm for values >1000 μmhos/cm
- pH, 0.1 pH units
- Temperature, +/- 0.1°C
- Turbidity <5 NTUs (required if metal samples will not be filtered)

Sample Collection

Following the well water purging activities, drinking water samples will be collected from the property's spigot or sink prior to the introduction of water additives. During sample collection, the spigot or sink will discharge water at the lowest possible flow rate.

Laboratory Analysis

Depending on the type of analyses requested, collected samples will be containerized as described below:

Volatile Organic Compounds

Drinking water collected for VOCs will be placed in three 40-milliliter (ml) glass vials with Teflon® lined lids preserved with hydrochloric acid. The water should form a positive meniscus at the brim of the sample containers and no air bubbles should be present once the sample container is sealed. Trip and field water blank samples will also be analyzed for VOCs to serve as QA checks.

Per- and Polyfluoroalkyl Substances
For PFAS analysis, Sigma will follow cross-contamination minimization and decontamination procedures as described in ***SOP 6: PFAS Field Sampling***. Drinking water collected for PFAS will be placed in two 250-ml HDPE bottles preserved with 1.25-g of trizma. Leave approximately ½ inch of air space when filling, cap the bottle, and agitate by hand until preservative is dissolved. For laboratory QA/QC purposes, one out of every ten samples should be collected and submitted in triplicate and a field reagent blank should be submitted per each sampling event.

RCRA Metals
Drinking water collected for metals will be placed in 500-ml HDPE bottles, preserved with nitric acid and sealed.

Polychlorinated Biphenyls
Drinking water collected for PCBs will be placed in unpreserved 250-ml amber glass bottles sealed with Teflon® lined lids. Leave approximately ½ inch of air space when filling the sample bottles to allow for expansion.

Total Chloride, Total Sulfate, Alkalinity
Drinking water collected for total chloride, total sulfate, and alkalinity will be placed in an unpreserved 1,000-ml plastic bottle sealed with Teflon® lined lids.

Total Arsenic, Total Barium, Total Hardness
Drinking water collected for total arsenic, total barium, and total hardness will be placed in a 1,000-ml plastic bottle with Teflon® lined lids preserved with nitric acid.

Total Dissolved Solids
Drinking water collected for total dissolved solids will be placed in an unpreserved 125-ml plastic bottle sealed with Teflon® lined lids.

All collected private well water samples will be placed on ice in a cooler immediately following collection, containerization and preservation, as necessary. Samples will be delivered to the laboratory at the end of the day when they have been collected or will be picked up from Sigma by the laboratory courier the next day.

SOP 14: Hydraulic Conductivity Testing (Slug Test)

At sites where groundwater contamination has been identified, in-situ hydraulic conductivity testing (slug test) may be performed to estimate site-specific hydraulic conductivity values. The purpose of the slug testing is to estimate the saturated hydraulic conductivity of the subsurface materials surrounding monitoring well screens. The monitoring wells and/or piezometers should be selected based on their representative locations across the site, depth to groundwater and well depths, and their proximity to the location of the detected groundwater impacts.

The general slug test procedure includes the near-instantaneous removal of a bailer of water from the well with subsequent monitoring of the water level recovery over time. The saturated hydraulic conductivity of the aquifer material is a function of the rate of water level recovery and the well geometry.

Prior to starting the slug test, the static water levels in each of the wells will be recorded. Pre-programmed Solinst® Levelogger® pressure transducer will be placed in each well to record change in water level over time once the test begins. To begin the slug test, a new disposable bailer will be lowered into each well at a level below the static water level and allowed to fill with water. Following placement of the pressure transducers and bailers, the water levels in the wells should be allowed to equilibrate, with measurements made periodically with a water level indicator until the water levels have stabilized. At a pre-set time, the transducers will begin recording pressure readings, at which time the bailers should be removed from each well. The transducers record pressure readings at predetermined time intervals until the water level in each well recovers to their approximate static levels.

All downhole sampling and monitoring equipment (including the pressure transducer) will be decontaminated before and after each slug test with a solution of Alconox and water. A new bailer rope will be used for each test.

Following test completion, the Bouwer, H., and R.C. Rice method[1] will be used to analyze the data recorded during the test. The analysis will be performed with a computer program, *Aquifer Test, Version 3.5*, developed by Waterloo Hydrogeologic, Inc.

[1] Bouwer, H., and R.C. Rice, 1976. A slug test for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells. *Water Resource Research*. 12: 423-428.

SOP 15: Borehole / Groundwater Monitoring Well Abandonment

Upon completion of drilling activities, all soil borings that have not been converted to groundwater monitoring wells will be properly abandoned in accordance with Chapters NR 112 and NR 141 of the Wisconsin Administrative Code.

The protective covers and ground surface seals of any groundwater monitoring wells will be removed, and the well casings will be removed or cut off at least 30 inches below the ground surface. Boreholes will be abandoned with bentonite chips no greater than 3/8 inch in diameter or bentonite pellets. Granular bentonite may be used for abandonment of boreholes less than 25 feet deep. If borings were drilled through the existing pavement and repairs to the pavement are necessary, the boreholes will be capped with concrete or asphalt as appropriate to match the existing pavement. Any settling of the sealant material shall be topped off. Abandonment will be documented on *Well/Drillhole/Borehole Abandonment Form (WDNR Form 3300-5B)*.

SOP 16: Sediment Poling

Sediment poling may be conducted to assess soft sediment thickness for those sites which are located adjacent to a water body. Soft sediment thickness will be measured along pre-determined transects. Collection of topographic survey data, bathymetric survey data, and sediment cores per ***SOP 18: Sediment Sample Collection*** as a QA/QC method to check poling results will be performed in conjunction with poling data collection.

The following is a list of equipment that may be necessary to carry out the procedures contained in this SOP. Additional equipment may be required, pending field conditions.

- Sampling vessel equipped with DGPS navigation and communication equipment or total station equipment
- Approved documents, e.g. Sediment Sampling Plan, QA/QC Plan, Health and Safety Plan
- Target coordinates for poling locations
- Less than 0.5-inch steel rod or equivalent marked in 6-inch intervals, 20 feet in length
- A standard survey rod (approximately 2-inch diameter)
- Field logbook
- Appropriate personal protective equipment and clothing, including personal floatation devices as required
- 50-foot lead line
- 50-foot tape measure
- Total station

Sediment poling procedures will include recording the water surface elevation from the staff gage in the field log at the beginning and end of each day. Additional staff gage data shall be collected at the discretion of the field staff during weather events (rain) and if the water level elevation noticeably changes during the day. The vessel will be navigated to the proposed sample location or personnel will walk or wade to locations (as necessary).

At locations where water is present, a standard survey rod (approximately 2-inch diameter) will be used to measure water depth and identify sediment-water interface. If no water is present, a DGPS will be used to determine the elevation of the surface of the sediment. A less than 0.5-inch steel rod or equivalent will be used to probe the sediment. The probe will be sharpened on one end and calibrated in 6-inch intervals. The probe will be advanced into the sediment bed until refusal, noting the depth of penetration and type of resistance met by the probe. Locations that indicate results are extremely shallow or deep will be further investigated by collecting step out poling data around the location of interest.

Coordinates of the actual poling location determined by DGPS or total station, water depth or top of sediment elevation (to the nearest inch), distance from the top to the bottom of soft sediment, type of resistance (e.g., minimal, difficult, rough, abrasive), and sediment type (e.g., rock, fine-grained) will be recorded.

SOP 17: Navigation and Boat Positioning

Navigation and boat positioning procedures may be conducted for those sites which are located adjacent to a water body, and the water depth is prohibitive to personnel walking or wading to locations of interest.

The following is a list of equipment that may be necessary to carry out the procedures contained in this SOP. Additional equipment may be required, pending field conditions.

- Approved documents, e.g. Sediment Sampling Plan, QA/QC Plan, Health and Safety Plan
- *Daily Float Plan* (attached) listing stations to be sampled, target station coordinates, access points along the site, and sample transfer and transport locations
- Appropriate personal protective equipment and clothing, including personal floatation devices as required
- Sampling vessel equipped with DGPS navigation and communication equipment or total station equipment
- DGPS receivers or total station
- Weighted tape measure (lead line) for water depth measurements
- Boat spuds and an anchor system to stabilize boat on station
- Pre-determined sampling coordinates/waypoints and location figures

Horizontal positioning will be determined using a total station or DGPS based on target coordinates listed in the field sampling plan. As described in the field sampling plan, the sample locations may be modified based on field conditions. Measured geographic coordinates for station positions will be recorded and reported to the nearest 0.01 foot. In addition, North American Datum of 1983, Wisconsin State Plane, South Zone, U.S. Survey feet coordinates will be reported to the nearest foot. The following procedures describe the steps used to establish a position at a location as well as the steps to adjust the positioning for the collection of additional samples.

Sampling locations to be occupied will be selected by the Field Lead and communicated to field team staff each day. Coordinates for each sampling location will be entered as a waypoint into the DGPS unit or total station. The accuracy of each entry will be checked against the coordinates established in the field sampling plan. The DGPS antennae or total station equipment will be maintained in a safe location that accurately represents the actual sample or measurement collection point (e.g., mounted to the top of the davit or A-frame used for raising or lowering the sampling equipment).

Using navigational data from the DGPS or total station, the boat operator will navigate to and approach the actual sampling/measurement station. For sediment, the boat will be secured within 5 feet of the sampling station by lowering anchors. Under some conditions, the boat may not be anchored based on safety as determined by the vessel operator. Once the boat is on location (and secured for poling, coring, topography, and bathymetry), the coordinates from the DGPS unit or total station will be noted. With the boat on location, the coordinates will be stored electronically in the DGPS unit or total station and recorded on the appropriate field form.

For repeated attempts at a sampling location, the boat will be moved within the radius of 5 or fewer feet parallel to the shoreline or 5 or fewer feet perpendicular to the shoreline surrounding the target coordinates. The boat will be repositioned by adjusting an anchor line or motoring unattached until the new position for the sampling device has been established. The new position will be recorded on the appropriate field form.

Vertical elevation measurement procedures will be followed at each sampling station where elevation data is required. The water depth (from the top of the water level surface to the top of sediment surface) will be determined using a calibrated weighted line or tape measure. The date and time of the measurement will be recorded on the appropriate data form. Vertical elevation of each measurement station will be converted to the vertical datum (North American Vertical Datum of 1988, U.S. feet) after each field sampling event. Water surface elevations will be determined using measured data from the staff gauges that will be installed prior to commencing water work.

DGPS system performance checks using built-in accuracy measurements and ground truths will be performed daily to confirm DGPS accuracy. Total station accuracy shall be checked at the beginning and end of each day using the control point designated on the site. It is the responsibility of the Field Lead to periodically check to ensure that the procedures are in conformance with those stated in this SOP.

SOP 18: Sediment Sample Collection

Sediment sampling may be conducted for those sites which are located adjacent to a water body where there is a potential for contamination migration and/or historic spills within the water body. In shallow areas with sediments less than 6 inches thick, a 25-pound AMS Stainless Steel Bottom Dredge (or equivalent) may be used to collect surface sediment samples. Direct push methods may be used to collect sediment when sediment is present in sufficient thickness. Core processing and sample collection procedures are described in the SOP for *Soil / Sediment Sample Collection and Analyses*. The sampling techniques utilized to obtain sediment samples from the water body are described as follows.

Bottom Dredge Sampler

A 25-pound AMS Stainless Steel Bottom Dredge (or similar device) collects sediment samples with a scoop and trap method. The 25-pound bottom dredge has a sampling area of 6 x 6 inches. The 25-pound bottom dredge may be used to collect sediment in areas which cannot be accessed on foot, where a drilling platform is unavailable, and when sediment sampling is limited to the top six inches.

Sediment samples will be collected by attaching the appropriate length (based on depth of water) of rope to the 25-pound bottom dredge, setting the sampler in the open position and securing it with the pin, dropping the sampler into the water, and allowing the sampler to land on the sediment floor releasing the tension on the rope and, subsequently, the pin which holds the sampler device open. Once the tension is released, the sampler will automatically release to the closed position as the sampler is retrieved and brought to the surface. Open the sampler to obtain the sediment sample.

The sampler will be decontaminated to prevent cross-contamination between the sample locations. Sampling equipment decontamination procedures will follow the SOP for *Decontamination of Equipment.*

The information collected during sampling will be presented on the field notes. The field notes will include information regarding sampling locations, sediment type, and other pertinent information related to the sediment grab sample activities.

Hand Corer Sampler

A hand corer (piston-core/direct-push) sampler may be used to collect sediment samples within areas of less than four feet of water or, if a platform is present, in areas with deeper water. The coring device will be placed on the sediment surface at the desired location using extension poles, if necessary. (If a piston corer is used, the piston line will be secured.) The core sampling apparatus will then be manually pushed vertically into the sediment. The depth of penetration will be recorded by measuring movement of the top of the core sampler in relation to the water surface. The core will be manually pushed into the sediment until refusal or the target depth has been achieved.

Proper back care will be exercised when pulling a stuck core out of the sediments. The extension pole will be removed as needed as the core is brought to the surface. As the final extension pole is removed, a vertical alignment with the core will be maintained, and a cap will be placed over the bottom of the core before the core tube is brought above the water surface to prevent sediment from sliding out the bottom of the core.

The core will be secured in an upright position for measurements. Any disturbed sediment will be allowed to settle completely within the core tube, and the recovered sediment length will be measured. Water above the sediment will be drained by drilling a hole in the core tube just above the sediment surface. The excess plastic tube will be cut off above the sediment surface, and immediately after that, the end will be capped and the caps secured on the top and bottom with duct tape. The core sample will be evaluated at the visible ends of the core tube; the length of recovered sediment will be recorded; and, if accepted, the core will be transported to the core-processing location.

Acceptance criteria for sediment core samples are as follows:

- Overlying water is present and the surface is intact;
- The core tube appears intact without obstruction or blocking;
- Recovery is greater than 70 percent of drive length; and
- Core includes 6-inches of native sand/silt/clay in the bottom of the core for cores that QA/QC the elevation of contamination and for the collection of geotechnical testing of the native sand, if needed.

If sample acceptance criteria are not achieved, the sample is rejected unless modified acceptance criteria are approved by the Field Lead and/or multiple attempts (three or more) have been made at the sampling location. In cases where three attempts are unsuccessful, the Field Lead will contact the Project Manager, and best professional judgment and field conditions will be used to determine if additional cores should be attempted. Additional attempts may be made using a modified sampling techniques if determined possible by the field team. Modifications include: changing the sample tube diameter, using a core catcher, or increasing the suction and may be conducted on a different date then the original attempt. The location may also be relocated to another transect if approved by the Project Manager.

Field staff will record field conditions and drive notes on a Sediment Core Collection Log (an example is provided in Attachment 1). The logs will include the following information:

- The sample station identification;
- Water depth and time of measurement;
- Geographic position of the actual coring location as determined by GPS or total station;
- Date and time of collection of each sediment core sample;
- Names of field personnel collecting and handling the samples;
- Observations made during sample collection, including weather conditions, complications, and other details associated with the sampling effort;
- Length of drive penetration and recovery measurements; and

- Qualitative notation of apparent resistance of sediment column to coring (how the core drove).

Once the core samples are deemed acceptable, the core tube will be labeled and an arrow drawn pointing to the top of the core. The appearance and length of the core sample will be evaluated by examination through the clear plastic core liner. Any stratigraphic intervals or other salient features will be noted in the field database or on the Sediment Core Collection Log sheet including the total length of the native material. The cores will then be cut into appropriate lengths for transport to the core processing area for processing. The cores will be sealed tightly enough to prevent leakage or disturbance during transport to the processing station.

The information collected during drilling will be presented on the final borehole logs. The logs will include information regarding sampling intervals and other pertinent information related to the coring activities.

Hollow Stem Auger Drilling/Geoprobe Drilling

Hollow stem auger and/or Geoprobe Drilling may be utilized to collect sediment samples within areas where water is present at depths greater than four feet and where a platform (dock, barge, etc.) is present that can accommodate a drill rig/Geoprobe and extends over the water body.

Sediment sampling via hollow stem auger and/or Geoprobe drilling techniques will be conducted in accordance with the SOP for *Completion of Soil Borings*.

The information collected during drilling will be presented on the final borehole logs. The logs will include information regarding sampling intervals and other pertinent information related to the drilling activities.

SOP 19: Surface Water Sample Collection and Analyses

The surface water samples may be collected for sites located adjacent to a water body for analyses as specified in an SAP. These analyses may include volatile organic compounds (VOCs), per- and polyfluoroalkyl substances (PFAS), Resource Conservation and Recovery Act (RCRA) metals, and polychlorinated biphenyls (PCBs) depending on the specific site.

Surface water samples will be collected from one of the methods described below. The dates and times of sample collection will be recorded on the sample containers and on the sampling log. The surface water sample collection, storage, and transportation will be performed in general accordance with ASTM and WDNR specifications and followed standard chain of custody requirements. The specific requirements for sample container type, preservative, and holding times are presented in ***Table 6*** attached with this QAPP.

Dipping Using Sample Container

A surface water sample may be collected directly into the sample container when the surface water source is accessible by wading or other means. The sampler should face upstream if there is a current and collect the sample without disturbing the bottom sediment. The surface water sample should always be collected prior to the collection of a sediment sample at the same location.

Scoops

Stainless steel scoops provide a means of collecting surface water samples from surface water bodies that are too deep to access by wading. They have a limited reach of about eight feet and if samples from distances too far to access using this method are needed, a mobile platform, such as a boat may be required.

Stainless steel scoops are useful for reaching out into a body of water to collect a surface water sample. The scoop may be used directly to collect and transfer a surface water sample to the sample container, or it may be attached to an extension in order to access the selected sampling location.

Peristaltic Pumps

Another device that may be used to sample a water column, such as a shallow pond or stream, is the peristaltic pump/vacuum jug system. The peristaltic pump can be used to collect a water sample from any depth if the pump is located at or near the surface water elevation. The use of a metal conduit attached to the tubing, allows for the collection of a vertical sample representative of the water column. The tubing intake is positioned in the water column at the desired depth by means of the conduit. Using this method, discrete samples may be collected by positioning the tubing intake at one depth or a vertical composite may be collected by moving the tubing intake at a constant rate vertically up and down the water column over the interval to be composited.

Discrete Depth Samplers

When discrete samples are desired from a specific depth, and the parameters to be measured do not require a Teflon®-coated sampler, a standard Kemmerer or Van Dorn

sampler may be used. The Kemmerer sampler is a brass cylinder with rubber stoppers that leave the ends of the sampler open while being lowered in a vertical position, thus allowing free passage of water through the cylinder. The Van Dorn sampler is plastic and is lowered in a horizontal position. In each case, a messenger is sent down a rope when the sampler is at the designated depth, to cause the stoppers to close the cylinder, which is then raised. Water is removed through a valve to fill respective sample containers.

When metals and organic compounds parameters are of concern, then a double-check valve, stainless steel bailer or Kemmerer sampler should be used to collect the sample.

Bailers

Disposable bailers may be used for surface water sampling when the investigation objectives do not necessitate a sample from a discrete interval in the water column. Specifically, a closed-top bailer with a bottom check-valve may be used. As the bailer is lowered through the water column, water is continually displaced through the bailer until the desired depth is reached, at which point the bailer is retrieved.

Depending on the type of analyses requested, surface water collected using one of the above referenced techniques will be transferred to containers as described below:

Volatile Organic Compounds

Surface water collected for VOCs will be placed in three 40-milliliter (ml) glass vials with Teflon® lined lids preserved with hydrochloric acid. Trip and field water blank samples will also be analyzed for VOCs to serve as QA checks.

Per- and Polyfluoroalkyl Substances

For PFAS analysis, Sigma will follow specific sample collection, cross-contamination minimization, and decontamination procedures as described in ***SOP 6: PFAS Field Sampling***. Surface water collected for PFAS will be placed in two unpreserved 250-ml HDPE or PP bottles and sealed. Leave approximately ½ inch of air space when filling. For laboratory QA/QC purposes, a field reagent blank should be submitted per each sampling event.

Metals

Surface water collected for metals will be field-filtered and placed in 500-ml HDPE bottles, preserved with nitric acid and sealed.

Polychlorinated Biphenyls

Surface water collected for PCBs will be placed in unpreserved 1,000-ml amber glass bottles sealed with Teflon® lined lids.

Total Chloride, Total Sulfate

Surface water collected for total chloride and total sulfate will be placed in an unpreserved 1,000-ml plastic bottle sealed with Teflon® lined lids.

Total Hardness

Surface water collected for total hardness will be placed in a 1,000-ml plastic bottle with Teflon® lined lids preserved with nitric acid.

All surface water samples will be placed on ice in a cooler immediately following collection, containerization and preservation, as necessary. Samples will be delivered to the laboratory at the end of the day when they have been collected or will be picked up from Sigma by the laboratory courier the next day.

SOP 20: Soil Vapor Sampling

Soil vapor sampling points will be constructed in accordance with the guidance document *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin* (PUB-RR-800) published by the Wisconsin Department of Natural Resources in June 2010 (revised January 2018). In general, sampling points will be constructed with new sch. 40 PVC well screen and riser measuring 1-inch in diameter installed to an appropriate depth based on site specific conditions. The probe will be capped and connected to sample collection devices using Swagelok fittings and valves or other comparable compression fittings and valves.

Sampling Probe Installation Protocol

Sampling point boreholes may be created with hand equipment (hand-auger) or direct-push systems. The following provides detailed instructions for the installation of a vapor sampling probe. It is assumed that utilities have been cleared and a borehole has been created in accordance with the *Completion of Soil Borings* found in ***SOP 3*** of this QAPP.

1. Select target depth for sample point based on site conditions (depth of contamination, depth to shallow water table, depth of potential receptors).
2. Advance borehole to target depth.
3. Cut sch. 40 PVC screen to desired length (generally 1 to 2 feet) and connect to an appropriate length of solid PVC riser. Seal bottom point of screen with appropriate well end cap.
4. Install PVC in borehole. Install filter pack sand in annular space around screened interval and bentonite chips or granules in annular space above screened interval. Hydrate bentonite with DI water.
5. Place vapor sampling cap on well and seal. Allow sub-surface conditions to equilibrate for a minimum of 24 hours prior to sampling.

Pressure "Shut-in" Test Protocol

1. Connect an appropriate length of nylon tubing to the to the SUMMA canister via Swagelok fittings and/or valves provided by the analytical laboratory.
2. Connect a vacuum pump with vacuum gauge to the tubing between the sampling tube and the SUMMA canister.
3. Apply vacuum to the sampling train and close all valves/tube ends to "shut-in" the sampling train.
4. Monitor vacuum within the sampling train using the vacuum gauge.
5. Vacuum level within the sampling train should be stable for at least 10 minutes. If vacuum level is not stable, check/tighten all fittings and valves and re-do "shut-in" test.

Sample Collection Protocol

Soil vapor samples will be collected using SUMMA canisters certified and provided by Pace Analytical Services, Inc. The vapor sampling protocol via SUMMA canisters is as follows:

1. Purge out four dead volumes of the connected tubing and sampling train using a syringe pump or organic vapor monitor.
2. Check canister vacuum immediately before use. Ensure any flow chokes and filters have been flushed between samples and all connections/fittings are tight.
3. For canisters with valves, connect canister to sampling train or connecting tubing.
4. For canister samples with valves, open valve to begin sample collection. For larger canisters (>1 liter), sample flow rates are not to exceed 200 milliliter per minute (ml/min) to minimize potential for vacuum extraction of contaminants from the soil phase. Close canister valve while a vacuum (-5 inches mercury to -1 inches mercury) remains in the canister to ensure no sample loss during shipment of canister to analytical laboratory.

Field Records

The field technician will maintain a log sheet summarizing the following information:

1. Sample identification
2. Probe location
3. Date and time of sample collection
4. Sampling depth
5. Identity of samplers
6. Weather conditions
7. Sampling methods and devices
8. "Shut-in" test results
9. Soil gas purge volumes
10. Vacuum of canisters before and after samples collected.
11. Apparent moisture content (dry, moist or saturated etc.) of the sampling zone
12. Chain of custody protocols and records used to track samples from sampling point to analysis.

THE SIGMA GROUP, INC.
STANDARD OPERATING PROCEDURES

SOP 21: Sub-Slab Vapor Sampling

Sub-slab vapor sampling points will be constructed in accordance with the guidance document *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin* (PUB-RR-800) published by the Wisconsin Department of Natural Resources in June 2010 (revised January 2018). In general, sampling points will be constructed with a brass or stainless steel Vapor-Pin® sampling point. Sampling points will be connected to sample collection devices using Swagelok fittings and valves or other comparable compression fittings and valves.

Sampling Point Installation Protocol

1. Ensure all sub-slab utilities (public and building specific) are marked prior to installation.
2. Drill a 5/8 inch outer diameter hole through the slab with a drill and spline bit. Do not use water. If dust prevention necessary, cover the location with a towel/cloth and drill through a pre-cut hole in the cloth. If the sampling point will be installed with flushmount cover, drill a 1 ½ inch diameter hole to the required depth into the slab to install the cover, once the larger diameter hole is drilled to the required depth, drill through the slab in the center for the hole using the 5/8 inch diameter bit.
3. Install the Vapor-Pin® sampling point using a new silicone sleeve and following manufacturer's instructions for installation.
4. Place cap over sample point. Wait minimum of 1 hour before sampling to allow sub-slab conditions to equilibrate following point installation.

Pressure "Shut-in" Test Protocol

1. Connect an appropriate length of nylon tubing to the to the SUMMA canister via Swagelok fittings and/or valves provided by the analytical laboratory.
2. Connect a vacuum pump with vacuum gauge to the tubing between the sampling tube and the SUMMA canister.
3. Apply vacuum to the sampling train and close all valves/tube ends to "shut-in" the sampling train.
4. Monitor vacuum within the sampling train using the vacuum gauge.
5. Vacuum level within the sampling train should be stable for at least 10 minutes. If vacuum level is not stable, check/tighten all fittings and valves and re-do "shut-in" test.

Water Dam Surface Seal Test Protocol

1. Place 2 to 3-inch diameter PVC ring around sampling point, seal ring to surrounding floor surface using plumber's putty to create a leak-free seal.
2. Pour de-ionized water into the space between the sampling point and the PVC ring to a point where the water level within the PVC "dam" can be monitored for changes.
3. Apply vacuum to the sampling point via hand pump or photo-ionization detector (PID) pump.

4. Monitor water level within PVC "dam" for drop in elevation, indicative of a leak in the vapor sample point surface seal. Monitor for a minimum of 5 minutes.
5. If leak is observed, remove sample point and re-install at an alternative location, re-do surface seal test prior to sampling until no leak in surface seal is observed.

Sample Collection Protocol

Soil vapor samples will be collected using SUMMA canisters certified and provided by Pace Analytical Services, Inc. The vapor sampling protocol via SUMMA canisters is as follows:

1. Purge out four dead volumes of the connected tubing and sampling train using a syringe pump or PID.
2. Check canister vacuum immediately before use. Ensure any flow chokes & filters have been flushed between samples and all connections/fittings are tight.
3. For canisters with valves, connect canister to sampling train or connecting tubing.
4. For canister samples with valves, open valve to begin sample collection. For larger canisters (>1 liter), sample flow rates are not to exceed 200 milliliter per minute (ml/min) to minimize potential for vacuum extraction of contaminants from the soil phase. Close canister valve while a vacuum (-5 inches mercury to -1 inches mercury) remains in the canister to ensure no sample loss during shipment of canister to analytical laboratory.

Field Records

The field technician will maintain a log sheet summarizing the following information:

1. Sample identification
2. Probe location
3. Date and time of sample collection
4. Sampling depth
5. Identity of samplers
6. Weather conditions
7. Sampling methods and devices
8. "Shut-in" test results
9. Water dam test results
10. Sub-slab vapor purge volumes
11. Vacuum of canisters before and after samples collected.
12. Nature of sub-slab material encountered.
13. Chain of custody protocols and records used to track samples from sampling point to analysis.

SOP 22: High Purge Volume Vapor Sampling

The high purge volume (HPV) testing protocol is performed when a larger (more representative) volume of sub-slab vapor is desired to be sampled versus multiple discrete grab sample test points. The sub-slab vapor extraction points and corresponding vacuum test points (installed around each extraction point) are constructed in the following manner:

- HPV sub-slab vapor extraction points
  - Drill an approximately 2.5-inch diameter hole through the concrete floor slab;
  - Remove the concrete core and several additional inches of sub-slab gravel / soil;
  - Place several inches of filter pack sand in bottom of void;
  - Install 2-inch diameter PVC extraction assembly in core hole (open end of PVC at bottom of hole wrapped with fine gauge stainless steel wire mesh to prevent suction of filter pack sand) and connect rest of PVC sampling train to shop vacuum (which is vented to outdoors);
  - Place modeling clay plug (approximately 1-inch thick) in annulus between the 2.5-inch core hole and the 2-inch PVC extraction point to separate filter pack sand from cement seal;
  - Place quick-setting cement in the annulus between the PVC extraction point and the 2.5-inch core hole and allow to cure to seal sub-slab vapor from atmospheric air (a secondary modeling clay seal can also be placed around the PVC pipe after the cement cured);
  - Connect shop vacuum and perform shut-in test on PVC extraction assembly;
  - Turn on shop vacuum for duration of test;
  - Initiate Summa canister sample collection by opening the flow control valve and allow canister vacuum to drop from starting vacuum (approx. -28 to -30 inches of mercury) to finish vacuum (-3 to -4 inches of mercury);
  - Disconnect the Summa canister from the sampling port after the appropriate length of time based on the flow controller;
  - Install vacuum test points to check radius of influence after HPV sample collection is complete; and
  - Complete the chain of custody with information for each Summa canister and submit the samples to the project laboratory.

- Communication test points installed at varying distances from each HPV extraction point:
  - Drill a 1/4 to 3/8-inch diameter hole through the concrete floor slab at each test location;
  - Insert a section of 1/4 to 3/8-inch diameter nylon tubing into each hole and seal the tubing with modeling clay;
  - Measure vacuum pressure at the communication test ports with a micromanometer; and
  - Upon the completion of the testing, abandon each extraction point and communication test point by removing the testing equipment and seal the floor with concrete flush with the ground surface.

SOP 23: Lead-Based Paint Field Screening

Lead-Based Paint (LBP) field screening will be conducted in accordance with the U.S. Housing and Urban Development (HUD), Wisconsin Department of Natural Resources (WDNR), and the Wisconsin Department of Health Services (WDHS) regulations regarding LBP activities including, but not limited to inspection and assessment, renovation, abatement, and disposal. LBP inspections will be conducted by inspectors trained in the safe use of a Thermo Scientific Niton X-Ray florescence (XRF) instrument and certified by the State of Wisconsin. Sigma anticipates that LBP field screening using the XRF will be the only method utilized as a part of the assessment work conducted under the EPA grant. Field screening assessments will include the following activities:

- Upon arriving at the project site and if a prior site visit has not been conducted, the inspectors will conduct a facility walk through in order to visually assess the facility for potential health and safety hazards and gather additional information useful for evaluating environmental risks or hazards.

- During the walk through, the general layout of the building will be observed. If a detailed facility map is not available, the inspector will sketch the floor plan indicating room numbers or names and approximate dimensions. Rooms will be assigned a room number. In general, a room consists of any distinct area with a door or entry threshold. Larger areas may be broken down into more discrete sections depending upon the purpose of the assessment. First floor room number designations will begin with 100 and continue until every room on the first floor has been assigned a number. Second floor room designations will begin with 200 and continue until each room has been assigned a number. Basement room numbering will begin with B001. Subsequent floors will follow the same pattern.

- The number of samples evaluated using field XRF screening will depend on the purpose of the assessment, project scope of work, and site-specific conditions including accessibility and painted materials present. In general, the goal of the paint assessment is to determine the presence or absence of LBP.

- Calibration of the XRF instrument will be verified prior to and following the completion of site sampling in accordance with manufacturer recommendations. Excerpts of the XRF instrument operating instructions are included.

- A standard report format will document the completed activities and results to ensure accuracy and consistent quality.

Chapter 4 Pb Paint Mode

Using Pb Paint Mode

Your NITON XLp-300 Series Lead-in-Paint Analyzer is designed to detect and quantify the amount of lead present in painted surfaces. Your analyzer also tracks important information about your site readings using the integrated bar-code scanner or the analyzer's control panel.

Lead Paint inspection guidelines and protocols are specific to the country and state in which the testing is being performed. For the HUD testing guidelines and the NITON Analyzer Performance Characteristic Sheet (PCS), please go to www.hud.gov

The Pb Paint Mode Menu

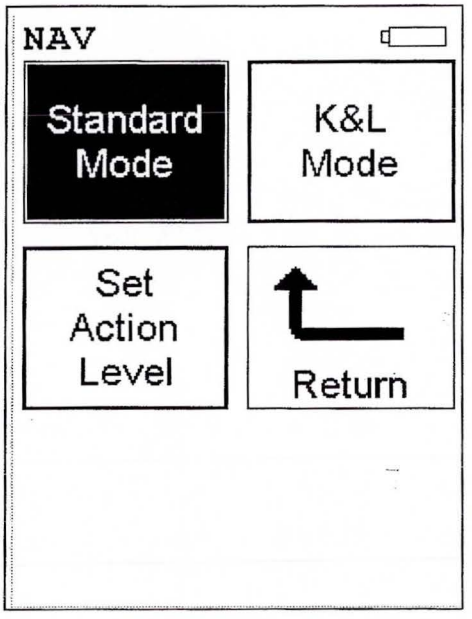
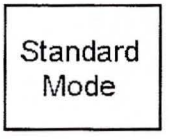
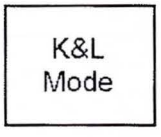


Figure 4-1. The Pb Paint Mode Menu

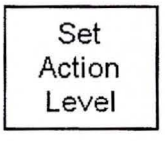
All NITON XLp-300 Series Lead-in-Paint Analyzer Mode functions are accessible from the Pb Paint Mode Menu and subsidiary menus. Each of the instrument functions represented by an icon on the **Pb Paint Mode Menu** screen may be selected by choosing the appropriate icon. When one of these **Pb Paint Mode Menu** icons is selected, the function specific sub-menu appropriate to that icon will be displayed.



The **Standard Mode** icon allows you to select the Lead-in-Paint **Standard Mode**. **Standard Mode** is the default mode selection, and uses only L-shell fluorescence for very fast readings.



The **K+L Mode** icon allows you to select the Lead-in-Paint K+L Mode. K+L Mode uses both the K and L-shell fluorescence for readings, and is better at detecting deeply buried lead paint layers.



The Set Action Level icon allows you to set the action level for Lead-in-Paint to match the official action level of your locality.

The Standard Mode Menu

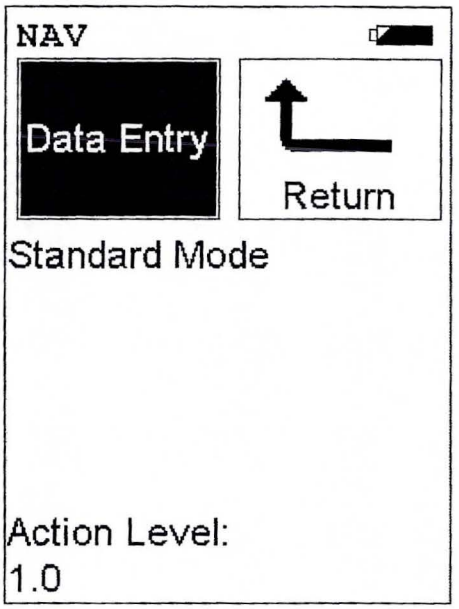
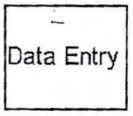


Figure 4-2. The Standard Mode Menu

All NITON XLp Standard Mode functions are accessible from the Standard Mode Menu and subsidiary sub-menus. From the **Standard Mode Menu**, you can immediately initiate a sample test using the proper preconditions for operation, enter data about your sample using the **Data Entry** icon, or return to the **Main Menu**.



Select the **Data Entry** icon from the **Standard Mode Menu**to go to the "The Data Entry Screens" on page 4-10, to input data about the sample which you are testing. The data you enter will be associated with the next sample you test.

The K+L Mode Menu

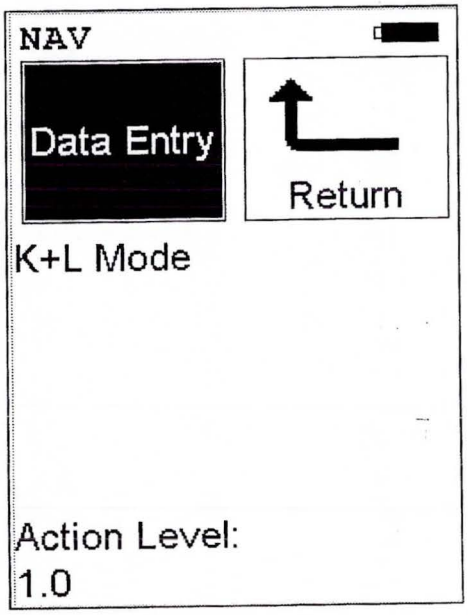


Figure 4-3. The K+L Mode menu

All NITON XLp K+L Mode functions are accessible from the K+L Mode Menu and subsidiary sub-menus. From the **K+L Mode Menu**, you can immediately initiate a sample test using the proper preconditions for operation, enter data about your sample using the **Data Entry** icon, or return to the **Main Menu**.



Select the **Data Entry** icon from the **K+L Mode Menu**to go to the "The Data Entry Screens" on page 4-10, to input data about the sample which you are testing. The data you enter will be associated with the next sample you test.

The Set Action Level Screen

The Set Action Level Screen is accessible from the Paint Mode Menu. When the Set Action Level icon is selected, the Set Action Level Screen will be displayed.

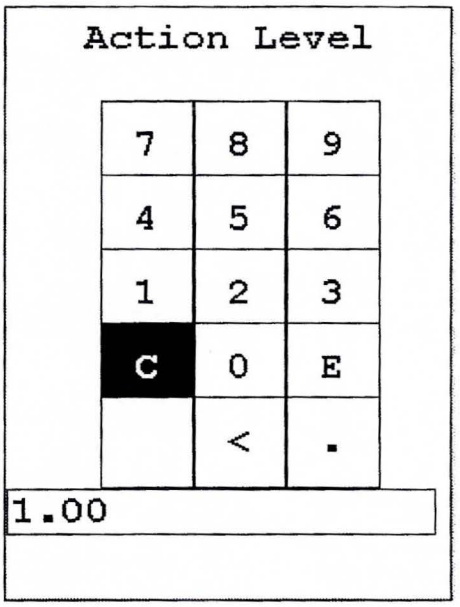


Figure 4-4. The Set Action Level Screen

To change the preset Action Level to match the Action Level set by your locality, select the "C" key from the Virtual Numeric Keypad to clear the current Action Level value, select the new Action Level value using the numeric keys, then select "E" to enter the new Action Level value. The Action Level will be changed to the new value.

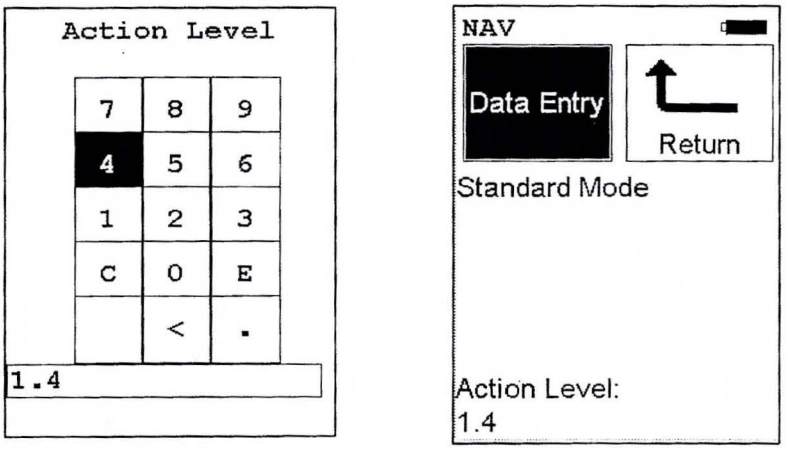


Figure 4-5. Changing the Action Level

Taking a Reading



CAUTION After being powered on, the NITON 300 Series Analyzer will perform an internal re-calibration before an analysis is initiated. It is recommended that you let your instrument warm up for ten minutes after start up, before testing is begun. ♦

There are five different methods of operation for taking a sample measurement, and your analyzer will be configured to use one of those methods, depending on the regulatory requirements of your locality. These methods are:

- Trigger-Only method. With the Trigger-Only method, you only need to place the measurement window close to the sample to be analyzed and pull the trigger for sample analysis to be initiated.
- Trigger-and-Proximity-Sensor method. With the Trigger-and-Proximity-Sensor method, you must place the measurement window against the sample to be analyzed to engage the proximity sensor on the front of the instrument, then pull the trigger for sample analysis to be initiated.
- Momentary-Trigger-Touch-and-Proximity-Sensor method. With the Momentary-Trigger-Touch-and-Proximity-Sensor method, you must place the measurement window against the surface to be analyzed to engage the proximity sensor on the front of the instrument, then pull the trigger.
- The trigger may be released and the reading will continue until you release the proximity button, or other criteria (such as Max Time) are reached.
- Trigger-and-Interlock method. With the Trigger-and-Interlock method, you need to place the measurement window close to the sample to be analyzed, press and keep pressing the interlock button at the rear of the instrument with your free hand, then pull the trigger for sample analysis to be initiated.
- Trigger-Interlock-and-Proximity-Sensor method. With the Trigger-Interlock-and-Proximity-Sensor method, you must place the measurement window against the sample to be analyzed to engage the proximity sensor on the front of the instrument, press and keep pressing the interlock button at the rear of the instrument with your free hand, then pull the trigger for sample analysis to be initiated.

With any of these methods, analysis will stop if any one of the preconditions are violated. For example, with the Trigger-Interlock-and-Proximity-Sensor method, if the trigger or the Proximity Sensor or the Interlock is released, the reading will stop immediately, and the shutters will close.

After your NITON XLp analyzer is calibrated, initiate a sample reading using the appropriate method. If you attempt to initiate a sample reading using a different method, the analyzer will inform you that one or more of the preconditions need to be met in order for sample analysis to begin.

Note The three LED lights will blink during calibration or whenever there is a shutter open. ♦



WARNING! The preconditions for operation must be continued for the duration of the reading. If the preconditions are violated, all the shutters will close, and the measurement will end. The three LED lights will stop blinking, the shutters will close, and the measurement will end. The flashing of the LED lights is not synchronized to minimize power consumption. ♦



WARNING! The three LED warning lights are designed to blink only during a measurement, where one or more of the shutters are open and the trigger depressed. If the LED lights blink at any other time, disconnect the battery pack immediately, place the instrument in its shielded holster, place the holster in the shielded carrying case, and call Thermo Electron Corporation's Service Department in the United States, toll free, at (800) 875-1578, or outside the United States, at +1-978-670-7460, or your local Authorized NITON Analyzers Service Center. ♦

Your NITON Analyzer will display the Results Screen throughout the duration of each reading, The Results Screen is updated regularly throughout the reading. When the reading is complete, a final screen update will appear, and your NITON analyzer will display the final results of the measurement which has just been completed.

Standard Mode Results Screen

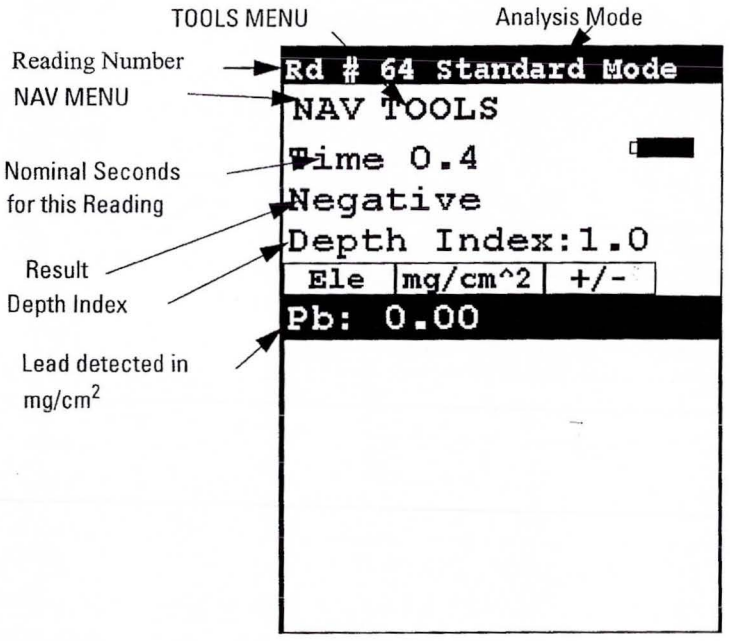


Figure 4-6. Standard Mode Results Screen

Before the analyzer has reached a determination, the result will be shown as "Inconclusive". Your analyzer will beep twice when a result is reached then terminate the reading. The display will change from "Inconclusive" to show the result, either "Positive" for lead detected above the action level, or "Negative" for no lead or lead below the action level. It will also display the amount of lead detected in mg/cm^2.

The Depth Index is a numerical value indicating the amount of non-leaded paint covering the lead (if any) detected by the analyzer.

- A Depth Index of less than 1.5 indicates a reading very near the surface.
- A Depth Index between 1.6 and 4.0 indicates a moderate depth.
- A Depth Index of greater than 4.0 indicates a deeply buried reading.

K+L Mode Results Screen

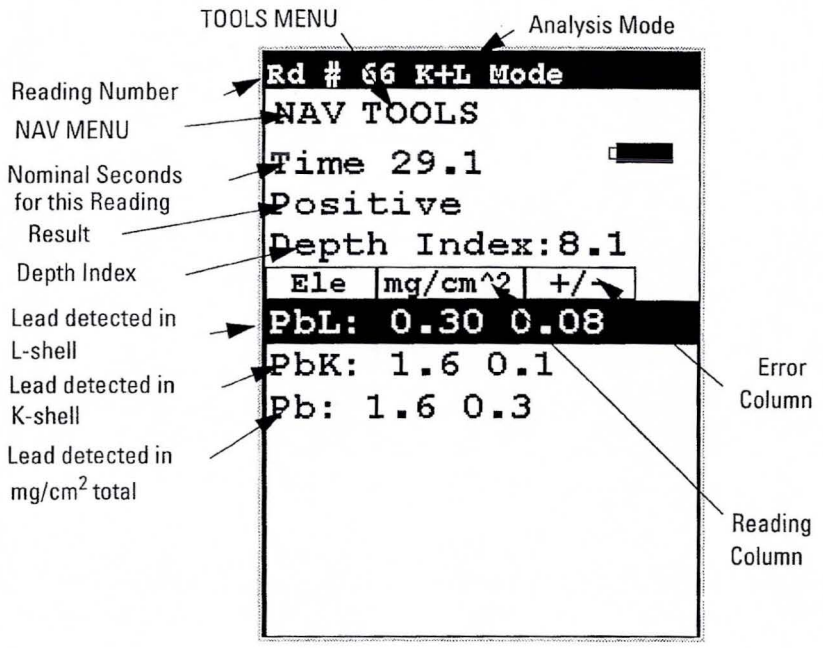


Figure 4-7. K+L Mode Results Screen

The K+L Mode Results Screen will show the same basic display throughout the reading. Your analyzer will beep twice to indicate it has reached a conclusion, and the Result field will change from "Inconclusive" to "Positive" or "Negative", but the reading will continue for as long as you continue to hold down the trigger and depress the Proximity Sensor.

The K+L Results Screen shows the reading results and error for both K and L-shell readings. The "Lead Detected in mg/cm^2 total" field is the result of the judgement of your analyzer as to which reading, K or L-shell, best represents the true condition.

The **Depth Index** is a numerical value indicating the amount of non-leaded paint covering the lead (if any) detected by the analyzer.

- A Depth Index of less than 1.5 indicates a reading very near the surface.
- A Depth Index between 1.6 and 4.0 indicates a moderate depth.
- A Depth Index of greater than 4.0 indicates a deeply buried reading.

The Data Entry Screens

The Data Entry Screens allow you to set the values for various parameters tracked by the system along with the actual analysis results. This screen allows you to input data in several different fields, or categories, concerning your sample, in several different ways:

- By selecting the Virtual Keyboard button and typing the parameter in using the **Virtual Keyboard**.
- By scanning in the parameter name using the integrated bar code scanner.
- By creating a new, or editing your analyzer's existing, '.ndf' file through the NDT program. You can then select from the various custom options you have created using the Drop-down List button.

These fields are saved along with the subsequent reading, and allow you to associate important information about the sample directly with the reading, so that you have a full description of the sample tied into the reading itself.

These parameters all describe the particular test target to be analyzed. The location of the target in the site, the type of target, the surface and substrate, the condition of the surface, and the inspector performing the test are some of the parameters tracked by the analyser.

Navigating the Data Entry Screen

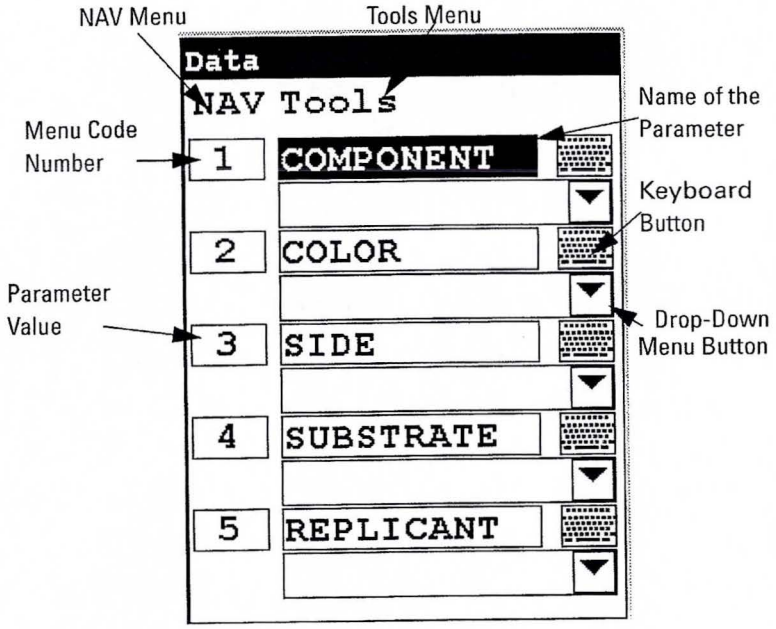


Figure 4-8. Navigating the Data Entry Screen

Above is a sample of the Data Entry Screen. To navigate through the Data Entry Screen and select your parameter settings, you can use the touch screen display or 4-way touch pad and control panel buttons.

Navigating the Data Entry Screen

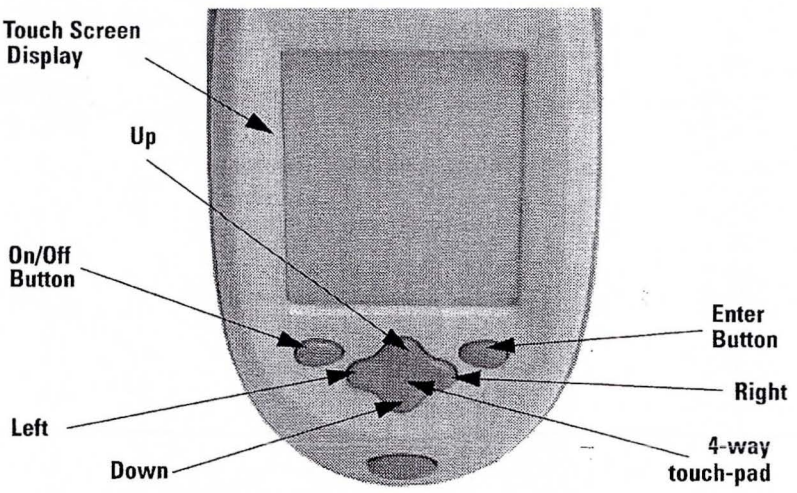


Figure 4-9. The Control Panel

The following description of screen navigation using the control panel assumes that the analyzer is held so that the display is held upright as in Figure 4-9.

- To move from column to column, use the Right and Left portion of the 4-way touch pad.
- To move from row to row, use the Up and Down portions of the 4-way touch pad.
- To select the highlighted option, press the Enter button on the control panel.

The *Data Entry* Screen is divided into sections of 5 setting parameters. By using the Down portion of the 4-way touch pad when you are on the last row of a section, the display will change to the next section. By using the Up portion of the 4-way touch pad when you are on the first row of a section, the display will change to the previous section.

By selecting the *On/Off* button, you can exit the *Data Entry* Screen.

Using The Data Entry Screen

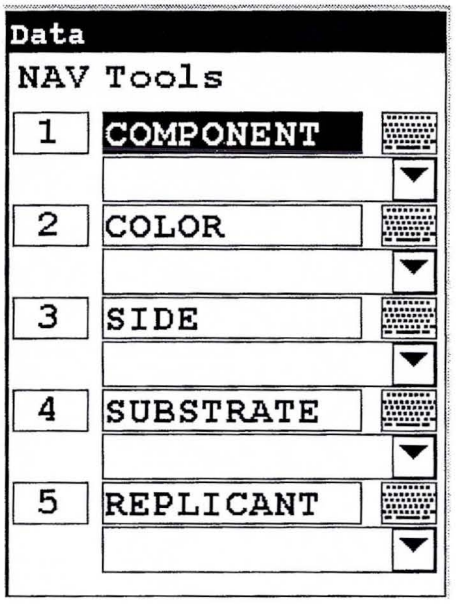


Figure 4-10. The Data Entry Screen - First Section

This is the first section of the Data Entry Screen. There are five parameters in this section.

- Selecting Component allows you to input the reading location Component parameter.
- Selecting Color allows you to input the reading location Color parameter.
- Selecting Side allows you to input the reading location Side parameter.
- Selecting Substrate allows you to input the reading Substrate parameter.
- Selecting Replicant allows you to input the reading Replicant parameter.

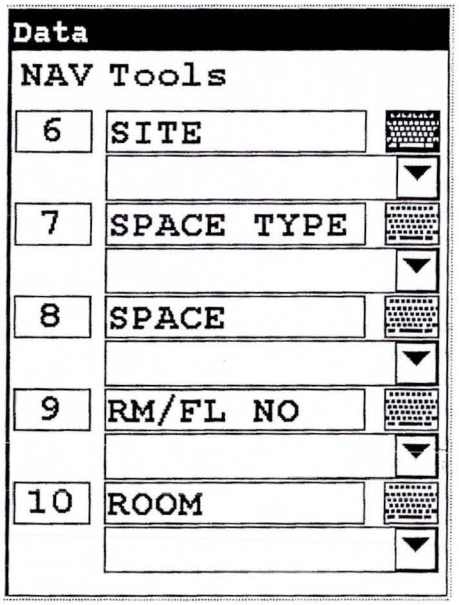


Figure 4-11. The Data Entry Screen - Second Section

This is the second section of the Data Entry Screen. There are five parameters in this section.

- Selecting Site allows you to input the reading Site parameter.
- Selecting Space Type allows you to input reading the reading location Space Type parameter.
- Selecting Space allows you to input the reading location Space parameter.
- Selecting Rm/Fl No allows you to input the reading location Rm/Fl No parameter.
- Selecting Room allows you to input the reading Room parameter.



Figure 4-12. The Data Entry Screen - Third Section

This is the third section of the Data Entry Screen. There is one parameter in this section.

- Selecting Inspector allows you to input the reading Inspector parameter.



- Selecting the Menu Code Number will initiate a bar code scan to input pre-printed bar code parameter values



- Selecting the Drop-Down Menu Button will access the particular Drop-Down Menu for that parameter, allowing you to select the parameter value from a pre-determined list.



- Selecting the Keyboard button allows you to input a parameter value as required using the Virtual Keyboard.

SOP 24: Asbestos-Related Bulk Material Sample Collection

Asbestos inspections will be completed in reasonably accessible areas of the site structure(s) in compliance with the U.S. Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants (U.S. EPA NESHAP), Wisconsin Department of Natural Resources, and local requirements for building renovation/demolition and management of associated demolition debris. The asbestos sampling will be performed by a State of Wisconsin certified asbestos inspector and will include the following activities:

- Upon arriving at the project site and if a prior site visit has not been conducted, the inspectors will conduct a facility walk through in order to visually assess the facility for homogeneous materials, potential health and safety hazards, and gather additional information useful for evaluating environmental risks or hazards.

- During the walk through, the general layout of the building will be observed. If a detailed facility map is not available, the inspector will sketch the floor plan indicating room numbers or names and approximate dimensions. Rooms will be assigned a room number. In general, a room consists of any distinct area with a door or entry threshold. Larger areas may be broken down into more discrete sections depending upon the purpose of the assessment. First floor room number designations will begin with 101 and continue until every room on the first floor has been assigned a number. Second floor room designations will begin with 201 and continue until each room has been assigned a number. Basement room numbering will begin with B001. Subsequent floors will follow the same pattern.

- Perform a visual assessment of all reasonably accessible areas within the project limits of the structure to identify suspect asbestos-containing building materials (ACBMs). Limited destructive investigation methods may be employed to identify additional materials not readily visible. It is assumed that restoration of destructive testing locations will not be required, excluding roofing materials, which will be field patched using non-asbestos-containing sealants.

- Collect bulk samples of all identified suspected ACBMs using appropriate sampling protocols. Samples will be submitted to a National Voluntary Laboratory Accreditation Program (NVLAP) and American Industrial Hygiene Association (AIHA) approved laboratory for asbestos content analysis by U.S. EPA polarized light microscopy (PLM) methodology. Samples identified as having less than 10 percent asbestos using PLM analysis may be further analyzed by point counting in accordance with U.S. EPA analysis methodology.

- Perform the physical assessment and provide documentation including the type, location, condition, and general quantities of identified ACBMs as well as a listing of all material sampled.

- Destructive sampling of the following building materials, if present, will not be conducted unless specifically instructed in writing by the client and current building owner:

    - Fire doors (metal clad)
    - Walk-in coolers and other refrigerated devices
    - HVAC vibration cloth
    - Energized electrical system components

  Evaluation of these materials and/or building systems would result in permanent damage. These materials should be evaluated based on the salvage plan prior to disturbing during demolition activities, as appropriate.

- Assessment of the exterior structure and roof may not be conducted in inclement weather if deemed to pose employee safety issues. Inclement weather may include but is not limited to electrical storms, conditions which may cause excessive wind, and blizzard or white-out conditions. Additionally, roof assessments may be limited due to snow and ice accumulation.

- Assessment of areas within or associated with the project building may not be conducted if deemed to be unsafe or pose employee safety issues. Unsafe conditions which may prevent assessment include but are not limited to structurally damaged roofing and load bearing systems and partial or entire building damage caused by fire, natural disaster, vandalism, or other damaging forces.

- Energized building systems will be assumed to contain asbestos during the assessment services. Energized building systems may include the following:

    - Electrical
    - Boiler/furnace heating
    - Mechanical (including but not limited to elevator, energized air handling units, and conveyors)

- An evaluation of the electrical system may only be conducted upon receipt of written documentation by the local electrical company confirming termination of electrical service to the structure has been completed. An evaluation of the electrical system will result in permanent damage to the electrical system. The structure's electrical system should not be energized following the asbestos assessment unless tested and approved by a certified electrician. A recommendation to inspect the electrical system(s) after de-energization and prior to demolition of the structure will be provided, as appropriate.

- An evaluation of the boiler/furnace heating and other mechanical systems can only be conducted upon receiving written authorization as assessment may result in permanent damage to the systems. The boiler/furnace heating and other mechanical

systems should not be energized following the asbestos assessment unless tested and approved by a certified technician. A recommendation to inspect the boiler/furnace or other mechanical systems after de-energization and prior to demolition of the structure will be provided, as appropriate.

- A standard report format will document the completed activities/sample locations and results to ensure accuracy and consistent quality.

SOP 25: Cleaning / Decontamination of Equipment

The specific decontamination procedures for soil, sediment, and groundwater sampling equipment will be followed in the field to prevent cross-contamination of samples. It is assumed that the Level D personal protection will be sufficient for this project. Sigma field personnel will wear a hard hat, steel-toed boots, and gloves. Disposable coveralls will be made available to field personnel if warranted or required by the site-specific Health & Safety Plan. The water used during the decontamination procedures will not be contained. During the initial investigation, disposable gloves and coveralls, paper towels, and disposable bailers will be placed in trash containers.

Personnel Decontamination
Field personnel will perform the following decontamination at the end of the workday and when leaving the contaminated area.

- Wash boots in Alconox solution, then rise with water. If disposable latex booties are worn over boots, rinse with Alconox solution, remove and discard.
- Wash outer gloves in Alconox solution, rinse, remove and discard.
- Remove disposable coveralls (e.g. Tyvek) and discard.
- Remove inner gloves and discard.
- At the end of the workday, shower entire body including hair at home.

Sampling Equipment Decontamination
The soil/ sediment sampling equipment (split-spoons, spatulas, etc.) will be decontaminated between each sample using the following procedures:

- Scrape soil/ sediment from sampler.
- Wash sampler in Alconox solution or equivalent.
- Rinse with tap water.
- Spray rinse with DI water.
- Place on plastic and allow to air dry or wipe with clean paper towel.

Monitoring Equipment Decontamination
Monitoring equipment (including water level indicator) will be decontaminated between sampling locations by the following procedures:

- Wipe all surfaces that had possible contact with soil, sediment, or groundwater with a paper towel dampened with Alconox solution.
- Wipe all surfaces with a paper towel dampened with DI water.

Drill Rig and Equipment Decontamination
The drill rig and drilling equipment such as augers and drill rods will be decontaminated between boring locations by washing surfaces that have been in contact with soil, sediment, or groundwater using a pressurized steam cleaner.

SOP 26: Chain of Custody

Custody procedures will be used to document the authenticity of data collected during the project. The data requiring custody procedures includes soil, sediment, groundwater, and vapor samples. The samples are considered in custody, if they are:

- In person's possession
- In view of the person after being in their possession
- Sealed in a manner that it cannot be tampered with after having been in physical possession
- In a secure area restricted to authorized personnel

A Chain of Custody form per project laboratory will be used to ensure proper custody of all samples collected and submitted for laboratory analysis.

Upon collection, soil, sediment, groundwater, and vapor samples will be cataloged on the appropriate Chain of Custody form using the unique sample identification codes. In addition, the date and time of collection, the number of containers for each type of sample, the type of sample preservation, and the type of analyses requested will be recorded on the Chain of Custody form.

Upon relinquishing the sample cooler to the project laboratory, Sigma field personnel will turn custody of the samples over to laboratory personnel by signing and dating the bottom of the Chain of Custody form. Sigma's data manager will retain one copy of the Chain of Custody form and the original will accompany the samples. The Chain of Custody forms will be sealed in a plastic bag and placed inside the sample cooler for transportation to the laboratory. A copy of the completed Chain of Custody form will be included with the laboratory report.

SOP 27: Investigative Derived Waste

Investigation-derived waste will be generated as a part of site investigation activities. Groundwater generated as a part of monitoring well development and purging will be drummed and temporarily staged pending receipt of groundwater analytical results. If based on the analytical results, the drummed water contains detectable concentrations of contaminants, the drummed groundwater will likely be disposed of at a licensed waste water treatment facility by a licensed waste hauler. If groundwater does not contain any detectable contaminants, it will be dispersed on site.

Soil cuttings generated during drilling will be drummed and staged on site pending receipt of laboratory results and subsequent approval for disposal at a licensed facility.

General sampling supplies including disposable bailers, tubing, Geoprobe sample liners, and plastic bags will be disposed of as general solid waste at a licensed disposal facility.

APPENDIX C

SOIL BORING LOGS

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-26

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48	PUSH	1	TOPSOIL, dark brown silty clay, medium stiff, moist, trace organics, trace glass fragments, trace sand				0.1						
			2	CLAY, light brown, medium stiff, moist, red-brown mottling										
			3					0.1						LAB SAMPLE (2-4') for VOCs
2 GP	48	PUSH	4	slightly grey-brown, petro odor, wet										
			5		CL			55						LAB SAMPLE (4-6') for VOCs
			6											
			7					48						
GP	24	PUSH	8	trace gravel, very slight petro odor										
			9					3.0						
			10	EOB @ 10' bgs, abandoned with bentonite chips										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [signature] Firm The Sigma Group
1300 W Canal St Milwaukee, WI 53233
Tel: 414-643-4200
Fax: 414-643-4210

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-27

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 44	PUSH	1	GRAVELLY SILT, black, moist, trace wood/organics, trace and, trace glass	ML									
				GRAVELLY SAND, light brown, dense, moist, trace silt	SW			1.1						
			2	CLAY, brown, light grey mottling, medium stiff, moist, petro odor										
			3					90						LAB SAMPLE (2-4') for VOCs
2 GP	48 48	PUSH	4	trace gravel										
			5					55						LAB SAMPLE (4-6') for VOCs
			6		CL									
			7					81						
GP	24	PUSH	8											recovery length not recorded
			9					1.2						
			10	EOB @ 10' bgs. Abandoned with bentonite chips										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel: 414-643-4200
	The Sigma Group 1300 W Canal St Milwaukee, WI 53233	Fax: 414-643-4210

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-28

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 43	PUSH	1	Organics, roots, black silt										
				SILTY GRAVEL, light to dark grey, dense, wet, trace sand	GM			1.1						
			2	CLAY, brown, stiff, moist	CL									
			3	SAND, medium, light tan, dense, moist	SP									
				CLAY, brown, stiff, moist				1.2						LAB SAMPLE (2-4') for VOCs
2 GP	48 46	PUSH	4	trace gravel										
			5					55						
			6	petro odor	CL									
			7					185						LAB SAMPLE (6-8') for VOCs
GP	24 24	PUSH	8	no petro odor										
			9					1.0						
			10	EOB @ 10' bgs. Abandoned with bentonite										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Firm: The Sigma Group, 1300 W Canal St Milwaukee, WI 53233 Tel: 414-643-4200 Fax: 414-643-4210

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-29

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 28	PUSH	1	CONCRETE										
				CLAYEY SAND, brown, dense, wet, much gravel	SC			0.9						
			2	CLAY, brown, stiff, moist, trace sand										
			3					1.4						LAB SAMPLE 2-4' for VOCs
2 GP	48 46	PUSH	4											
			5					2.6						
			6	slight petro odor	CL									
			7					19.0						LAB SAMPLE 6-8' for VOCs
GP	24 22	PUSH	8											
			9					1.7						
			10	EOB @ 10' bgs. Abandoned with bentonite										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: The Sigma Group, 1300 W Canal St Milwaukee, WI 53233 Tel: 414-643-4200 Fax: 414-643-4210

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-30

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location
Feet ☐ N ☐ E
Feet ☐ S ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 48	PUSH	1	CONCRETE										
				SANDY CLAY, dark brown, stiff, moist, much gravel	CL			1.0						
			2	CLAY, brown, medium stiff, moist, trace sand and gravel										
			3					1.1						LAB SAMPLE 2-4' for VOCs
2 GP	48 40	PUSH	4											
			5					1.2						
			6	color change to slight greyish brown, petro odor	CL									
			7					32						LAB SAMPLE 6-8' for VOCs
GP	24 24	PUSH	8	less petro odor										
			9					1.3						
			10	EOB @ 10' bgs. Abandoned with bentonite										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	The Sigma Group 1300 W Canal St Milwaukee, WI 53233	414-643-4200 Fax: 414-643-4210

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-31

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 32	PUSH	1	ASPHALT										
				SILTY GRAVEL, grey, dense, dry	GM			2.5						
			2	CLAY, dark brown, medium stiff, moist, trace gravel	CL									
				SAND, medium, loose, moist, trace silt	SP									
			3	CLAY brown, stiff, moist, trace gravel				1.8						LAB SAMPLE 2-4' for VOCs
2 GP	48 46	PUSH	4	reddish-brown										
			5					1.3						LAB SAMPLE 4-6' for VOCs
			6		CL									
			7					1.1						
GP	24	PUSH	8											no recovery length recorded
			9					0.9						
			10	EOB @ 10' bgs. Abandoned with bentonite chips.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: The Sigma Group, 1300 W Canal St Milwaukee, WI 53233 Tel: 414-643-4200 Fax: 414-643-4210

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-32

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 38	PUSH	1	ASPHALT										
				GRAVEL, grey, loose, dry, trace silt	GW			1.9						
			2	CLAY, dark brown, stiff, moist, trace silt	CL									
				CLAY, reddish brown, stiff, moist, trace gravel										
			3					1.7						LAB SAMPLE 2-4' for VOCs
2 GP	48 44	PUSH	4											
			5		CL			1.7						
			6											
			7					1.6						SAMPLE SAMPLE 6-8' for VOCs
				wet										
GP	24 24	PUSH	8	CLAYEY SAND, reddish brown, dense, wet, trace gravel										
			9		SC			0.9						
			10	EOB @ 10' bgs. Abandoned with bentonite chips										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm The Sigma Group
1300 W Canal St Milwaukee, WI 53233

Tel: 414-643-4200
Fax: 414-643-4210

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-33

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	848.3 Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 47	PUSH	1	ASPHALT										
				SILTY GRAVEL, grey, loose, dry	GM									
			2	CLAY, dark brown, stiff, moist, trace gravel reddish brown										LAB SAMPLE 2-4' for VOCs
2 GP	48 48	PUSH	4											
			5		CL									
			6											
			7											LAB SAMPLE 6-8' for VOCs
GP	24 5	PUSH	8											
			9	REFUSAL - LARGE COBBLE. EOB @ 9' bgs, abandoned with bentonite chips										refusal at 9' bgs, large cobble
			10											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel: 414-643-4200
	The Sigma Group 1300 W Canal St Milwaukee, WI 53233	Fax: 414-643-4210

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State of Wisconsin
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SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-34

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 45	PUSH	1	ASPHALT										
				SILTY GRAVEL, light grey	GM									
				SANDY CLAY, dark greyish brown, stiff, moist	CL			0.3						
			2											
			3	CLAY, reddish brown, stiff, moist, trace gravel, trace sand				1.3						LAB SAMPLE 2-4' for VOCs
2 GP	48 47	PUSH	4											
			5					1.0						
			6		CL									
			7	wet				1.3						LAB SAMPLE 6-8' for VOCs
				color change to dark grey										
GP	24 24	PUSH	8	wet, soft										
			9					1.0						
				SAND, brown, medium-coarse, dense, wet	SW									
			10	EOB @ 10' bgs. Abandoned with bentonite										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [signature] Firm The Sigma Group
1300 W Canal St Milwaukee, WI 53233
Tel: 414-643-4200
Fax: 414-643-4210

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Chilton Plating Co Inc		SGP-35

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Bob Horizon Const.			Geoprobe

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	2.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SW 1/4 of NE 1/4 of Section 18, T 18 N, R 20 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
408026300	Calumet	8	Chilton

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 39	PUSH	1	ASPHALT										
				SILTY GRAVEL, grey, dense, moist	GM			0.3						
			2	CLAY, dark grey, trace sand, trace gravel, medium stiff, moist										
			3					0.9						LAB SAMPLE 2-4' for VOCs
2 GP	48 43	PUSH	4											
			5					1.2						
			6		CL									
				light tannish grey, trace organics (roots), wet										
			7					1.1						LABS SAMPLE 6-8 for VOCs
GP	24 24	PUSH	8											
			9					0.8						
			10	EOB @ 10' bgs. Abandoned with bentonite chips										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [signature] Firm The Sigma Group
1300 W Canal St Milwaukee, WI 53233
Tel: 414-643-4200
Fax: 414-643-4210

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

APPENDIX D

BOREHOLE ABANDONMENT FORMS

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

SGP-26

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Lattitude / Longitude (Degrees and Minutes) — Method Code (see instructions)
° ' " 'N
° ' " 'W

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street

Well City, Village or Town | Well ZIP Code

Subdivision Name | Lot #

Reason For Removal From Service: Investigation Complete

WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc

Facility ID (FID or PWS): 408026300

License/Permit/Monitoring #

Original Well Owner

Present Well Owner

Mailing Address of Present Owner

City of Present Owner	State	ZIP Code
Chilton	WI	

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)? | Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured ☒ Other (Explain) Gravity Poured
(Bentonite Chips) Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Horizon Cost.		3/20/2018

Street or Route	Telephone Number
764 Tower Drive	(262) 692-3347

City	State	ZIP Code
Fredonia	WI	

Signature of Person Doing Work

Date Signed: 5/2/2018

DNR Use Only

Date Received	Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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☐ Verification Only of Fill and Seal

SGP-27

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Lattitude / Longitude (Degrees and Minutes) — Method Code (see instructions)
° ' " 'N
° ' " 'W

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street

Well City, Village or Town | Well ZIP Code

Subdivision Name | Lot #

Reason For Removal From Service: Investigation Complete

WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc

Facility ID (FID or PWS): 408026300

License/Permit/Monitoring #

Original Well Owner

Present Well Owner

Mailing Address of Present Owner

City of Present Owner: Chilton | State: WI | ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)? | Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain) Gravity Poured Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Horizon Cost.		3/20/2018

Street or Route: 764 Tower Drive
Telephone Number: (262) 692-3347

City: Fredonia | State: WI | ZIP Code

Signature of Person Doing Work

Date Signed: 5/2/19

DNR Use Only

Date Received	Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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☐ Verification Only of Fill and Seal

SGP-28

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Lattitude / Longitude (Degrees and Minutes) | Method Code (see instructions)
° ' " 'N
° ' " 'W

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street

Well City, Village or Town	Well ZIP Code

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Investigation Complete	

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc
Facility ID (FID or PWS): 408026300
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code
Chilton	WI	

3. Well / Drillhole / Borehole Information

☐ Monitoring Well ☐ Water Well ☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured ☒ Other (Explain) Gravity Poured
(Bentonite Chips) Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Horizon Cost.		3/20/2018

Street or Route	Telephone Number
764 Tower Drive	(262) 692-3347

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Fredonia	WI			5/2/19

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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☐ Verification Only of Fill and Seal

SGP-29

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Lattitude / Longitude (Degrees and Minutes) — Method Code (see instructions)
° ' " 'N
° ' " 'W

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street

Well City, Village or Town	Well ZIP Code

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Investigation Complete	

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc
Facility ID (FID or PWS): 408026300
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code
Chilton	WI	

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain) Gravity Poured Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Horizon Cost.		3/20/2018

Street or Route	Telephone Number
764 Tower Drive	(262) 692-3347

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Fredonia	WI			5/2/19

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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☐ Verification Only of Fill and Seal

SGP-30

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County: Calumet
WI Unique Well # of Removed Well:
Hicap #:
Lattitude / Longitude (Degrees and Minutes): ° ' " 'N / ° ' " 'W
Method Code (see instructions):
¼ / ¼ SW | ¼ NE | Section: 18 | Township: 18 | Range: 20 ☒ E ☐ W
or Gov't Lot #:
Well Street Address: 415 E Main Street
Well City, Village or Town:
Well ZIP Code:
Subdivision Name:
Lot #:
Reason For Removal From Service: Investigation Complete
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc
Facility ID (FID or PWS): 408026300
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:
City of Present Owner: Chilton | State: WI | ZIP Code:

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole
Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft):
Casing Diameter (in.):
Lower Drillhole Diameter (in.): 2.0
Casing Depth (ft.):
Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown
If yes, to what depth (feet)?
Depth to Water (feet):

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain) Gravity Poured Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)	DNR Use Only: Date Received	Noted By
Horizon Cost.		3/20/2018		
Street or Route: 764 Tower Drive		Telephone Number: (262) 692-3347	Comments:	
City: Fredonia	State: WI	ZIP Code:	Signature of Person Doing Work	Date Signed: 5/2/19

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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☐ Verification Only of Fill and Seal

SGP-31

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Lattitude / Longitude (Degrees and Minutes) | Method Code (see instructions)
° ' " 'N
° ' " 'W

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street

Well City, Village or Town	Well ZIP Code

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Investigation Complete	

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc
Facility ID (FID or PWS): 408026300
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code
Chilton	WI	

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain) Gravity Poured Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Horizon Cost.		3/20/2018

Street or Route	Telephone Number
764 Tower Drive	(262) 692-3347

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Fredonia	WI			5/2/19

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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☐ Verification Only of Fill and Seal

SGP-32

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Lattitude / Longitude (Degrees and Minutes) — Method Code (see instructions)
° ' " 'N
° ' " 'W

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street

Well City, Village or Town	Well ZIP Code

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Investigation Complete	

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc
Facility ID (FID or PWS): 408026300
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code
Chilton	WI	

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain) Gravity Poured Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Horizon Cost.		3/20/2018

Street or Route	Telephone Number
764 Tower Drive	(262) 692-3347

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Fredonia	WI			5/2/19

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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☐ Verification Only of Fill and Seal

SGP-33

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Lattitude / Longitude (Degrees and Minutes) | Method Code (see instructions)
° ' " 'N
° ' " 'W

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street

Well City, Village or Town	Well ZIP Code

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Investigation Complete	

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc
Facility ID (FID or PWS): 408026300
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code
Chilton	WI	

3. Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Drillhole / Borehole

Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain) Gravity Poured Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	9.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Horizon Cost.		3/20/2018

Street or Route	Telephone Number
764 Tower Drive	(262) 692-3347

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Fredonia	WI			5/2/18

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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SGP-34

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment ☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Latitude / Longitude (Degrees and Minutes) ° ' " 'N ° ' " 'W — Method Code (see instructions)

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street

Well City, Village or Town | Well ZIP Code

Subdivision Name | Lot #

Reason For Removal From Service: Investigation Complete | WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc

Facility ID (FID or PWS): 408026300

License/Permit/Monitoring #

Original Well Owner

Present Well Owner

Mailing Address of Present Owner

City of Present Owner: Chilton | State: WI | ZIP Code

3. Well / Drillhole / Borehole Information

☐ Monitoring Well ☐ Water Well ☒ Drillhole / Borehole

Original Construction Date

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug ☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)? | Depth to Water (feet)

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain) Gravity Poured Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)	DNR Use Only: Date Received	Noted By
Horizon Cost.		3/20/2018		
Street or Route		**Telephone Number**	**Comments**	
764 Tower Drive		(262) 692-3347		
City	**State**	**ZIP Code**	**Signature of Person Doing Work**	**Date Signed**
Fredonia	WI			5/2/19

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing
Form 3300-5 (R 4/08) Page 1 of 2

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SGP-35

Route to:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Calumet		

Latitude / Longitude (Degrees and Minutes): ° ' " 'N ; ° ' " 'W
Method Code (see instructions):

¼ / ¼ SW	¼ NE	Section	Township	Range
or Gov't Lot #		18	18	20 ☒ E ☐ W

Well Street Address: 415 E Main Street
Well City, Village or Town:
Well ZIP Code:
Subdivision Name:
Lot #:
Reason For Removal From Service: Investigation Complete
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Chilton Plating Co Inc
Facility ID (FID or PWS): 408026300
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:
City of Present Owner: Chilton
State: WI
ZIP Code:

3. Well / Drillhole / Borehole Information

☐ Monitoring Well ☐ Water Well ☒ Drillhole / Borehole
Original Construction Date:
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug ☒ Other (Specify) Direct Push (Geoprobe)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft)	Casing Diameter (in.)
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2.0	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown
If yes, to what depth (feet)?
Depth to Water (feet):

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☒ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source	☐ Yes	☒ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) ☒ Other (Explain) Gravity Poured Bentonite

Sealing Materials
☐ Neat Cement Grout ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☐ Bentonite Chips ☐ Bentonite - Cement Grout
☒ Granular Bentonite ☒ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	10.0	0.2	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)	DNR Use Only: Date Received	Noted By
Horizon Cost.		3/20/2018		
Street or Route: 764 Tower Drive		Telephone Number: (262) 692-3347	Comments:	
City: Fredonia	State: WI	ZIP Code:	Signature of Person Doing Work: John	Date Signed: 5/2/18

APPENDIX E

SOIL DATA FROM PREVIOUS INVESTIGATIONS

Table E.1
Historic Soil Analytical Data
Chilton Plating - 420 E. Main Street, Chilton, Wisconsin
Sigma Project No. 14943

Soil Sample Location:		B-1				B-2				B-3				B-4				Groundwater Pathway RCL [4]	Industrial Direct Contact RCL [6]
Sample Depth (feet bgs):		0-1	1-2	2-3	3-4	0-1	1-2	2-3	3-4	0-1	1-2	2-3	3-4	0-1	1-2	2-3	3-4		
Sample Collection Date:		9/21/88	9/21/88	9/1/88	9/1/88	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988		
Depth to Groundwater (feet bgs):		4	4	4	4	4.5	4.5	4.5	4.5	2.1	2.1	2.1	2.1	7.0	7.0	7.0	7.0		
PVOCs & Detected VOCs																			
Benzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	7,410
Bromobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	679,000
Bromodichloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	1,960
Bromoform	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	218,000
tert-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	183,000
sec-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	145,000
n-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	108,000
Carbon tetrachloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.9	4,250
Chlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	761,000
Chloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	226.6	NS
Chloroform	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3	2,130
Chloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.5	720,000
2-Chlorotoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	907,000
4-Chlorotoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	253,000
1,2-Dibromo-3-chloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	99
Dibromochloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32	4,400
1,4-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	144	17,500
1,3-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,152.2	297,000
1,2-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,168	376,000
Dichlorodifluoromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,086.3	571,000
1,2-Dichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.8	3,030
1,1-Dichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	482.8	23,700
1,1-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	58.8	976,000
1,2-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3	6,620
2,2-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	527,000
1,3-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	1,490,000
Di-isopropyl Ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,260,000
EDB (1,2-Dibromoethane)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0282	230
Ethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,570	37,000
Hexachlorobutadiene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	22,100
Isopropylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
p-Isopropyltoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	162,000
Methylene chloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.6	1,070,000
Methyl-tert-butyl-ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	293,000
Naphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	658.2	26,000
n-Propylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	264,000
1,1,2,2-Tetrachloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	3,690
1,1,1,2-Tetrachloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53.4	12,900
Tetrachloroethene (PCE)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.5	153,000
Toluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,107.2	818,000
1,2,4-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	408	98,700
1,2,3-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	493,000
1,1,1-Trichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	140.2	640,000
1,1,2-Trichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.2	7,340
Trichloroethene (TCE)	µg/kg	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	3.6	8,810
Trichlorofluoromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	1,230,000
1,2,4-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,382.1	219,000
1,3,5-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		182,000
Vinyl Chloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	2,030
Xylenes (total)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,940	258,000
Metals																			
Cadmium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.752	799
Chromium	mg/kg	433	78.7	66	27.2	165	38.7	24.6	34.1	48.5	464	121	NA	177	70.1	28.3	10	360,000	NS
Cyanide	mg/kg	1.10	**5.20**	0.80	0.60	**9.60**	< 0.500	< 0.500	2.10	**21**	< 0.500	< 0.500	NA	**4.90**	< 0.500	0.60	< 0.500	4	179
Iron	mg/kg	16335	8708	7000	5433	25678	17650	9733	10148	41152	13011	11517	NA	12956	12311	7845	5119	NS	100,000
Nickel	mg/kg	**869**	**176**	**158**	**52.3**	**671**	**138**	**87.8**	**277**	**[51698]**	**702**	**393**	NA	**1128**	**159**	**69**	**23.5**	13.1	19,800
Zinc	mg/kg	423	70.2	45	30.9	484	116	62	84.6	4372	246	75.8	NA	672	194	52.3	21	NS	100,000
Tin	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	100,000

Notes:

1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, (2) soil moisture conditions recorded on soil boring logs, and/or (3) soil moisture contents reported on laboratory analytical reports.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2014) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
7. NS = no standard established
8. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
   Enter other flags as necessary
9. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
   [ ] = Concentration exceeds Non-Industrial OR Industrial Direct Contact RCL (unsaturated soil samples only)

Table E.1
Historic Soil Analytical Data
Chilton Plating - 420 E. Main Street, Chilton, Wisconsin
Sigma Project No. 14943

Soil Sample Location:		B-5		B-6		B-7		B-8		B-9		B-10		B-11		B-12		Groundwater Pathway RCL [4]	Industrial Direct Contact RCL [5]
Sample Depth (feet bgs):		0-1	1-2	0-1	1-2	0-1	1-2	0-1	1-2	0-1	1-2	4-6	8-10	2-4	8-10	2-4	8-10		
Sample Collection Date:		9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	9/21/1988	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992		
Depth to Groundwater (feet bgs):		DRY	DRY	DRY	DRY	4.5	4.5	4.5	4.5	2.1	2.1	NA	NA	NA	NA	NA	NA		
PVOCs & Detected VOCs																			
Benzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	<5	<5	5.1	7,410
Bromobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	NS	679,000
Bromodichloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10	0.3	1,960
Bromoform	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6	<6	<6	<6	<6	<6	2.3	218,000
tert-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	NS	183,000
sec-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20 J	<20	<20	<20	<20	<20	NS	145,000
n-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20 J	<20 J	<20	<20	<20	<20	NS	108,000
Carbon tetrachloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	<5	<5	3.9	4,250
Chlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12	<12	<12	<12	<12	<12	NS	761,000
Chloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12	<12	<12	<12	<12	<12	226.6	NS
Chloroform	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10	3.3	2,130
Chloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<16	<16	<16	<16	<16	<16	15.5	720,000
2-Chlorotoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	NS	907,000
4-Chlorotoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	NS	253,000
1,2-Dibromo-3-chloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	0.2	99
Dibromochloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	32	4,400
1,4-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10	144	17,500
1,3-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<14 J	<14	<14	<14	<14	<14	1,152.2	297,000
1,2-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<14	<14	<14	<14	<14	<14	1,168	376,000
Dichlorodifluoromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	<5	<5	3,086.3	571,000
1,2-Dichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 J	<5 J	<5 J	<5 J	<5 J	6	2.8	3,030
1,1-Dichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<24	<24	<24	<24	<24	<24	482.8	23,700
1,1-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<8	<8	<8	<8	<8	<8	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20 J	<20	<20	<20	<20	<20 J	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10 J	58.8	976,000
1,2-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10	3.3	6,620
2,2-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	87	NS	527,000
1,3-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	0.3	1,490,000
Di-isopropyl Ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,260,000
EDB (1,2-Dibromoethane)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	0.0282	230
Ethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	1,570	37,000
Hexachlorobutadiene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20 J	<20 J	<20	<20	<20	<20	NS	22,100
Isopropylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	NS	NS
p-Isopropyltoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20 J	<20 J	<20	<20	<20	<20	NS	162,000
Methylene chloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**53**	<28 J	<28 J	<28 J	<28 J	<28 J	2.6	1,070,000
Methyl-tert-butyl-ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	293,000
Naphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	658.2	26,000
n-Propylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	NS	264,000
1,1,2,2-Tetrachloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<8	<8	<8	<8	<8	<8	0.2	3,690
1,1,1,2-Tetrachloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	53.4	12,900
Tetrachloroethene (PCE)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<22	<22	<22	<22	<22 J	<22 J	4.5	153,000
Toluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	11	9	12	15	14	1,107.2	818,000
1,2,4-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20	408	98,700
1,2,3-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20 J	<20	<20	<20	<20	<20 J	NS	493,000
1,1,1-Trichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6	<6	<6	<6	<6	<6	140.2	640,000
1,1,2-Trichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10	3.2	7,340
Trichloroethene (TCE)	µg/kg	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	**18**	<6	<6	<6	**1,002**	**780**	3.6	8,810
Trichlorofluoromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10	NS	1,230,000
1,2,4-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	<5 J	<5	<5	<5 J	<5 J	1,382.1	219,000
1,3,5-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 J	<5 J	<5	<5	<5	<5		182,000
Vinyl Chloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	<5	<5	<5	<5	<5	0.1	2,030
Xylenes (total)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	8	7	10	<10 J	14	3,940	258,000
Metals																			
Cadmium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14	0.09	0.29	<0.11	0.54	0.14	0.752	799
Chromium	mg/kg	36.3	19.4	63.5	17.7	4248	184	260	96.4	63	998	15	11	7	12	49	108	360,000	NS
Cyanide	mg/kg	< 0.500	< 0.500	**4.10**	**4.10**	**95.40**	**95.40**	**11.50**	< 0.500	0.7	**12.10**	<1.08	2.63	**5.03**	**7.83**	1.78	<0.521	4	179
Iron	mg/kg	9278	15706	6352	15837	75220	7.9	13341	16419	20073	9205	12000	12000	6100	10000	12000	10000	NS	100,000
Nickel	mg/kg	**57.7**	**17.4**	**216**	13	**15841**	**967**	**633**	**389**	**721**	**1348**	13	10	9	13	10	12	13.1	19,800
Zinc	mg/kg	134	133	159	54.8	8407	11226	207	689	593	442	23	39	99	29	115	27	NS	100,000
Tin	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<23	<18	<23	<21	<19	<22	NS	100,000

Notes:

1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, (2) soil moisture conditions recorded on soil boring logs, and/or (3) soil moisture contents reported on laboratory analytical reports.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2014) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
7. NS = no standard established
8. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
   Enter other flags as necessary
9. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
   [ ] = Concentration exceeds Non-Industrial OR Industrial Direct Contact RCL (unsaturated soil samples only)
10. Methylene chloride was identified in the blank sample analyzed during the 5/26/1992 sampling event, indicating possilbe contamination of these samples from an outside source

Table E.1
Historic Soil Analytical Data
Chilton Plating - 420 E. Main Street, Chilton, Wisconsin
Sigma Project No. 14943

Soil Sample Location:		B-14		B-15		B-18		MW-1		MW-2			MW-3			MW-4		Groundwater	Industrial
Sample Depth (feet bgs):		8-10	10-12	2-4	8-10	4-6	8-10	8-10	12-14	2-4	8-10	8-10 DUP	8-10	8-10 DUP	10-12	8-10	12-14	Pathway	Direct Contact
Sample Collection Date:		5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	RCL [4]	RCL [5]
Depth to Groundwater (feet bgs):		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
PVOCs & Detected VOCs																			
Benzene	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 J	<5	5.1	7,410
Bromobenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	679,000
Bromodichloromethane	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	0.3	1,960
Bromoform	µg/kg	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	2.3	218,000
tert-Butylbenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	183,000
sec-Butylbenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	145,000
n-Butylbenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20 J	<20	<20	<20	<20	NS	108,000
Carbon tetrachloride	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	3.9	4,250
Chlorobenzene	µg/kg	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	NS	761,000
Chloroethane	µg/kg	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	226.6	NS
Chloroform	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	3.3	2,130
Chloromethane	µg/kg	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	15.5	720,000
2-Chlorotoluene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	907,000
4-Chlorotoluene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	253,000
1,2-Dibromo-3-chloropropane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	0.2	99
Dibromochloromethane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	32	4,400
1,4-Dichlorobenzene	µg/kg	<10 J	<10	<10	<10	<10	<10	<10	<10	101	64	<10	26	<10	<10	80	<10	144	17,500
1,3-Dichlorobenzene	µg/kg	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	1,152.2	297,000
1,2-Dichlorobenzene	µg/kg	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	<14	1,168	376,000
Dichlorodifluoromethane	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	3,086.3	571,000
1,2-Dichloroethane	µg/kg	<5 J	<5 J	6	<5 J	<5 J	6	<5 J	<5 J	<5 J	7	<5 J	6	<5 J	<5 J	<5 J	<5 J	2.8	3,030
1,1-Dichloroethane	µg/kg	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	<24	482.8	23,700
1,1-Dichloroethene	µg/kg	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	<20	<20	<20	<20 J	<20	<20	<20	<20	<20	<20	<20	<20	<20 J	<20 J	<20	<20 J	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	58.8	976,000
1,2-Dichloropropane	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	3.3	6,620
2,2-Dichloropropane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20 J	<20	<20 J	<20	<20 J	<20	<20	<20	<20	NS	527,000
1,3-Dichloropropane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	0.3	1,490,000
Di-isopropyl Ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,260,000
EDB (1,2-Dibromoethane)	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	0.0282	230
Ethylbenzene	µg/kg	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	18	20	<5 J	<5 J	<5 J	8	<5 J	1,570	37,000
Hexachlorobutadiene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20 J	<20	<20	<20	<20	NS	22,100
Isopropylbenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20 J	<20 J	<20	<20	<20	<20	<20	NS	NS
p-Isopropyltoluene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20 J	<20	<20	<20	<20	NS	162,000
Methylene chloride	µg/kg	<28 J	<28 J	<28 J	<28 J	<28 J	<28 J	<28 J	<28 J	<28 J	<28 J	<28 J	33	<28 J	<28 J	<28 J	<28 J	2.6	1,070,000
Methyl-tert-butyl-ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	293,000
Naphthalene	µg/kg	<20	27	<20	703	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	658.2	26,000
n-Propylbenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NS	264,000
1,1,2,2-Tetrachloroethane	µg/kg	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	0.2	3,690
1,1,1,2-Tetrachloroethane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	53.4	12,900
Tetrachloroethene (PCE)	µg/kg	<22	<22	<22 J	32	31	95	<22	<22	<22 J	<22 J	<22 J	<22	10	27	<22	130	4.5	153,000
Toluene	µg/kg	<5 J	15	11	13	12	13	12	11	15	12	14	14	12	12	13	11	1,107.2	818,000
1,2,4-Trichlorobenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	408	98,700
1,2,3-Trichlorobenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20 J	<20 J	<20	<20	<20	<20	NS	493,000
1,1,1-Trichloroethane	µg/kg	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	140.2	640,000
1,1,2-Trichloroethane	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	3.2	7,340
Trichloroethene (TCE)	µg/kg	<6	<6	72	15	<6 J	28	<6	<6	38	31	23	77	20	12	<6	107	3.6	8,810
Trichlorofluoromethane	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NS	1,230,000
1,2,4-Trimethylbenzene	µg/kg	<5 J	<5 J	<5 J	<5	<5	<5	<5	<5	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5	<5	1,382.1	219,000
1,3,5-Trimethylbenzene	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 J	<5 J	<5	<5	<5	<5		182,000
Vinyl Chloride	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.1	2,030
Xylenes (total)	µg/kg	7	8	<10 J	10	7	6	17	48	19	73	70	6	6	<10 J	59	10	3,940	258,000
Metals																			
Cadmium	mg/kg	0.18	0.13	0.25	0.18	0.28	0.16	<0.11	<0.10	14	<0.12	0.15	<0.10	0.17	<0.10	<0.11	<0.11	0.752	799
Chromium	mg/kg	14.00	13.00	17	16	46	14	12	6	580	9.30	11	45	14	33	13	5	360,000	NS
Cyanide	mg/kg	<0.578	0.85	1.03	<0.61	<0.65	1.13	1.73	1.44	8.59	0.77	1.28	<0.628	0.32	<0.637	3.40	2.16	4	179
Iron	mg/kg	9300	9700	11000	10000	16000	11000	10000	5600	8500	8100	8000	13000	11000	5600	10000	4900	NS	100,000
Nickel	mg/kg	16	13	16	40	261	13	14	6	1575	7.7	13	12	12	6	14	6.20	13.1	19,800
Zinc	mg/kg	33	30	26	32	30	29	18	7	359	19.00	21	23	24	11	20	10	NS	100,000
Tin	mg/kg	<19	<22	<22	<17	<23	<23	<21	<20	<22	<24	<18	<21	<20	<20	<21	<23	NS	100,000

Notes:

1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, (2) soil moisture conditions recorded on soil boring logs, and/or (3) soil moisture contents reported on laboratory analytical reports.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2014) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
7. NS = no standard established
8. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
   Enter other flags as necessary
9. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
   [ ] = Concentration exceeds Non-Industrial OR Industrial Direct Contact RCL (unsaturated soil samples only)
10. Methylene chloride was identified in the blank sample analyzed during the 5/26/1992 sampling event, indicating possilbe contamination of these samples from an outside source

Table E.1
Historic Soil Analytical Data
Chilton Plating - 420 E. Main Street, Chilton, Wisconsin
Sigma Project No. 14943

Soil Sample Location:		MW-6		MW-7			MW-8		MW-9		GS-1			GS-2					
Sample Depth (feet bgs):		4-6	8-10	2-4	8-10	8-10 DUP	4-6	8-10	4-6	8-10	11-13	13-15	13-15 DUP	0-2	2-4	2-4 DUP	10-12	Groundwater	Industrial
Sample Collection Date:		5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	5/26/1992	1995	1995	1995	1995	1995	1995	1995	Pathway	Direct Contact
Depth to Groundwater (feet bgs):		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	RCL [4]	RCL [6]
PVOCs & Detected VOCs																			
Benzene	µg/kg	<5	<5	<5	<5 J	<5	**15**	<5	**6**	<5 J	1.2	< 1	< 1	< 1	< 1	< 1	< 1	5.1	7,410
Bromobenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	679,000
Bromodichloromethane	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	0.3	1,960
Bromoform	µg/kg	<6	<6	<6	<6	<6	<6	<6	<6	<6	NA	NA	NA	NA	NA	NA	NA	2.3	218,000
tert-Butylbenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	183,000
sec-Butylbenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	145,000
n-Butylbenzene	µg/kg	<20	<20	<20	<20	<20	<20 J	<20	<20 J	<20 J	NA	NA	NA	NA	NA	NA	NA	NS	108,000
Carbon tetrachloride	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	3.9	4,250
Chlorobenzene	µg/kg	<12	<12	<12	<12	<12	<12	53	<12	<12	NA	NA	NA	NA	NA	NA	NA	NS	761,000
Chloroethane	µg/kg	<12	<12	<12	<12	<12	<12	<12	<12	<12	NA	NA	NA	NA	NA	NA	NA	226.6	NS
Chloroform	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10 J	<10	NA	NA	NA	NA	NA	NA	NA	3.3	2,130
Chloromethane	µg/kg	<16	<16	<16	<16	<16	<16	<16	<16	<16	NA	NA	NA	NA	NA	NA	NA	15.5	720,000
2-Chlorotoluene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20 J	<20 J	NA	NA	NA	NA	NA	NA	NA	NS	907,000
4-Chlorotoluene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	253,000
1,2-Dibromo-3-chloropropane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	0.2	99
Dibromochloromethane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	32	4,400
1,4-Dichlorobenzene	µg/kg	23	18	<10	21	<10 J	12	68	<10	<10	NA	NA	NA	NA	NA	NA	NA	144	17,500
1,3-Dichlorobenzene	µg/kg	<14	<14	<14	<14	<14	<14	<14	<14	<14	NA	NA	NA	NA	NA	NA	NA	1,152.2	297,000
1,2-Dichlorobenzene	µg/kg	<14	<14	<14	<14	<14	<14	<14	<14	<14	NA	NA	NA	NA	NA	NA	NA	1,168	376,000
Dichlorodifluoromethane	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	3,086.3	571,000
1,2-Dichloroethane	µg/kg	6	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	**15**	<5 J	2.7	< 1	< 1	< 1	< 1	< 1	< 1	2.8	3,030
1,1-Dichloroethane	µg/kg	<24	<24	<24	<24	<24	<24	<24	<24	<24	NA	NA	NA	NA	NA	NA	NA	482.8	23,700
1,1-Dichloroethene	µg/kg	<8	<8	<8	<8	<8	<8	<8	<8	<8	NA	NA	NA	NA	NA	NA	NA	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20 J	<20	NA	NA	NA	NA	NA	NA	NA	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	58.8	976,000
1,2-Dichloropropane	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	3.3	6,620
2,2-Dichloropropane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	527,000
1,3-Dichloropropane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	0.3	1,490,000
Di-isopropyl Ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,260,000
EDB (1,2-Dibromoethane)	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	0.0282	230
Ethylbenzene	µg/kg	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5	10	6	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1,570	37,000
Hexachlorobutadiene	µg/kg	<20	<20	<20	<20 J	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	22,100
Isopropylbenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	NS
p-Isopropyltoluene	µg/kg	<20	<20	<20	<20 J	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	162,000
Methylene chloride	µg/kg	<28 J	<28 J	<28	<28 J	<28 J	**37**	<28 J	**39**	**27**	NA	NA	NA	NA	NA	NA	NA	2.6	1,070,000
Methyl-tert-butyl-ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	293,000
Naphthalene	µg/kg	<20	<20	<20	<20	<20	452	<20	46	76	NA	NA	NA	NA	NA	NA	NA	658.2	26,000
n-Propylbenzene	µg/kg	<20	<20	<20	<20	<20	56	<20	<20 J	<20 J	NA	NA	NA	NA	NA	NA	NA	NS	264,000
1,1,2,2-Tetrachloroethane	µg/kg	<8	<8	<8	<8	<8	<8	<8	<8	<8	NA	NA	NA	NA	NA	NA	NA	0.2	3,690
1,1,1,2-Tetrachloroethane	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	53.4	12,900
Tetrachloroethene (PCE)	µg/kg	<22	<22	<22	<22	<22	<22 J	<22	<22 J	<22 J	NA	NA	NA	NA	NA	NA	NA	4.5	153,000
Toluene	µg/kg	14	16	11	<5	12	93	10	30	27	1.3	1.2	1.3	< 1	< 1	< 1	< 1	1,107.2	818,000
1,2,4-Trichlorobenzene	µg/kg	<20	<20	<20	<20	<20	48	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	408	98,700
1,2,3-Trichlorobenzene	µg/kg	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA	NA	NA	NA	NS	493,000
1,1,1-Trichloroethane	µg/kg	<6	<6	<6	<6	<6	<6 J	<6 J	<6 J	<6 J	NA	NA	NA	NA	NA	NA	NA	140.2	640,000
1,1,2-Trichloroethane	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	3.2	7,340
Trichloroethene (TCE)	µg/kg	<6 J	<6 J	<6	<6	<6	**14**	<6	**117**	<6 J	**113.6**	**397.2**	**136.4**	< 1	< 5	< 5	1.9	3.6	8,810
Trichlorofluoromethane	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA	NA	NA	NS	1,230,000
1,2,4-Trimethylbenzene	µg/kg	<5 J	<5 J	<5J	<5	<5	64	<5 J	19	18	NA	NA	NA	NA	NA	NA	NA	1,382.1	219,000
1,3,5-Trimethylbenzene	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA		182,000
Vinyl Chloride	µg/kg	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA	0.1	2,030
Xylenes (total)	µg/kg	7	9	7	<10	6	104	5	55	50	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3,940	258,000
Metals																			
Cadmium	mg/kg	<0.11	<0.11	0.18	<0.11	<0.10	**0.97**	<0.10	0.11	0.15	NA	NA	NA	NA	NA	NA	NA	0.752	799
Chromium	mg/kg	17	14	14	15	13	45	8.4	10	10	NA	NA	NA	NA	NA	NA	NA	360,000	NS
Cyanide	mg/kg	<0.863	<1.18	<0.688	<0.670	<0.648	1.92	2.04	**4.31**	1.45	NA	NA	NA	NA	NA	NA	NA	4	179
Iron	mg/kg	14000	11000	14000	14000	9300	110000	6900	15000	9400	NA	NA	NA	NA	NA	NA	NA	NS	100,000
Nickel	mg/kg	**16**	13	10	13	11	**28**	10	**14**	9.6	NA	NA	NA	NA	NA	NA	NA	13.1	19,800
Zinc	mg/kg	21	25	25	20	19	895	16	25	26	NA	NA	NA	NA	NA	NA	NA	NS	100,000
Tin	mg/kg	<22	<23	<20	<21	<21	28	<20	<21	<23	NA	NA	NA	NA	NA	NA	NA	NS	100,000

Notes:

1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, (2) soil moisture conditions recorded on soil boring logs, and/or (3) soil moisture contents reported on laboratory analytical reports.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2014) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
7. NS = no standard established
8. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
   Enter other flags as necessary
9. Exceedances: BOLD = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
   [ ] = Concentration exceeds Non-Industrial OR Industrial Direct Contact RCL (unsaturated soil samples only)
10. Methylene chloride was identified in the blank sample analyzed during the 5/26/1992 sampling event, indicating possilbe contamination of these samples from an outside source

Table E.1
Historic Soil Analytical Data
Chilton Plating - 420 E. Main Street, Chilton, Wisconsin
Sigma Project No. 14943

Soil Sample Location:		GS-2			GS-3	GS-4	GS-5	GS-6	GS-7					GS-8	GS-9	GS-10	GS-11		
Sample Depth (feet bgs):		4-6	6-8	8-10	9-11	9-11	10-12	10-12	0-2	2-4	4-6	6-8	10-12	9-11	9-11	9-11	0-2	Groundwater Pathway RCL [4]	Industrial Direct Contact RCL [6]
Sample Collection Date:		1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995		
Depth to Groundwater (feet bgs):		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
PVOCs & Detected VOCs																			
Benzene	µg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	5.1	7,410
Bromobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	679,000
Bromodichloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	1,960
Bromoform	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	218,000
tert-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	183,000
sec-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	145,000
n-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	108,000
Carbon tetrachloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.9	4,250
Chlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	761,000
Chloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	226.6	NS
Chloroform	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3	2,130
Chloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.5	720,000
2-Chlorotoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	907,000
4-Chlorotoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	253,000
1,2-Dibromo-3-chloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	99
Dibromochloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32	4,400
1,4-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	144	17,500
1,3-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,152.2	297,000
1,2-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,168	376,000
Dichlorodifluoromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,086.3	571,000
1,2-Dichloroethane	µg/kg	1.1	< 1	1.5	1.2	1.5	< 1	< 1	< 1	1.3	1.4	< 1	< 1	< 1	2.7	1.3	< 1	2.8	3,030
1,1-Dichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	482.8	23,700
1,1-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	58.8	976,000
1,2-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3	6,620
2,2-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	527,000
1,3-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	1,490,000
Di-isopropyl Ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,260,000
EDB (1,2-Dibromoethane)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0282	230
Ethylbenzene	µg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1,570	37,000
Hexachlorobutadiene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	22,100
Isopropylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
p-Isopropyltoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	162,000
Methylene chloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.6	1,070,000
Methyl-tert-butyl-ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	293,000
Naphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	658.2	26,000
n-Propylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	264,000
1,1,2,2-Tetrachloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	3,690
1,1,1,2-Tetrachloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53.4	12,900
Tetrachloroethene (PCE)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.5	153,000
Toluene	µg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1,107.2	818,000
1,2,4-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	408	98,700
1,2,3-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	493,000
1,1,1-Trichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	140.2	640,000
1,1,2-Trichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.2	7,340
Trichloroethene (TCE)	µg/kg	< 5	< 5	**59.1**	4	**354.3**	**6.2**	**367**	< 5	< 5	< 5	< 62.1	< 5	**28.1**	**35.3**	1	< 5	3.6	8,810
Trichlorofluoromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	1,230,000
1,2,4-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,382.1	219,000
1,3,5-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		182,000
Vinyl Chloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	2,030
Xylenes (total)	µg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3,940	258,000
Metals																			
Cadmium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.752	799
Chromium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	360,000	NS
Cyanide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	179
Iron	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	100,000
Nickel	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.1	19,800
Zinc	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	100,000
Tin	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	100,000

Notes:

1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, (2) soil moisture conditions recorded on soil boring logs, and/or (3) soil moisture contents reported on laboratory analytical reports.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2014) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
7. NS = no standard established
8. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
   Enter other flags as necessary
9. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
   [ ] = Concentration exceeds Non-Industrial OR Industrial Direct Contact RCL (unsaturated soil samples only)

Table E.1
Historic Soil Analytical Data
Chilton Plating - 420 E. Main Street, Chilton, Wisconsin
Sigma Project No. 14943

Soil Sample Location:		GS-11				GS-12	GS-13		GS-14		GS-15	GS-16	GS-17	GS-18	MW103	MW103P		
Sample Depth (feet bgs):		2-4	6-8	8-10	10-12	9-11	9-11	9-11 DUP	9-11	NA	9-11	2.33	1	1.083	NA	NA	Groundwater	Industrial
Sample Collection Date:		1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	NA	NA	Pathway	Direct Contact
Depth to Groundwater (feet bgs):		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	RCL [4]	RCL [5]
PVOCs & Detected VOCs																		
Benzene	µg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	NA	NA	5.1	7,410
Bromobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	679,000
Bromodichloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	1,960
Bromoform	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	218,000
tert-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	183,000
sec-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 31	NS	145,000
n-Butylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 31	NS	108,000
Carbon tetrachloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.9	4,250
Chlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	761,000
Chloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	226.6	NS
Chloroform	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3	2,130
Chloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.5	720,000
2-Chlorotoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	907,000
4-Chlorotoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	253,000
1,2-Dibromo-3-chloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	99
Dibromochloromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32	4,400
1,4-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	144	17,500
1,3-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,152.2	297,000
1,2-Dichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,168	376,000
Dichlorodifluoromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,086.3	571,000
1,2-Dichloroethane	µg/kg	< 1	< 1	< 1	1.1	< 1	1.3	< 1	< 1	1.4	< 1	1.2	< 1	1.5	NA	NA	2.8	3,030
1,1-Dichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	482.8	23,700
1,1-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	1,190,000
cis-1,2-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 31	58.8	976,000
1,2-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3	6,620
2,2-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	527,000
1,3-Dichloropropane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	1,490,000
Di-isopropyl Ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,260,000
EDB (1,2-Dibromoethane)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0282	230
Ethylbenzene	µg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	NA	NA	1,570	37,000
Hexachlorobutadiene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 31	NS	22,100
Isopropylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS
p-Isopropyltoluene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	162,000
Methylene chloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.6	1,070,000
Methyl-tert-butyl-ether	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	293,000
Naphthalene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	658.2	26,000
n-Propylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 31	NS	264,000
1,1,2,2-Tetrachloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	3,690
1,1,1,2-Tetrachloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53.4	12,900
Tetrachloroethene (PCE)	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<31	4.5	153,000
Toluene	µg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	NA	NA	1,107.2	818,000
1,2,4-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	408	98,700
1,2,3-Trichlorobenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	493,000
1,1,1-Trichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	140.2	640,000
1,1,2-Trichloroethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.2	7,340
Trichloroethene (TCE)	µg/kg	< 5	**67.6**	**17.1**	< 5	**68.8**	**85.5**	**91.5**	**616.5**	**11.9**	**416.4**	< 5	< 5	**48.1**	NA	< 31	3.6	8,810
Trichlorofluoromethane	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	1,230,000
1,2,4-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 31	1,382.1	219,000
1,3,5-Trimethylbenzene	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		182,000
Vinyl Chloride	µg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	2,030
Xylenes (total)	µg/kg	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	NA	NA	3,940	258,000
Metals																		
Cadmium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.752	799
Chromium	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0143	0.00808	360,000	NS
Cyanide	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4	179
Iron	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	100,000
Nickel	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0259	0.00964	13.1	19,800
Zinc	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.641	0.0528	NS	100,000
Tin	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	100,000

Notes:

1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, (2) soil moisture conditions recorded on soil boring logs, and/or (3) soil moisture contents reported on laboratory analytical reports.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2014) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
7. NS = no standard established
8. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
   Enter other flags as necessary
9. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
   [ ] = Concentration exceeds Non-Industrial OR Industrial Direct Contact RCL (unsaturated soil samples only)

Table E.1
Historic Soil Analytical Data
Chilton Plating - 420 E. Main Street, Chilton, Wisconsin
Sigma Project No. 14943

Soil Sample Location:		GP-1		GP-2		GP-3		GP-4	GP-5		GP-6	GP-7		GP-8		GP-9		Groundwater Pathway RCL [4]	Industrial Direct Contact RCL [6]
Sample Depth (feet bgs):		1	9	1	9	1	9	6	2	8	8	2	8	1	8	1	8		
Sample Collection Date:		1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999		
Depth to Groundwater (feet bgs):		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
PVOCs & Detected VOCs																			
sec-Butylbenzene	µg/kg	NA	< 29	NA	< 29	< 29	< 29	< 1170	< 30	< 29	< 29	< 27	< 31	< 228	< 2273	< 27	< 29	NS	145,000
cis-1,2-Dichloroethene	µg/kg	NA	< 29	NA	< 29	< 29	< 29	< 1170	< 30	< 29	< 29	**84**	< 31	**4324**	< 2273	< 27	< 29	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	NA	< 29	NA	< 29	< 29	< 29	< 1170	< 30	< 29	< 29	< 27	< 31	**563**	< 2273	< 27	< 29	58.8	976,000
Hexachlorobutadiene	µg/kg	NA	< 29	NA	< 29	< 29	< 29	< 1170	< 30	< 29	< 29	< 27	< 31	< 228	< 2273	< 27	< 29	NS	22,100
n-Propylbenzene	µg/kg	NA	< 29	NA	< 29	< 29	< 29	< 1170	< 30	< 29	< 29	< 27	< 31	< 228	< 2273	< 27	< 29	NS	264,000
Tetrachloroethene (PCE)	µg/kg	NA	< 29	NA	< 29	< 29	< 29	< 1170	< 30	**737**	**134**	< 27	< 31	< 228	< 2273	< 27	< 29	4.5	153,000
Trichloroethene (TCE)	µg/kg	NA	< 29	NA	< 29	< 29	< 29	**7,908**	< 30	**755**	**286**	**162**	< 31	**7,763**	**[56318]**	< 27	< 29	3.6	8,810
1,2,4-Trimethylbenzene	µg/kg	NA	< 29	NA	< 29	< 29	< 29	< 1170	< 30	< 29	< 29	< 27	< 31	< 228	< 2273	< 27	< 29	1,382.1	219,000
Metals																			
Chromium	mg/kg	9.35	3.74	5.52	4.08	8.93	7.57	7.31	10.20	9.09	13.10	27.20	10.70	23.50	8.85	9.49	14.30	360,000	NS
Iron	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	100,000
Nickel	mg/kg	9.94	8.60	1.10	9.11	7.22	10.1	9.37	**13.3**	10.6	12.9	**45.2**	12.6	**289**	9.41	**126**	**20.1**	13.1	19,800
Zinc	mg/kg	25.2	21.2	17.9	15.6	39.0	19.4	22.1	21.7	22.1	23.8	66.4	23.2	213	19.7	47.3	27.8	NS	100,000

Notes:

1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, (2) soil moisture conditions recorded on soil boring logs, and/or (3) soil moisture contents reported on laboratory analytical reports.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2014) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
7. NS = no standard established
8. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
   Enter other flags as necessary
9. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
   [ ] = Concentration exceeds Non-Industrial OR Industrial Direct Contact RCL (unsaturated soil samples only)

Table E.1
Historic Soil Analytical Data
Chilton Plating - 420 E. Main Street, Chilton, Wisconsin
Sigma Project No. 14943

Soil Sample Location:		GP-10		GP-11	GP-117		GP-118	GP-12	GP-13	GP-14		MW-105P	Groundwater Pathway RCL [4]	Industrial Direct Contact RCL [6]
Sample Depth (feet bgs):		1	8	1	1	8	8	8	8	1	8	NA		
Sample Collection Date:		1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	NA		
Depth to Groundwater (feet bgs):		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
PVOCs & Detected VOCs														
sec-Butylbenzene	µg/kg	< 29	< 31	< 29	< 32	304	< 28	< 29	< 226	< 29	< 29	< 28	NS	145,000
cis-1,2-Dichloroethene	µg/kg	< 29	**633**	< 29	< 32	< 29	< 28	< 29	**312**	< 29	< 29	< 28	41.2	2,040,000
trans-1,2-Dichloroethene	µg/kg	< 29	**103**	< 29	< 32	< 29	< 28	< 29	< 226	< 29	< 29	< 28	58.8	976,000
Hexachlorobutadiene	µg/kg	< 29	< 31	< 29	< 32	< 29	< 28	< 29	< 240	< 29	< 29	< 28	NS	22,100
n-Propylbenzene	µg/kg	< 29	< 31	< 29	< 32	301	< 28	< 29	< 226	< 29	< 29	< 28	NS	264,000
Tetrachloroethene (PCE)	µg/kg	**58**	< 31	< 29	< 32	< 29	< 28	< 29	< 226	< 29	< 29	< 28	4.5	153,000
Trichloroethene (TCE)	µg/kg	**1,314**	**1,536**	< 29	< 32	< 29	< 28	**705**	**3,641**	< 29	< 29	< 28	3.6	8,810
1,2,4-Trimethylbenzene	µg/kg	< 29	< 31	< 29	< 32	**223**	< 28	< 29	< 226	< 29	< 29	< 28	1,382.1	219,000
Metals														
Chromium	mg/kg	40.1	10.7	41.4	16.4	6.89	11.5	12.5	8.37	27.6	11.5	7.38	360,000	NS
Iron	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	100,000
Nickel	mg/kg	**98.6**	**15.3**	**21.6**	**13.9**	10.4	**17.8**	**14.9**	10.3	**35.7**	**23.4**	8.62	13.1	19,800
Zinc	mg/kg	73.0	37.2	157	35.5	18.6	24.4	24.4	17.7	181	32.3	95.3	NS	100,000

Notes:

1. Unsaturated/smear zone versus satured soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, (2) soil moisture conditions recorded on soil boring logs, and/or (3) soil moisture contents reported on laboratory analytical reports.
2. Analytical units: µg/kg = micrograms per kilogram (equivalent to parts per billion, ppb)
   mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated June 2014) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2014) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014
7. NS = no standard established
8. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
   Enter other flags as necessary
9. Exceedances: **BOLD** = Concentration exceeds Groundwater Pathway RCL (unsaturated soil samples only)
   [ ] = Concentration exceeds Non-Industrial OR Industrial Direct Contact RCL (unsaturated soil samples only)

APPENDIX F

SOIL LABORATORY ANALYTICAL REPORTS

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

STEVE MEER
THE SIGMA GROUP, INC.
1300 W. CANAL STREET
MILWAUKEE, WI 53233

Report Date *28-Mar-18*

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384A
Sample ID SGP-26 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	83.6	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/23/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/23/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/23/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/23/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/23/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/23/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/23/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/23/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/23/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/23/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/23/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/23/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/23/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/23/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/23/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384A
Sample ID SGP-26 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/23/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/23/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/23/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/23/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/23/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/23/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/23/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/23/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/23/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/23/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/23/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/23/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/23/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/23/2018	CJR	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/23/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/23/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/23/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/23/2018	CJR	1
SUR - Toluene-d8	89	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Dibromofluoromethane	112	Rec %			1	8260B		3/23/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	Rec %			1	8260B		3/23/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	Rec %			1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384B
Sample ID SGP-26 4-6
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	80.0	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	0.34	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	0.181	mg/kg	0.04	0.13	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/27/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	0.043 "J"	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/27/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384B
Sample ID SGP-26 4-6
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	103	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	116	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	91	Rec %			1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384C
Sample ID SGP-27 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	83.0	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/23/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/23/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/23/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/23/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/23/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/23/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/23/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/23/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/23/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/23/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/23/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/23/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/23/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/23/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/23/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/23/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/23/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/23/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/23/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/23/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/23/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/23/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/23/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/23/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/23/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/23/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/23/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/23/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384C
Sample ID SGP-27 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/23/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/23/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/23/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/23/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Dibromofluoromethane	108	Rec %			1	8260B		3/23/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	101	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Toluene-d8	91	Rec %			1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384D
Sample ID SGP-27 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.2	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.15	mg/kg	0.15	0.48	5	8260B		3/24/2018	CJR	1
Bromobenzene	< 0.125	mg/kg	0.125	0.405	5	8260B		3/24/2018	CJR	1
Bromodichloromethane	< 0.37	mg/kg	0.37	1.2	5	8260B		3/24/2018	CJR	1
Bromoform	< 0.145	mg/kg	0.145	0.46	5	8260B		3/24/2018	CJR	1
tert-Butylbenzene	< 0.13	mg/kg	0.13	0.42	5	8260B		3/24/2018	CJR	1
sec-Butylbenzene	0.72	mg/kg	0.165	0.5	5	8260B		3/24/2018	CJR	1
n-Butylbenzene	1.74	mg/kg	0.2	0.65	5	8260B		3/24/2018	CJR	1
Carbon Tetrachloride	< 0.08	mg/kg	0.08	0.265	5	8260B		3/24/2018	CJR	1
Chlorobenzene	0.09 "J"	mg/kg	0.065	0.2	5	8260B		3/24/2018	CJR	1
Chloroethane	< 0.455	mg/kg	0.455	1.45	5	8260B		3/24/2018	CJR	1
Chloroform	< 0.175	mg/kg	0.175	0.55	5	8260B		3/24/2018	CJR	1
Chloromethane	< 0.38	mg/kg	0.38	1.2	5	8260B		3/24/2018	CJR	1
2-Chlorotoluene	< 0.075	mg/kg	0.075	0.235	5	8260B		3/24/2018	CJR	1
4-Chlorotoluene	< 0.09	mg/kg	0.09	0.285	5	8260B		3/24/2018	CJR	1
Dibromochloromethane	< 0.125	mg/kg	0.125	0.395	5	8260B		3/24/2018	CJR	1
1,4-Dichlorobenzene	< 0.185	mg/kg	0.185	0.6	5	8260B		3/24/2018	CJR	1
1,3-Dichlorobenzene	< 0.185	mg/kg	0.185	0.6	5	8260B		3/24/2018	CJR	1
1,2-Dichlorobenzene	< 0.14	mg/kg	0.14	0.44	5	8260B		3/24/2018	CJR	1
Dichlorodifluoromethane	< 0.24	mg/kg	0.24	0.75	5	8260B		3/24/2018	CJR	1
1,2-Dichloroethane	< 0.19	mg/kg	0.19	0.6	5	8260B		3/24/2018	CJR	1
1,1-Dichloroethane	< 0.17	mg/kg	0.17	0.55	5	8260B		3/24/2018	CJR	1
1,1-Dichloroethene	< 0.11	mg/kg	0.11	0.345	5	8260B		3/24/2018	CJR	1
cis-1,2-Dichloroethene	0.288 "J"	mg/kg	0.16	0.5	5	8260B		3/24/2018	CJR	1
trans-1,2-Dichloroethene	< 0.14	mg/kg	0.14	0.45	5	8260B		3/24/2018	CJR	1
1,2-Dichloropropane	< 0.175	mg/kg	0.175	0.55	5	8260B		3/24/2018	CJR	1
1,3-Dichloropropane	< 0.125	mg/kg	0.125	0.395	5	8260B		3/24/2018	CJR	1
trans-1,3-Dichloropropene	< 0.11	mg/kg	0.11	0.34	5	8260B		3/24/2018	CJR	1
cis-1,3-Dichloropropene	< 0.195	mg/kg	0.195	0.6	5	8260B		3/24/2018	CJR	1
Di-isopropyl ether	< 0.05	mg/kg	0.05	0.16	5	8260B		3/24/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.115	mg/kg	0.115	0.36	5	8260B		3/24/2018	CJR	1
Ethylbenzene	0.84	mg/kg	0.175	0.55	5	8260B		3/24/2018	CJR	1
Hexachlorobutadiene	< 0.425	mg/kg	0.425	1.35	5	8260B		3/24/2018	CJR	1
Isopropylbenzene	0.70	mg/kg	0.17	0.55	5	8260B		3/24/2018	CJR	1
p-Isopropyltoluene	1.24	mg/kg	0.145	0.465	5	8260B		3/24/2018	CJR	1
Methylene chloride	< 0.75	mg/kg	0.75	2.3	5	8260B		3/24/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.25	mg/kg	0.25	0.8	5	8260B		3/24/2018	CJR	1
Naphthalene	2.11	mg/kg	0.47	1.5	5	8260B		3/24/2018	CJR	1
n-Propylbenzene	1.03	mg/kg	0.165	0.5	5	8260B		3/24/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.14	mg/kg	0.14	4.4	5	8260B		3/24/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.14	mg/kg	0.14	0.45	5	8260B		3/24/2018	CJR	1
Tetrachloroethene	< 0.16	mg/kg	0.16	0.5	5	8260B		3/24/2018	CJR	1
Toluene	< 0.16	mg/kg	0.16	0.5	5	8260B		3/24/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.32	mg/kg	0.32	1	5	8260B		3/24/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.33	mg/kg	0.33	1.05	5	8260B		3/24/2018	CJR	1
1,1,1-Trichloroethane	< 0.15	mg/kg	0.15	4.8	5	8260B		3/24/2018	CJR	1
1,1,2-Trichloroethane	< 0.165	mg/kg	0.165	0.55	5	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384D
Sample ID SGP-27 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.205	mg/kg	0.205	0.65	5	8260B		3/24/2018	CJR	1
Trichlorofluoromethane	< 0.205	mg/kg	0.205	0.65	5	8260B		3/24/2018	CJR	1
1,2,4-Trimethylbenzene	5.0	mg/kg	0.125	0.4	5	8260B		3/24/2018	CJR	1
1,3,5-Trimethylbenzene	3.2	mg/kg	0.16	0.5	5	8260B		3/24/2018	CJR	1
Vinyl Chloride	< 0.095	mg/kg	0.095	0.31	5	8260B		3/24/2018	CJR	1
m&p-Xylene	1.18	mg/kg	0.36	1.15	5	8260B		3/24/2018	CJR	1
o-Xylene	< 0.22	mg/kg	0.22	0.7	5	8260B		3/24/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	Rec %			5	8260B		3/24/2018	CJR	1
SUR - Dibromofluoromethane	111	Rec %			5	8260B		3/24/2018	CJR	1
SUR - Toluene-d8	94	Rec %			5	8260B		3/24/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	108	Rec %			5	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384E
Sample ID SGP-28 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	79.1	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/23/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/23/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/23/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/23/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/23/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/23/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/23/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/23/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/23/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/23/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/23/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/23/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/23/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/23/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/23/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/23/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/23/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/23/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/23/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/23/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/23/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/23/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/23/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/23/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/23/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/23/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/23/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/23/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384E
Sample ID SGP-28 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/23/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/23/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/23/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/23/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	116	Rec %			1	8260B		3/23/2018	CJR	1
SUR - 4-Bromofluorobenzene	97	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Dibromofluoromethane	119	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Toluene-d8	87	Rec %			1	8260B		3/23/2018	CJR	1

Project Name **Invoice #** E34384
Project # 15772

Lab Code 5034384F
Sample ID SGP-28 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.1	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/23/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/23/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/23/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/23/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/23/2018	CJR	1
sec-Butylbenzene	0.137	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
n-Butylbenzene	0.101 "J"	mg/kg	0.04	0.13	1	8260B		3/23/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/23/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/23/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/23/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/23/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/23/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/23/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/23/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/23/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/23/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/23/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/23/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/23/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/23/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/23/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/23/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/23/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/23/2018	CJR	1
Naphthalene	0.111 "J"	mg/kg	0.094	0.3	1	8260B		3/23/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/23/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/23/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/23/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/23/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384F
Sample ID SGP-28 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/23/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/23/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/23/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/23/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	110	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Toluene-d8	104	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Dibromofluoromethane	114	Rec %			1	8260B		3/23/2018	CJR	1
SUR - 4-Bromofluorobenzene	107	Rec %			1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384G
Sample ID SGP-29 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	81.8	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/23/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/23/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/23/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/23/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/23/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/23/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/23/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/23/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/23/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/23/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/23/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/23/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/23/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/23/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/23/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/23/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/23/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/23/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/23/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/23/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/23/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/23/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/23/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/23/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/23/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/23/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/23/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/23/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384G
Sample ID SGP-29 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/23/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/23/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/23/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/23/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	94	Rec %			1	8260B		3/23/2018	CJR	1
SUR - 4-Bromofluorobenzene	97	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Dibromofluoromethane	104	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Toluene-d8	91	Rec %			1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384H
Sample ID SGP-29 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	80.9	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/23/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/23/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/23/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/23/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/23/2018	CJR	1
sec-Butylbenzene	0.037 "J"	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/23/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/23/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/23/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/23/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/23/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/23/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/23/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/23/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/23/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/23/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/23/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/23/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/23/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/23/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/23/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/23/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/23/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/23/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/23/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/23/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/23/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/23/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/23/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/23/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/23/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/23/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/23/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/23/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/23/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384H
Sample ID SGP-29 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/23/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/23/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/23/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/23/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/23/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/23/2018	CJR	1
SUR - Toluene-d8	92	Rec %			1	8260B		3/23/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	Rec %			1	8260B		3/23/2018	CJR	1
SUR - 4-Bromofluorobenzene	101	Rec %			1	8260B		3/23/2018	CJR	1
SUR - Dibromofluoromethane	108	Rec %			1	8260B		3/23/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384I
Sample ID SGP-30 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	83.7	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/24/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/24/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/24/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/24/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/24/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/24/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/24/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/24/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/24/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/24/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/24/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/24/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/24/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/24/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/24/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/24/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/24/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/24/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/24/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/24/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/24/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/24/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/24/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/24/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/24/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/24/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/24/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/24/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384I
Sample ID SGP-30 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/24/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/24/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/24/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/24/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	116	Rec %			1	8260B		3/24/2018	CJR	1
SUR - Toluene-d8	90	Rec %			1	8260B		3/24/2018	CJR	1
SUR - 4-Bromofluorobenzene	100	Rec %			1	8260B		3/24/2018	CJR	1
SUR - Dibromofluoromethane	118	Rec %			1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384J
Sample ID SGP-30 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.9	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/24/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/24/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/24/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/24/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/24/2018	CJR	1
sec-Butylbenzene	0.045 "J"	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
n-Butylbenzene	0.063 "J"	mg/kg	0.04	0.13	1	8260B		3/24/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/24/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/24/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/24/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/24/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/24/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/24/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/24/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/24/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/24/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/24/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/24/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/24/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/24/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/24/2018	CJR	1
Isopropylbenzene	0.054 "J"	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/24/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/24/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/24/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/24/2018	CJR	1
n-Propylbenzene	0.108	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/24/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/24/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/24/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/24/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384J
Sample ID SGP-30 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/24/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/24/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/24/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/24/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	107	Rec %			1	8260B		3/24/2018	CJR	1
SUR - 4-Bromofluorobenzene	94	Rec %			1	8260B		3/24/2018	CJR	1
SUR - Dibromofluoromethane	114	Rec %			1	8260B		3/24/2018	CJR	1
SUR - Toluene-d8	91	Rec %			1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384K
Sample ID SGP-31 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	91.5	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/24/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/24/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/24/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/24/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/24/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/24/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/24/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/24/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/24/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/24/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/24/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/24/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/24/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/24/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/24/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/24/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/24/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/24/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/24/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/24/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/24/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/24/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/24/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/24/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/24/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/24/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/24/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/24/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384K
Sample ID SGP-31 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/24/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/24/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/24/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/24/2018	CJR	1
SUR - Dibromofluoromethane	114	Rec %			1	8260B		3/24/2018	CJR	1
SUR - Toluene-d8	88	Rec %			1	8260B		3/24/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	118	Rec %			1	8260B		3/24/2018	CJR	1
SUR - 4-Bromofluorobenzene	95	Rec %			1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384L
Sample ID SGP-31 4-6
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.1	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/24/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/24/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/24/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/24/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/24/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/24/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/24/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/24/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/24/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/24/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/24/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/24/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/24/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/24/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/24/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/24/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/24/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/24/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/24/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/24/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/24/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/24/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/24/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/24/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/24/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/24/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/24/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/24/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384L
Sample ID SGP-31 4-6
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/24/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/24/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/24/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/24/2018	CJR	1
SUR - Toluene-d8	88	Rec %			1	8260B		3/24/2018	CJR	1
SUR - Dibromofluoromethane	117	Rec %			1	8260B		3/24/2018	CJR	1
SUR - 4-Bromofluorobenzene	94	Rec %			1	8260B		3/24/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	116	Rec %			1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384M
Sample ID SGP-32 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.4	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/24/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/24/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/24/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/24/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/24/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/24/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/24/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/24/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/24/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/24/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/24/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/24/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/24/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/24/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/24/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/24/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/24/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/24/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/24/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/24/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/24/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/24/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/24/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/24/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/24/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/24/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/24/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/24/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/24/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/24/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/24/2018	CJR	1
Tetrachloroethene	0.04 "J"	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/24/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/24/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/24/2018	CJR	1
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384M
Sample ID SGP-32 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/24/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/24/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/24/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/24/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/24/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/24/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	97	Rec %			1	8260B		3/24/2018	CJR	1
SUR - 4-Bromofluorobenzene	95	Rec %			1	8260B		3/24/2018	CJR	1
SUR - Dibromofluoromethane	105	Rec %			1	8260B		3/24/2018	CJR	1
SUR - Toluene-d8	90	Rec %			1	8260B		3/24/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384N
Sample ID SGP-32 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	83.0	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/27/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/27/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	0.046 "J"	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384N
Sample ID SGP-32 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	97	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	109	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	89	Rec %			1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384O
Sample ID SGP-33 0-2
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.1	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/27/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/27/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Toluene	0.081 "J"	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384O
Sample ID SGP-33 0-2
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	113	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	116	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	88	Rec %			1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384P
Sample ID SGP-33 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.0	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/27/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	0.274	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/27/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	6.5	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384P
Sample ID SGP-33 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	2.29	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	94	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	103	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	90	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	94	Rec %			1	8260B		3/27/2018	CJR	1

Project Name **Invoice #** E34384
Project # 15772

Lab Code 5034384Q
Sample ID SGP-34 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	80.8	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/27/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/27/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384Q
Sample ID SGP-34 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	110	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	92	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	115	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	88	Rec %			1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384R
Sample ID SGP-34 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.5	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/27/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/27/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384R
Sample ID SGP-34 6-8
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	120	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	88	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	93	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	120	Rec %			1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384S
Sample ID SGP-35 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	85.3	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/27/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/27/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384S
Sample ID SGP-35 2-4
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	95	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	114	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	89	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	105	Rec %			1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384T
Sample ID SGP-35 4-6
Sample Matrix Soil
Sample Date 3/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	77.6	%			1	5021		3/22/2018	NJC	1
Organic										
VOC's										
Benzene	< 0.03	mg/kg	0.03	0.096	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.025	mg/kg	0.025	0.081	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.074	mg/kg	0.074	0.24	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.029	mg/kg	0.029	0.092	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.026	mg/kg	0.026	0.084	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.04	mg/kg	0.04	0.13	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.016	mg/kg	0.016	0.053	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.013	mg/kg	0.013	0.04	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.091	mg/kg	0.091	0.29	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.076	mg/kg	0.076	0.24	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.015	mg/kg	0.015	0.047	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.018	mg/kg	0.018	0.057	1	8260B		3/27/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 0.058	mg/kg	0.058	0.18	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.037	mg/kg	0.037	0.12	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.028	mg/kg	0.028	0.088	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.048	mg/kg	0.048	0.15	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.038	mg/kg	0.038	0.12	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.022	mg/kg	0.022	0.069	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.025	mg/kg	0.025	0.079	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.022	mg/kg	0.022	0.068	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.039	mg/kg	0.039	0.12	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.01	mg/kg	0.01	0.032	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.023	mg/kg	0.023	0.072	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.035	mg/kg	0.035	0.11	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 0.085	mg/kg	0.085	0.27	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.034	mg/kg	0.034	0.11	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.029	mg/kg	0.029	0.093	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 0.15	mg/kg	0.15	0.46	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.05	mg/kg	0.05	0.16	1	8260B		3/27/2018	CJR	1
Naphthalene	< 0.094	mg/kg	0.094	0.3	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.033	mg/kg	0.033	0.1	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.88	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.028	mg/kg	0.028	0.09	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Toluene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 0.064	mg/kg	0.064	0.2	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 0.066	mg/kg	0.066	0.21	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.03	mg/kg	0.03	0.96	1	8260B		3/27/2018	CJR	1

Project Name
Project # 15772

Invoice # E34384

Lab Code 5034384T
Sample ID SGP-35 4-6
Sample Matrix Soil
Sample Date 3/20/2018

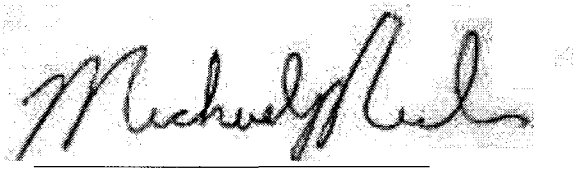
	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.033	mg/kg	0.033	0.11	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.041	mg/kg	0.041	0.13	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.025	0.08	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.032	mg/kg	0.032	0.1	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.019	mg/kg	0.019	0.062	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.072	mg/kg	0.072	0.23	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.044	mg/kg	0.044	0.14	1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	94	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	106	Rec %			1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	94	Rec %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	115	Rec %			1	8260B		3/27/2018	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature



APPENDIX G

GROUNDWATER LABORATORY ANALYTICAL REPORTS

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

STEVE MEER
THE SIGMA GROUP, INC.
1300 W. CANAL STREET
MILWAUKEE, WI 53233

Report Date *06-Apr-18*

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34389

Lab Code 5034389A
Sample ID SMW-1
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 2	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	1.4	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	0.46 "J"	ug/l	0.25	0.78	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	34	ug/l	0.37	1.16	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	4.9	ug/l	0.34	1.07	1	8260B		3/27/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34389

Lab Code 5034389A
Sample ID SMW-1
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	53	ug/l	0.28	0.89	1	8260B		3/27/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	6.0	ug/l	0.38	1.21	1	8260B		3/27/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/27/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	25.8	ug/l	0.3	0.94	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	2.96	ug/l	0.2	0.65	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	116	REC %			1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	102	REC %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	117	REC %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	103	REC %			1	8260B		3/27/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389B
Sample ID SMW-2
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 2	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/27/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/27/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/27/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/27/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/27/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/27/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/27/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/27/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/27/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/27/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/27/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/27/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/27/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/27/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/27/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/27/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/27/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/27/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/27/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/27/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/27/2018	CJR	1
cis-1,2-Dichloroethene	3.5	ug/l	0.37	1.16	1	8260B		3/27/2018	CJR	1
trans-1,2-Dichloroethene	0.49 "J"	ug/l	0.34	1.07	1	8260B		3/27/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/27/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/27/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/27/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/27/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/27/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/27/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/27/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/27/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/27/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/27/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/27/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		3/27/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/27/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/27/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/27/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/27/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		3/27/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/27/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/27/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/27/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/27/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389B
Sample ID SMW-2
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/27/2018	CJR	1
Trichloroethene (TCE)	3.02	ug/l	0.3	0.94	1	8260B		3/27/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/27/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/27/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/27/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/27/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/27/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/27/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	111	REC %			1	8260B		3/27/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		3/27/2018	CJR	1
SUR - Dibromofluoromethane	112	REC %			1	8260B		3/27/2018	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		3/27/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389C
Sample ID SMW-3
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 2.2	ug/l	2.2	7.1	10	8260B		4/2/2018	CJR	1
Bromobenzene	< 4.4	ug/l	4.4	13.8	10	8260B		4/2/2018	CJR	1
Bromodichloromethane	< 3.3	ug/l	3.3	10.6	10	8260B		4/2/2018	CJR	1
Bromoform	< 4.5	ug/l	4.5	14.4	10	8260B		4/2/2018	CJR	1
tert-Butylbenzene	< 2.5	ug/l	2.5	8	10	8260B		4/2/2018	CJR	1
sec-Butylbenzene	< 7.9	ug/l	7.9	25.3	10	8260B		4/2/2018	CJR	1
n-Butylbenzene	< 7.1	ug/l	7.1	22.5	10	8260B		4/2/2018	CJR	1
Carbon Tetrachloride	< 3.1	ug/l	3.1	9.8	10	8260B		4/2/2018	CJR	1
Chlorobenzene	< 2.6	ug/l	2.6	8.3	10	8260B		4/2/2018	CJR	1
Chloroethane	< 6.1	ug/l	6.1	19.5	10	8260B		4/2/2018	CJR	1
Chloroform	< 2.6	ug/l	2.6	8.2	10	8260B		4/2/2018	CJR	1
Chloromethane	< 5.4	ug/l	5.4	17.2	10	8260B		4/2/2018	CJR	1
2-Chlorotoluene	< 3.1	ug/l	3.1	9.8	10	8260B		4/2/2018	CJR	1
4-Chlorotoluene	< 2.6	ug/l	2.6	8.3	10	8260B		4/2/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 29.6	ug/l	29.6	94.3	10	8260B		4/2/2018	CJR	1
Dibromochloromethane	< 2.2	ug/l	2.2	6.9	10	8260B		4/2/2018	CJR	1
1,4-Dichlorobenzene	< 7	ug/l	7	22.2	10	8260B		4/2/2018	CJR	1
1,3-Dichlorobenzene	< 8.5	ug/l	8.5	27	10	8260B		4/2/2018	CJR	1
1,2-Dichlorobenzene	< 8.6	ug/l	8.6	27.4	10	8260B		4/2/2018	CJR	1
Dichlorodifluoromethane	< 3.2	ug/l	3.2	10.2	10	8260B		4/2/2018	CJR	1
1,2-Dichloroethane	< 2.5	ug/l	2.5	7.8	10	8260B		4/2/2018	CJR	1
1,1-Dichloroethane	< 3.6	ug/l	3.6	11.4	10	8260B		4/2/2018	CJR	1
1,1-Dichloroethene	< 4.2	ug/l	4.2	13.4	10	8260B		4/2/2018	CJR	1
cis-1,2-Dichloroethene	< 3.7	ug/l	3.7	11.6	10	8260B		4/2/2018	CJR	1
trans-1,2-Dichloroethene	< 3.4	ug/l	3.4	10.7	10	8260B		4/2/2018	CJR	1
1,2-Dichloropropane	< 4.4	ug/l	4.4	13.9	10	8260B		4/2/2018	CJR	1
1,3-Dichloropropane	< 3	ug/l	3	9.4	10	8260B		4/2/2018	CJR	1
trans-1,3-Dichloropropene	< 3.2	ug/l	3.2	10.1	10	8260B		4/2/2018	CJR	1
cis-1,3-Dichloropropene	< 2.6	ug/l	2.6	8.1	10	8260B		4/2/2018	CJR	1
Di-isopropyl ether	< 2.1	ug/l	2.1	6.6	10	8260B		4/2/2018	CJR	1
EDB (1,2-Dibromoethane)	< 3.4	ug/l	3.4	10.9	10	8260B		4/2/2018	CJR	1
Ethylbenzene	< 2.6	ug/l	2.6	8.3	10	8260B		4/2/2018	CJR	1
Hexachlorobutadiene	< 13.4	ug/l	13.4	42.8	10	8260B		4/2/2018	CJR	1
Isopropylbenzene	< 7.8	ug/l	7.8	24.7	10	8260B		4/2/2018	CJR	1
p-Isopropyltoluene	< 2.4	ug/l	2.4	7.6	10	8260B		4/2/2018	CJR	1
Methylene chloride	< 13.2	ug/l	13.2	42.1	10	8260B		4/2/2018	CJR	1
Methyl tert-butyl ether (MTBE)	540	ug/l	2.8	8.9	10	8260B		4/2/2018	CJR	1
Naphthalene	< 21	ug/l	21	66.5	10	8260B		4/2/2018	CJR	1
n-Propylbenzene	< 6.1	ug/l	6.1	19.5	10	8260B		4/2/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 3	ug/l	3	9.7	10	8260B		4/2/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 3.5	ug/l	3.5	11.3	10	8260B		4/2/2018	CJR	1
Tetrachloroethene	< 3.8	ug/l	3.8	12.1	10	8260B		4/2/2018	CJR	1
Toluene	< 1.9	ug/l	1.9	6	10	8260B		4/2/2018	CJR	1
1,2,4-Trichlorobenzene	< 11.5	ug/l	11.5	36.7	10	8260B		4/2/2018	CJR	1
1,2,3-Trichlorobenzene	< 17.1	ug/l	17.1	54.3	10	8260B		4/2/2018	CJR	1
1,1,1-Trichloroethane	< 3.3	ug/l	3.3	10.5	10	8260B		4/2/2018	CJR	1
1,1,2-Trichloroethane	< 4.2	ug/l	4.2	13.2	10	8260B		4/2/2018	CJR	1
Trichloroethene (TCE)	< 3	ug/l	3	9.4	10	8260B		4/2/2018	CJR	1
Trichlorofluoromethane	< 3.5	ug/l	3.5	11	10	8260B		4/2/2018	CJR	1
1,2,4-Trimethylbenzene	< 8	ug/l	8	25.5	10	8260B		4/2/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389C
Sample ID SMW-3
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 6.3	ug/l	6.3	20	10	8260B		4/2/2018	CJR	1
Vinyl Chloride	< 2	ug/l	2	6.5	10	8260B		4/2/2018	CJR	1
m&p-Xylene	< 4.3	ug/l	4.3	13.8	10	8260B		4/2/2018	CJR	1
o-Xylene	< 2.9	ug/l	2.9	9.3	10	8260B		4/2/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	105	REC %			10	8260B		4/2/2018	CJR	1
SUR - 4-Bromofluorobenzene	110	REC %			10	8260B		4/2/2018	CJR	1
SUR - Dibromofluoromethane	106	REC %			10	8260B		4/2/2018	CJR	1
SUR - Toluene-d8	99	REC %			10	8260B		4/2/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389D
Sample ID SMW-4
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	0.67 "J"	ug/l	0.22	0.71	1	8260B		3/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/28/2018	CJR	1
sec-Butylbenzene	12.9	ug/l	0.79	2.53	1	8260B		3/28/2018	CJR	1
n-Butylbenzene	5.0	ug/l	0.71	2.25	1	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/28/2018	CJR	1
Ethylbenzene	4.1	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/28/2018	CJR	1
Isopropylbenzene	14	ug/l	0.78	2.47	1	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	0.24 "J"	ug/l	0.24	0.76	1	8260B		3/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		3/28/2018	CJR	1
Naphthalene	7.8	ug/l	2.1	6.65	1	8260B		3/28/2018	CJR	1
n-Propylbenzene	25.5	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		3/28/2018	CJR	1
Toluene	0.28 "J"	ug/l	0.19	0.6	1	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	54	ug/l	0.8	2.55	1	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34389

Lab Code 5034389D
Sample ID SMW-4
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	4.7	ug/l	0.63	2	1	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/28/2018	CJR	1
m&p-Xylene	13.1	ug/l	0.43	1.38	1	8260B		3/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	109	REC %			1	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	89	REC %			1	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389E
Sample ID SMW-5
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 2	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 2.2	ug/l	2.2	7.1	10	8260B		3/28/2018	CJR	1
Bromobenzene	< 4.4	ug/l	4.4	13.8	10	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 3.3	ug/l	3.3	10.6	10	8260B		3/28/2018	CJR	1
Bromoform	< 4.5	ug/l	4.5	14.4	10	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 2.5	ug/l	2.5	8	10	8260B		3/28/2018	CJR	1
sec-Butylbenzene	< 7.9	ug/l	7.9	25.3	10	8260B		3/28/2018	CJR	1
n-Butylbenzene	< 7.1	ug/l	7.1	22.5	10	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 3.1	ug/l	3.1	9.8	10	8260B		3/28/2018	CJR	1
Chlorobenzene	< 2.6	ug/l	2.6	8.3	10	8260B		3/28/2018	CJR	1
Chloroethane	< 6.1	ug/l	6.1	19.5	10	8260B		3/28/2018	CJR	1
Chloroform	< 2.6	ug/l	2.6	8.2	10	8260B		3/28/2018	CJR	1
Chloromethane	< 5.4	ug/l	5.4	17.2	10	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 3.1	ug/l	3.1	9.8	10	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 2.6	ug/l	2.6	8.3	10	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 29.6	ug/l	29.6	94.3	10	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 2.2	ug/l	2.2	6.9	10	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 7	ug/l	7	22.2	10	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 8.5	ug/l	8.5	27	10	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 8.6	ug/l	8.6	27.4	10	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 3.2	ug/l	3.2	10.2	10	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 2.5	ug/l	2.5	7.8	10	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 3.6	ug/l	3.6	11.4	10	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 4.2	ug/l	4.2	13.4	10	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	151	ug/l	3.7	11.6	10	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	91	ug/l	3.4	10.7	10	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 4.4	ug/l	4.4	13.9	10	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 3	ug/l	3	9.4	10	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 3.2	ug/l	3.2	10.1	10	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 2.6	ug/l	2.6	8.1	10	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 2.1	ug/l	2.1	6.6	10	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 3.4	ug/l	3.4	10.9	10	8260B		3/28/2018	CJR	1
Ethylbenzene	< 2.6	ug/l	2.6	8.3	10	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 13.4	ug/l	13.4	42.8	10	8260B		3/28/2018	CJR	1
Isopropylbenzene	< 7.8	ug/l	7.8	24.7	10	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	< 2.4	ug/l	2.4	7.6	10	8260B		3/28/2018	CJR	1
Methylene chloride	< 13.2	ug/l	13.2	42.1	10	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 2.8	ug/l	2.8	8.9	10	8260B		3/28/2018	CJR	1
Naphthalene	< 21	ug/l	21	66.5	10	8260B		3/28/2018	CJR	1
n-Propylbenzene	< 6.1	ug/l	6.1	19.5	10	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 3	ug/l	3	9.7	10	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 3.5	ug/l	3.5	11.3	10	8260B		3/28/2018	CJR	1
Tetrachloroethene	22.9	ug/l	3.8	12.1	10	8260B		3/28/2018	CJR	1
Toluene	< 1.9	ug/l	1.9	6	10	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 11.5	ug/l	11.5	36.7	10	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 17.1	ug/l	17.1	54.3	10	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34389

Lab Code 5034389E
Sample ID SMW-5
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 3.3	ug/l	3.3	10.5	10	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 4.2	ug/l	4.2	13.2	10	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	480	ug/l	3	9.4	10	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 3.5	ug/l	3.5	11	10	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 8	ug/l	8	25.5	10	8260B		3/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 6.3	ug/l	6.3	20	10	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 2	ug/l	2	6.5	10	8260B		3/28/2018	CJR	1
m&p-Xylene	< 4.3	ug/l	4.3	13.8	10	8260B		3/28/2018	CJR	1
o-Xylene	< 2.9	ug/l	2.9	9.3	10	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	90	REC %			10	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	107	REC %			10	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			10	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			10	8260B		3/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	8.11	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389F
Sample ID CPMW02
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	42	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	35	ug/l	0.37	1.16	1	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	1.83	ug/l	0.34	1.07	1	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	12.5	ug/l	0.28	0.89	1	8260B		3/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/28/2018	CJR	1
Tetrachloroethene	1.18 "J"	ug/l	0.38	1.21	1	8260B		3/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389F
Sample ID CPMW02
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	41	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	101	REC %			1	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	97	REC %			1	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	108	REC %			1	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	88	REC %			1	8260B		3/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389G
Sample ID CPMW03
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	206	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 2.2	ug/l	2.2	7.1	10	8260B		3/28/2018	CJR	1
Bromobenzene	< 4.4	ug/l	4.4	13.8	10	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 3.3	ug/l	3.3	10.6	10	8260B		3/28/2018	CJR	1
Bromoform	< 4.5	ug/l	4.5	14.4	10	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 2.5	ug/l	2.5	8	10	8260B		3/28/2018	CJR	1
sec-Butylbenzene	< 7.9	ug/l	7.9	25.3	10	8260B		3/28/2018	CJR	1
n-Butylbenzene	< 7.1	ug/l	7.1	22.5	10	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 3.1	ug/l	3.1	9.8	10	8260B		3/28/2018	CJR	1
Chlorobenzene	< 2.6	ug/l	2.6	8.3	10	8260B		3/28/2018	CJR	1
Chloroethane	< 6.1	ug/l	6.1	19.5	10	8260B		3/28/2018	CJR	1
Chloroform	< 2.6	ug/l	2.6	8.2	10	8260B		3/28/2018	CJR	1
Chloromethane	< 5.4	ug/l	5.4	17.2	10	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 3.1	ug/l	3.1	9.8	10	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 2.6	ug/l	2.6	8.3	10	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 29.6	ug/l	29.6	94.3	10	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 2.2	ug/l	2.2	6.9	10	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 7	ug/l	7	22.2	10	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 8.5	ug/l	8.5	27	10	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 8.6	ug/l	8.6	27.4	10	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 3.2	ug/l	3.2	10.2	10	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 2.5	ug/l	2.5	7.8	10	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 3.6	ug/l	3.6	11.4	10	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 4.2	ug/l	4.2	13.4	10	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	210	ug/l	3.7	11.6	10	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	85	ug/l	3.4	10.7	10	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 4.4	ug/l	4.4	13.9	10	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 3	ug/l	3	9.4	10	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 3.2	ug/l	3.2	10.1	10	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 2.6	ug/l	2.6	8.1	10	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 2.1	ug/l	2.1	6.6	10	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 3.4	ug/l	3.4	10.9	10	8260B		3/28/2018	CJR	1
Ethylbenzene	< 2.6	ug/l	2.6	8.3	10	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 13.4	ug/l	13.4	42.8	10	8260B		3/28/2018	CJR	1
Isopropylbenzene	< 7.8	ug/l	7.8	24.7	10	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	< 2.4	ug/l	2.4	7.6	10	8260B		3/28/2018	CJR	1
Methylene chloride	< 13.2	ug/l	13.2	42.1	10	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	52	ug/l	2.8	8.9	10	8260B		3/28/2018	CJR	1
Naphthalene	< 21	ug/l	21	66.5	10	8260B		3/28/2018	CJR	1
n-Propylbenzene	< 6.1	ug/l	6.1	19.5	10	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 3	ug/l	3	9.7	10	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 3.5	ug/l	3.5	11.3	10	8260B		3/28/2018	CJR	1
Tetrachloroethene	< 3.8	ug/l	3.8	12.1	10	8260B		3/28/2018	CJR	1
Toluene	< 1.9	ug/l	1.9	6	10	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 11.5	ug/l	11.5	36.7	10	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 17.1	ug/l	17.1	54.3	10	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389G
Sample ID CPMW03
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 3.3	ug/l	3.3	10.5	10	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 4.2	ug/l	4.2	13.2	10	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	760	ug/l	3	9.4	10	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 3.5	ug/l	3.5	11	10	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 8	ug/l	8	25.5	10	8260B		3/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 6.3	ug/l	6.3	20	10	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 2	ug/l	2	6.5	10	8260B		3/28/2018	CJR	1
m&p-Xylene	< 4.3	ug/l	4.3	13.8	10	8260B		3/28/2018	CJR	1
o-Xylene	< 2.9	ug/l	2.9	9.3	10	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	87	REC %			10	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	108	REC %			10	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	97	REC %			10	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	109	REC %			10	8260B		3/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389H
Sample ID CPMW04A
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	37	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	6.5	ug/l	0.37	1.16	1	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	0.84 "J"	ug/l	0.34	1.07	1	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	16.4	ug/l	0.28	0.89	1	8260B		3/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/28/2018	CJR	1
Tetrachloroethene	25.4	ug/l	0.38	1.21	1	8260B		3/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389H
Sample ID CPMW04A
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	16.4	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	111	REC %			1	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	90	REC %			1	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		3/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389I
Sample ID CPPZ04
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 2	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	1.76	ug/l	0.37	1.16	1	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	4.5	ug/l	0.28	0.89	1	8260B		3/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/28/2018	CJR	1
Tetrachloroethene	0.43 "J"	ug/l	0.38	1.21	1	8260B		3/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389I
Sample ID CPPZ04
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	0.95	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	107	REC %			1	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	100	REC %			1	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	116	REC %			1	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	89	REC %			1	8260B		3/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389J
Sample ID CPPZ105
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 2	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		3/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		3/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389J
Sample ID CPPZ105
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	113	REC %			1	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	88	REC %			1	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	105	REC %			1	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	94	REC %			1	8260B		3/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389K
Sample ID GSMW103
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 2	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	0.94 "J"	ug/l	0.37	1.16	1	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	6.3	ug/l	0.28	0.89	1	8260B		3/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		3/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389K
Sample ID GSMW103
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			1	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	112	REC %			1	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	88	REC %			1	8260B		3/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/3/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389L
Sample ID GSPZ103
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 2	ug/l	2	7	1	SM3500CrB		3/23/2018	BLE	1
Lead, Dissolved	< 0.9	ug/L	0.9	3	1	7421		3/23/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		3/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		3/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		3/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		3/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		3/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389L
Sample ID GSPZ103
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		3/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			1	8260B		3/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		3/28/2018	CJR	1
SUR - Dibromofluoromethane	113	REC %			1	8260B		3/28/2018	CJR	1
SUR - Toluene-d8	89	REC %			1	8260B		3/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		4/5/2018	NJC	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34389

Lab Code 5034389M
Sample ID DUPLICATE
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/29/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/29/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/29/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/29/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/29/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/29/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/29/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/29/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/29/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/29/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/29/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/29/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/29/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/29/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		3/29/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/29/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/29/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/29/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/29/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/29/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/29/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/29/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/29/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		3/29/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		3/29/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/29/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/29/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/29/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/29/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/29/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/29/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/29/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/29/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/29/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/29/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/29/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		3/29/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/29/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/29/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/29/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/29/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		3/29/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/29/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/29/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/29/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/29/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/29/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		3/29/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/29/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/29/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389M
Sample ID DUPLICATE
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/29/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/29/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/29/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/29/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	106	REC %			1	8260B		3/29/2018	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		3/29/2018	CJR	1
SUR - Dibromofluoromethane	109	REC %			1	8260B		3/29/2018	CJR	1
SUR - Toluene-d8	89	REC %			1	8260B		3/29/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389N
Sample ID EQUIP BLK
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/26/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/26/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/26/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/26/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/26/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/26/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/26/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/26/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/26/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/26/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/26/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/26/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/26/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/26/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/26/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/26/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/26/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/26/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/26/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/26/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/26/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/26/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		3/26/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		3/26/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/26/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/26/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/26/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/26/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/26/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/26/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/26/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/26/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/26/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/26/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/26/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		3/26/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/26/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/26/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/26/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/26/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		3/26/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/26/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/26/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/26/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/26/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/26/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		3/26/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/26/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/26/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/26/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389N
Sample ID EQUIP BLK
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/26/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/26/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/26/2018	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		3/26/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	98	REC %			1	8260B		3/26/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		3/26/2018	CJR	1
SUR - Dibromofluoromethane	110	REC %			1	8260B		3/26/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389O
Sample ID TRIP BLK
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		3/26/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		3/26/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		3/26/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		3/26/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		3/26/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		3/26/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		3/26/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		3/26/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/26/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		3/26/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		3/26/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		3/26/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		3/26/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		3/26/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		3/26/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		3/26/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		3/26/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		3/26/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		3/26/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		3/26/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		3/26/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		3/26/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		3/26/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		3/26/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		3/26/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		3/26/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		3/26/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		3/26/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		3/26/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/26/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		3/26/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		3/26/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		3/26/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		3/26/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		3/26/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		3/26/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		3/26/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		3/26/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		3/26/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		3/26/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		3/26/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		3/26/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		3/26/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		3/26/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		3/26/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		3/26/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		3/26/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		3/26/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		3/26/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		3/26/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34389
Project # 15772

Lab Code 5034389O
Sample ID TRIP BLK
Sample Matrix Water
Sample Date 3/22/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		3/26/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		3/26/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		3/26/2018	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		3/26/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			1	8260B		3/26/2018	CJR	1
SUR - 4-Bromofluorobenzene	102	REC %			1	8260B		3/26/2018	CJR	1
SUR - Dibromofluoromethane	106	REC %			1	8260B		3/26/2018	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

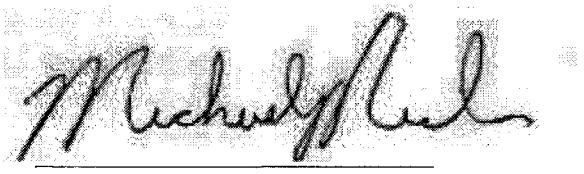
Code	*Comment*
1	Laboratory QC within limits.

BLE denotes sub contract lab - Certification #445023150

CWT denotes sub contract lab - Certification #445126660

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature



Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

STEVE MEER
THE SIGMA GROUP, INC.
1300 W. CANAL STREET
MILWAUKEE, WI 53233

Report Date *11-Jul-18*

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854A
Sample ID SMW-1
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 10	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Lead, Dissolved	< 0.8	ug/L	0.8	2.7	1	7421		6/29/2018	CWT	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	1.17 "J"	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	18.3	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854A
Sample ID SMW-1
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
trans-1,2-Dichloroethene	3.3	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	20.7	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	3.8	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	24.1	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	3.3	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	101	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	3.17 "J"	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854B
Sample ID SMW-2
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 10	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	0.93 "J"	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854B
Sample ID SMW-2
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	2.34	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	106	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	101	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854C
Sample ID SMW-3
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 2.2	ug/l	2.2	7.1	10	8260B		6/28/2018	CJR	1
Bromobenzene	< 4.4	ug/l	4.4	13.8	10	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 3.3	ug/l	3.3	10.6	10	8260B		6/28/2018	CJR	1
Bromoform	< 4.5	ug/l	4.5	14.4	10	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 2.5	ug/l	2.5	8	10	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 7.9	ug/l	7.9	25.3	10	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 7.1	ug/l	7.1	22.5	10	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 3.1	ug/l	3.1	9.8	10	8260B		6/28/2018	CJR	1
Chlorobenzene	< 2.6	ug/l	2.6	8.3	10	8260B		6/28/2018	CJR	1
Chloroethane	< 6.1	ug/l	6.1	19.5	10	8260B		6/28/2018	CJR	1
Chloroform	< 2.6	ug/l	2.6	8.2	10	8260B		6/28/2018	CJR	1
Chloromethane	6.7 "J"	ug/l	5.4	17.2	10	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 3.1	ug/l	3.1	9.8	10	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 2.6	ug/l	2.6	8.3	10	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 29.6	ug/l	29.6	94.3	10	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 2.2	ug/l	2.2	6.9	10	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 7	ug/l	7	22.2	10	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 8.5	ug/l	8.5	27	10	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 8.6	ug/l	8.6	27.4	10	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 3.2	ug/l	3.2	10.2	10	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 2.5	ug/l	2.5	7.8	10	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 3.6	ug/l	3.6	11.4	10	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 4.2	ug/l	4.2	13.4	10	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	< 3.7	ug/l	3.7	11.6	10	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	< 3.4	ug/l	3.4	10.7	10	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 4.4	ug/l	4.4	13.9	10	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 3	ug/l	3	9.4	10	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 3.2	ug/l	3.2	10.1	10	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 2.6	ug/l	2.6	8.1	10	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 2.1	ug/l	2.1	6.6	10	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 3.4	ug/l	3.4	10.9	10	8260B		6/28/2018	CJR	1
Ethylbenzene	< 2.6	ug/l	2.6	8.3	10	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 13.4	ug/l	13.4	42.8	10	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 7.8	ug/l	7.8	24.7	10	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 2.4	ug/l	2.4	7.6	10	8260B		6/28/2018	CJR	1
Methylene chloride	< 13.2	ug/l	13.2	42.1	10	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	510	ug/l	2.8	8.9	10	8260B		6/28/2018	CJR	1
Naphthalene	< 21	ug/l	21	66.5	10	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 6.1	ug/l	6.1	19.5	10	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 3	ug/l	3	9.7	10	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 3.5	ug/l	3.5	11.3	10	8260B		6/28/2018	CJR	1
Tetrachloroethene	< 3.8	ug/l	3.8	12.1	10	8260B		6/28/2018	CJR	1
Toluene	< 1.9	ug/l	1.9	6	10	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 11.5	ug/l	11.5	36.7	10	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 17.1	ug/l	17.1	54.3	10	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 3.3	ug/l	3.3	10.5	10	8260B		6/28/2018	CJR	1
1,1,2-Trichloroethane	< 4.2	ug/l	4.2	13.2	10	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	< 3	ug/l	3	9.4	10	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 3.5	ug/l	3.5	11	10	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 8	ug/l	8	25.5	10	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854C
Sample ID SMW-3
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 6.3	ug/l	6.3	20	10	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 2	ug/l	2	6.5	10	8260B		6/28/2018	CJR	1
m&p-Xylene	< 4.3	ug/l	4.3	13.8	10	8260B		6/28/2018	CJR	1
o-Xylene	< 2.9	ug/l	2.9	9.3	10	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			10	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	90	REC %			10	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	103	REC %			10	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	99	REC %			10	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854D
Sample ID SMW-4
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	1.05	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	16.6	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	7.8	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	6.1	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	20.1	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	0.48 "J"	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	7.6	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	42	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	0.36 "J"	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	76	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34854

Lab Code 5034854D
Sample ID SMW-4
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	5.4	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	24.9	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	0.34 "J"	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	103	REC %			1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854E
Sample ID SMW-5
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	20 "J"	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	53	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	14.3	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	36	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854E
Sample ID SMW-5
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	127	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	98	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	35.3	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854F
Sample ID CPMW02
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	80	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	20.6	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	0.61 "J"	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	2.08	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854F
Sample ID CPMW02
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	42	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	112	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	87	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	105	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	7.15 "J"	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854G
Sample ID CPMW03
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	60	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Organic										
VOC's										
Benzene	< 2.2	ug/l	2.2	7.1	10	8260B		6/28/2018	CJR	1
Bromobenzene	< 4.4	ug/l	4.4	13.8	10	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 3.3	ug/l	3.3	10.6	10	8260B		6/28/2018	CJR	1
Bromoform	< 4.5	ug/l	4.5	14.4	10	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 2.5	ug/l	2.5	8	10	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 7.9	ug/l	7.9	25.3	10	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 7.1	ug/l	7.1	22.5	10	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 3.1	ug/l	3.1	9.8	10	8260B		6/28/2018	CJR	1
Chlorobenzene	< 2.6	ug/l	2.6	8.3	10	8260B		6/28/2018	CJR	1
Chloroethane	< 6.1	ug/l	6.1	19.5	10	8260B		6/28/2018	CJR	1
Chloroform	< 2.6	ug/l	2.6	8.2	10	8260B		6/28/2018	CJR	1
Chloromethane	< 5.4	ug/l	5.4	17.2	10	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 3.1	ug/l	3.1	9.8	10	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 2.6	ug/l	2.6	8.3	10	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 29.6	ug/l	29.6	94.3	10	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 2.2	ug/l	2.2	6.9	10	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 7	ug/l	7	22.2	10	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 8.5	ug/l	8.5	27	10	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 8.6	ug/l	8.6	27.4	10	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 3.2	ug/l	3.2	10.2	10	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 2.5	ug/l	2.5	7.8	10	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 3.6	ug/l	3.6	11.4	10	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 4.2	ug/l	4.2	13.4	10	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	330	ug/l	3.7	11.6	10	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	95	ug/l	3.4	10.7	10	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 4.4	ug/l	4.4	13.9	10	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 3	ug/l	3	9.4	10	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 3.2	ug/l	3.2	10.1	10	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 2.6	ug/l	2.6	8.1	10	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 2.1	ug/l	2.1	6.6	10	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 3.4	ug/l	3.4	10.9	10	8260B		6/28/2018	CJR	1
Ethylbenzene	< 2.6	ug/l	2.6	8.3	10	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 13.4	ug/l	13.4	42.8	10	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 7.8	ug/l	7.8	24.7	10	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 2.4	ug/l	2.4	7.6	10	8260B		6/28/2018	CJR	1
Methylene chloride	< 13.2	ug/l	13.2	42.1	10	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	27.4	ug/l	2.8	8.9	10	8260B		6/28/2018	CJR	1
Naphthalene	< 21	ug/l	21	66.5	10	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 6.1	ug/l	6.1	19.5	10	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 3	ug/l	3	9.7	10	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 3.5	ug/l	3.5	11.3	10	8260B		6/28/2018	CJR	1
Tetrachloroethene	< 3.8	ug/l	3.8	12.1	10	8260B		6/28/2018	CJR	1
Toluene	< 1.9	ug/l	1.9	6	10	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 11.5	ug/l	11.5	36.7	10	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 17.1	ug/l	17.1	54.3	10	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 3.3	ug/l	3.3	10.5	10	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854G
Sample ID CPMW03
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 4.2	ug/l	4.2	13.2	10	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	1110	ug/l	3	9.4	10	8260B		6/28/2018	CJR	3
Trichlorofluoromethane	< 3.5	ug/l	3.5	11	10	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 8	ug/l	8	25.5	10	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 6.3	ug/l	6.3	20	10	8260B		6/28/2018	CJR	1
Vinyl Chloride	5.0 "J"	ug/l	2	6.5	10	8260B		6/28/2018	CJR	1
m&p-Xylene	< 4.3	ug/l	4.3	13.8	10	8260B		6/28/2018	CJR	1
o-Xylene	< 2.9	ug/l	2.9	9.3	10	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	99	REC %			10	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	98	REC %			10	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	95	REC %			10	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	104	REC %			10	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854H
Sample ID CPMW04A
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	10 "J"	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	0.72 "J"	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	0.26 "J"	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	4.2	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	0.78 "J"	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	11.6	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	12.3	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854H
Sample ID CPMW04A
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	12.7	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	100	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	95	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854I
Sample ID CPPZ-04
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 10	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	0.68 "J"	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	0.8 "J"	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854I
Sample ID CPPZ-04
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	1.23	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	94	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	104	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854J
Sample ID CPPZ105
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 10	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854J
Sample ID CPPZ105
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	97	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	104	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854K
Sample ID GSMW103
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 10	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	1.1 "J"	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	3.4	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854K
Sample ID GSMW103
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	95	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	92	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	107	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	3

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854L
Sample ID GSPZ103
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 10	ug/l	10	30	1	SM3500CrB		6/27/2018	BLE	I
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	I
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	I
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	I
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	I
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	I
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	I
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	I
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	I
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	I
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	I
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	I
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	I
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	I
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	I
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	I
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	I
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	I
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	I
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	I
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	I
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	I
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	I
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	I
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	I
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	I
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	I
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	I
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	I
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	I
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	I
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	I
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	I
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	I
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	I
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	I
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	I
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	I
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	I
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	I
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	I
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	I
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	I
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	I
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	I
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	I
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	I

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34854

Lab Code 5034854L
Sample ID GSPZ103
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	101	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	88	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	105	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		6/28/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	< 2.41	ug/l	2.41	7.68	1	335.4		7/10/2018	NJC	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854M
Sample ID DUPLICATE
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/29/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/29/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/29/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/29/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/29/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/29/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/29/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/29/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/29/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/29/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/29/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/29/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/29/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/29/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/29/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/29/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/29/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/29/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/29/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/29/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/29/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/29/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/29/2018	CJR	1
cis-1,2-Dichloroethene	53	ug/l	0.37	1.16	1	8260B		6/29/2018	CJR	1
trans-1,2-Dichloroethene	14.2	ug/l	0.34	1.07	1	8260B		6/29/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/29/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/29/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/29/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/29/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/29/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/29/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/29/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/29/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/29/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/29/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/29/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/29/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/29/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/29/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/29/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/29/2018	CJR	1
Tetrachloroethene	36	ug/l	0.38	1.21	1	8260B		6/29/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/29/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/29/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/29/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/29/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/29/2018	CJR	1
Trichloroethene (TCE)	120	ug/l	0.3	0.94	1	8260B		6/29/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/29/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/29/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34854

Lab Code 5034854M
Sample ID DUPLICATE
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/29/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/29/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/29/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/29/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	111	REC %			1	8260B		6/29/2018	CJR	1
SUR - 4-Bromofluorobenzene	92	REC %			1	8260B		6/29/2018	CJR	1
SUR - Dibromofluoromethane	108	REC %			1	8260B		6/29/2018	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		6/29/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854N
Sample ID FIELD BLANK
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E34854

Lab Code 5034854N
Sample ID FIELD BLANK
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	94	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	101	REC %			1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854O
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		6/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		6/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		6/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		6/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		6/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		6/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		6/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		6/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		6/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		6/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		6/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		6/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		6/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		6/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		6/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		6/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		6/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		6/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		6/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		6/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		6/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		6/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		6/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		6/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		6/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		6/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		6/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		6/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		6/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		6/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		6/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		6/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		6/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		6/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		6/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		6/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		6/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		6/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		6/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		6/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		6/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		6/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		6/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		6/28/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E34854
Project # 15772

Lab Code 5034854O
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		6/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		6/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		6/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		6/28/2018	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		6/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			1	8260B		6/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		6/28/2018	CJR	1
SUR - Dibromofluoromethane	98	REC %			1	8260B		6/28/2018	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

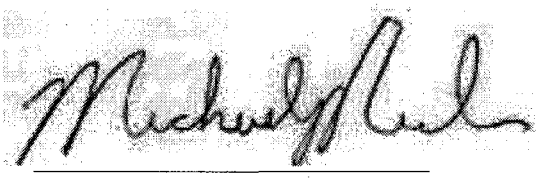
Code	*Comment*
1	Laboratory QC within limits.
3	The matrix spike not within established limits.

BLE denotes sub contract lab - Certification #445023150

CWT denotes sub contract lab - Certification #445126660

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature



Synergy Environmental Lab, INC

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

STEVE MEER
THE SIGMA GROUP. INC.
1300 W. CANAL STREET
MILWAUKEE. WI 53233

Report Date *26-Oct-18*

Project Name CITY OF CHILTON
Project # 15772

Invoice # E35325

Lab Code 5035325A
Sample ID SMW-1
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	1.66	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325A
Sample ID SMW-1
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	3.4	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1
Tetrachloroethene	0.55 "J"	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	2.22	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	0.21 "J"	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	93	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	82	REC %			1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	106	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325B
Sample ID SMW-2
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	3.5	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	0.47 "J"	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325B
Sample ID SMW-2
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	2.24	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	87	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	89	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325C
Sample ID SMW-3
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 2.2	ug/l	2.2	7.1	10	8260B		10/11/2018	CJR	1
Bromobenzene	< 4.4	ug/l	4.4	13.8	10	8260B		10/11/2018	CJR	1
Bromodichloromethane	< 3.3	ug/l	3.3	10.6	10	8260B		10/11/2018	CJR	1
Bromoform	< 4.5	ug/l	4.5	14.4	10	8260B		10/11/2018	CJR	1
tert-Butylbenzene	< 2.5	ug/l	2.5	8	10	8260B		10/11/2018	CJR	1
sec-Butylbenzene	< 7.9	ug/l	7.9	25.3	10	8260B		10/11/2018	CJR	1
n-Butylbenzene	< 7.1	ug/l	7.1	22.5	10	8260B		10/11/2018	CJR	1
Carbon Tetrachloride	< 3.1	ug/l	3.1	9.8	10	8260B		10/11/2018	CJR	1
Chlorobenzene	< 2.6	ug/l	2.6	8.3	10	8260B		10/11/2018	CJR	1
Chloroethane	< 6.1	ug/l	6.1	19.5	10	8260B		10/11/2018	CJR	1
Chloroform	< 2.6	ug/l	2.6	8.2	10	8260B		10/11/2018	CJR	1
Chloromethane	< 5.4	ug/l	5.4	17.2	10	8260B		10/11/2018	CJR	1
2-Chlorotoluene	< 3.1	ug/l	3.1	9.8	10	8260B		10/11/2018	CJR	1
4-Chlorotoluene	< 2.6	ug/l	2.6	8.3	10	8260B		10/11/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 29.6	ug/l	29.6	94.3	10	8260B		10/11/2018	CJR	1
Dibromochloromethane	< 2.2	ug/l	2.2	6.9	10	8260B		10/11/2018	CJR	1
1,4-Dichlorobenzene	< 7	ug/l	7	22.2	10	8260B		10/11/2018	CJR	1
1,3-Dichlorobenzene	< 8.5	ug/l	8.5	27	10	8260B		10/11/2018	CJR	1
1,2-Dichlorobenzene	< 8.6	ug/l	8.6	27.4	10	8260B		10/11/2018	CJR	1
Dichlorodifluoromethane	< 3.2	ug/l	3.2	10.2	10	8260B		10/11/2018	CJR	1
1,2-Dichloroethane	< 2.5	ug/l	2.5	7.8	10	8260B		10/11/2018	CJR	1
1,1-Dichloroethane	< 3.6	ug/l	3.6	11.4	10	8260B		10/11/2018	CJR	1
1,1-Dichloroethene	< 4.2	ug/l	4.2	13.4	10	8260B		10/11/2018	CJR	1
cis-1,2-Dichloroethene	< 3.7	ug/l	3.7	11.6	10	8260B		10/11/2018	CJR	1
trans-1,2-Dichloroethene	< 3.4	ug/l	3.4	10.7	10	8260B		10/11/2018	CJR	1
1,2-Dichloropropane	< 4.4	ug/l	4.4	13.9	10	8260B		10/11/2018	CJR	1
1,3-Dichloropropane	< 3	ug/l	3	9.4	10	8260B		10/11/2018	CJR	1
trans-1,3-Dichloropropene	< 3.2	ug/l	3.2	10.1	10	8260B		10/11/2018	CJR	1
cis-1,3-Dichloropropene	< 2.6	ug/l	2.6	8.1	10	8260B		10/11/2018	CJR	1
Di-isopropyl ether	< 2.1	ug/l	2.1	6.6	10	8260B		10/11/2018	CJR	1
EDB (1,2-Dibromoethane)	< 3.4	ug/l	3.4	10.9	10	8260B		10/11/2018	CJR	1
Ethylbenzene	< 2.6	ug/l	2.6	8.3	10	8260B		10/11/2018	CJR	1
Hexachlorobutadiene	< 13.4	ug/l	13.4	42.8	10	8260B		10/11/2018	CJR	1
Isopropylbenzene	< 7.8	ug/l	7.8	24.7	10	8260B		10/11/2018	CJR	1
p-Isopropyltoluene	< 2.4	ug/l	2.4	7.6	10	8260B		10/11/2018	CJR	1
Methylene chloride	< 13.2	ug/l	13.2	42.1	10	8260B		10/11/2018	CJR	1
Methyl tert-butyl ether (MTBE)	890	ug/l	2.8	8.9	10	8260B		10/11/2018	CJR	1
Naphthalene	< 21	ug/l	21	66.5	10	8260B		10/11/2018	CJR	1
n-Propylbenzene	< 6.1	ug/l	6.1	19.5	10	8260B		10/11/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 3	ug/l	3	9.7	10	8260B		10/11/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 3.5	ug/l	3.5	11.3	10	8260B		10/11/2018	CJR	1
Tetrachloroethene	< 3.8	ug/l	3.8	12.1	10	8260B		10/11/2018	CJR	1
Toluene	< 1.9	ug/l	1.9	6	10	8260B		10/11/2018	CJR	1
1,2,4-Trichlorobenzene	< 11.5	ug/l	11.5	36.7	10	8260B		10/11/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325C
Sample ID SMW-3
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 17.1	ug/l	17.1	54.3	10	8260B		10/11/2018	CJR	1
1,1,1-Trichloroethane	< 3.3	ug/l	3.3	10.5	10	8260B		10/11/2018	CJR	1
1,1,2-Trichloroethane	< 4.2	ug/l	4.2	13.2	10	8260B		10/11/2018	CJR	1
Trichloroethene (TCE)	< 3	ug/l	3	9.4	10	8260B		10/11/2018	CJR	1
Trichlorofluoromethane	< 3.5	ug/l	3.5	11	10	8260B		10/11/2018	CJR	1
1,2,4-Trimethylbenzene	< 8	ug/l	8	25.5	10	8260B		10/11/2018	CJR	1
1,3,5-Trimethylbenzene	< 6.3	ug/l	6.3	20	10	8260B		10/11/2018	CJR	1
Vinyl Chloride	< 2	ug/l	2	6.5	10	8260B		10/11/2018	CJR	1
m&p-Xylene	< 4.3	ug/l	4.3	13.8	10	8260B		10/11/2018	CJR	1
o-Xylene	< 2.9	ug/l	2.9	9.3	10	8260B		10/11/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			10	8260B		10/11/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			10	8260B		10/11/2018	CJR	1
SUR - Dibromofluoromethane	105	REC %			10	8260B		10/11/2018	CJR	1
SUR - Toluene-d8	101	REC %			10	8260B		10/11/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325D
Sample ID SMW-4
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	0.88	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	17.9	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	8.6	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	5.0	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	19.5	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	0.37 "J"	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	10.8	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	41	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	0.46 "J"	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325D
Sample ID SMW-4
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	100	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	11.2	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	32	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	0.55 "J"	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	89	REC %			1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	107	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	89	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325E
Sample ID SMW-5
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	20 "J"	ug/l	10	30	1	SM3500CrB		10/11/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	38	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	10.1	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325E
Sample ID SMW-5
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Tetrachloroethene	37	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	72	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	85	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	89	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		10/12/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	33.5	ug/l	1.8	6	1	4500CN-E		10/24/2018	ESC	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325F
Sample ID CPMW-02
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	20 "J"	ug/l	10	30	1	SM3500CrB		10/11/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	1.59	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325F
Sample ID CPMW-02
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Tetrachloroethene	0.65 "J"	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	3.8	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	86	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	88	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		10/12/2018	CJR	1
Wet Chemistry										
General										
Cyanide, Total	13.0	ug/l	1.8	6	1	4500CN-E		10/24/2018	ESC	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325G
Sample ID CPMW-03
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 10	ug/l	10	30	1	SM3500CrB		10/11/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	18.9	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	6.7	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	2.75	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325G
Sample ID CPMW-03
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	83	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	0.31 "J"	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	102	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	100	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325H
Sample ID CPMW-04A
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Chromium, Hexavalent	< 10	ug/l	10	30	1	SM3500CrB		10/11/2018	BLE	1
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/11/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/11/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/11/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/11/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/11/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/11/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/11/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/11/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/11/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/11/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/11/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/11/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/11/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/11/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/11/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/11/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/11/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/11/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/11/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/11/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/11/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		10/11/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/11/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/11/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/11/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/11/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/11/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/11/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/11/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/11/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/11/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/11/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/11/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/11/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/11/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/11/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/11/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/11/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E35325

Lab Code 5035325H
Sample ID CPMW-04A
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		10/11/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/11/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/11/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/11/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/11/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/11/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		10/11/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/11/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/11/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/11/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/11/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/11/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/11/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			1	8260B		10/11/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		10/11/2018	CJR	1
SUR - Dibromofluoromethane	103	REC %			1	8260B		10/11/2018	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		10/11/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325I
Sample ID CPPZ-04
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	0.94 "J"	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	3.9	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1
Tetrachloroethene	0.65 "J"	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325I
Sample ID CPPZ-04
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	1.16	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	95	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	88	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	88	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325J
Sample ID CPPZ-105
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1
Tetrachloroethene	0.60 "J"	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E35325

Lab Code 5035325J
Sample ID CPPZ-105
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	98	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	87	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	91	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325K
Sample ID GSMW-103
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/11/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/11/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/11/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/11/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/11/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/11/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/11/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/11/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/11/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/11/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/11/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/11/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/11/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/11/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/11/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/11/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/11/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/11/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/11/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/11/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/11/2018	CJR	1
cis-1,2-Dichloroethene	1.04 "J"	ug/l	0.37	1.16	1	8260B		10/11/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/11/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/11/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/11/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/11/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/11/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/11/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/11/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/11/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/11/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/11/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/11/2018	CJR	1
Methyl tert-butyl ether (MTBE)	2.97	ug/l	0.28	0.89	1	8260B		10/11/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/11/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/11/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/11/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/11/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		10/11/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/11/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/11/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325K
Sample ID GSMW-103
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/11/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/11/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/11/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		10/11/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/11/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/11/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/11/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/11/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/11/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/11/2018	CJR	1
SUR - Dibromofluoromethane	102	REC %			1	8260B		10/11/2018	CJR	1
SUR - Toluene-d8	102	REC %			1	8260B		10/11/2018	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		10/11/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	106	REC %			1	8260B		10/11/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E35325

Lab Code 5035325L
Sample ID GSPZ-103
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325L
Sample ID GSPZ-103
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	85	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	90	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325M
Sample ID DUPLCATE
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	0.61 "J"	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	38	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	11.5	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1
Tetrachloroethene	33	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON
Project # 15772

Invoice # E35325

Lab Code 5035325M
Sample ID DUPLCATE
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	82	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	98	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325N
Sample ID EQUIP BLANK
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/12/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/12/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/12/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/12/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/12/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/12/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/12/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/12/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/12/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/12/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/12/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/12/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/12/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/12/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		10/12/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/12/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/12/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/12/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/12/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/12/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/12/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/12/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/12/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/12/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/12/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/12/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/12/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/12/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/12/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/12/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/12/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		10/12/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/12/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325N
Sample ID EQUIP BLANK
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/12/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/12/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/12/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		10/12/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/12/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/12/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/12/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/12/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/12/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/12/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	102	REC %			1	8260B		10/12/2018	CJR	1
SUR - 4-Bromofluorobenzene	85	REC %			1	8260B		10/12/2018	CJR	1
SUR - Dibromofluoromethane	91	REC %			1	8260B		10/12/2018	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		10/12/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325O
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		10/11/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		10/11/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		10/11/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		10/11/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		10/11/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		10/11/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		10/11/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		10/11/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		10/11/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		10/11/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		10/11/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/11/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		10/11/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		10/11/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		10/11/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		10/11/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		10/11/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		10/11/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		10/11/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		10/11/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		10/11/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		10/11/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		10/11/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		10/11/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		10/11/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		10/11/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		10/11/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		10/11/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		10/11/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		10/11/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		10/11/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		10/11/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		10/11/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		10/11/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		10/11/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		10/11/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		10/11/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/11/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		10/11/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		10/11/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		10/11/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		10/11/2018	CJR	1

Project Name CITY OF CHILTON **Invoice #** E35325
Project # 15772

Lab Code 5035325O
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 10/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		10/11/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		10/11/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		10/11/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		10/11/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		10/11/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		10/11/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		10/11/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		10/11/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		10/11/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		10/11/2018	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		10/11/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			1	8260B		10/11/2018	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		10/11/2018	CJR	1
SUR - Dibromofluoromethane	105	REC %			1	8260B		10/11/2018	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

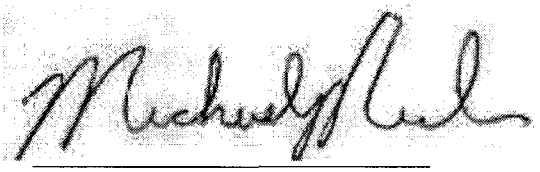
Code	*Comment*
1	Laboratory QC within limits.

BLE denotes sub contract lab - Certification #445023150

ESC denotes sub contract lab - Certification #998093910

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature



APPENDIX H

SEDIMENT LABORATORY ANALYTICAL REPORT

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

STEVE MEER
THE SIGMA GROUP, INC.
1300 W. CANAL STREET
MILWAUKEE, WI 53233

Report Date *10-Jul-18*

Project Name 420 E MAIN
Project # 15772

Invoice # E34855

Lab Code 5034855A
Sample ID SED-1
Sample Matrix Soil
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.9	%			1	5021		6/27/2018	NJC	1
Inorganic										
Metals										
Chromium, Hexavalent	< 0.64	mg/kg	0.64	2.13	1	7196A		7/3/2018	ESC	1
Cadmium, Total	< 0.07	mg/kg	0.07	0.233	1	6010B		7/4/2018	ESC	1
Nickel, Total	3.09	mg/kg	0.49	1.63	1	6010B		7/4/2018	ESC	1
Zinc, Total	16.2	mg/kg		3	1	6010B		7/4/2018	ESC	1
Wet Chemistry										
General										
Cyanide, Total	0.108 "J"	mg/kg	0.039	0.13	1	9012B		7/3/2018	ESC	1

Project Name 420 E MAIN
Project # 15772

Invoice # E34855

Lab Code 5034855B
Sample ID SED-2
Sample Matrix Soil
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	59.0	%			1	5021		6/27/2018	NJC	1
Inorganic										
Metals										
Chromium, Hexavalent	< 0.64	mg/kg	0.64	2.13	1	7196A		7/3/2018	ESC	1
Cadmium, Total	0.493	mg/kg	0.07	0.233	1	6010B		7/4/2018	ESC	1
Nickel, Total	78.4	mg/kg	0.49	1.63	1	6010B		7/4/2018	ESC	1
Zinc, Total	115	mg/kg		3	1	6010B		7/4/2018	ESC	1
Wet Chemistry										
General										
Cyanide, Total	0.0798 "J"	mg/kg	0.039	0.13	1	9012B		7/3/2018	ESC	1

Lab Code 5034855C
Sample ID SED-3
Sample Matrix Soil
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	46.6	%			1	5021		6/27/2018	NJC	1
Inorganic										
Metals										
Chromium, Hexavalent	1.00 "J"	mg/kg	0.64	2.13	1	7196A		7/3/2018	ESC	1
Cadmium, Total	0.251	mg/kg	0.07	0.233	1	6010B		7/4/2018	ESC	1
Nickel, Total	10.7	mg/kg	0.49	1.63	1	6010B		7/4/2018	ESC	1
Zinc, Total	98.9	mg/kg		3	1	6010B		7/4/2018	ESC	1
Wet Chemistry										
General										
Cyanide, Total	0.219	mg/kg	0.039	0.13	1	9012B		7/3/2018	ESC	1

Lab Code 5034855D
Sample ID SED-4
Sample Matrix Soil
Sample Date 6/26/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	75.1	%			1	5021		6/27/2018	NJC	1
Inorganic										
Metals										
Chromium, Hexavalent	< 0.64	mg/kg	0.64	2.13	1	7196A		7/3/2018	ESC	1
Cadmium, Total	0.178 "J"	mg/kg	0.07	0.233	1	6010B		7/4/2018	ESC	1
Nickel, Total	4.70	mg/kg	0.49	1.63	1	6010B		7/4/2018	ESC	1
Zinc, Total	44.3	mg/kg		3	1	6010B		7/4/2018	ESC	1
Wet Chemistry										
General										
Cyanide, Total	< 0.039	mg/kg	0.039	0.13	1	9012B		7/3/2018	ESC	1

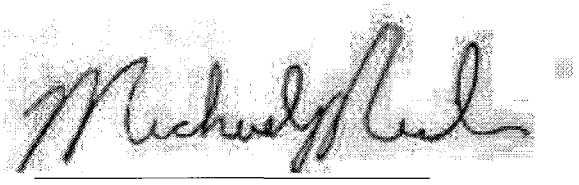
"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

ESC denotes sub contract lab - Certification #998093910

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature



APPENDIX I

VAPOR LABORATORY ANALYTICAL REPORT

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

April 09, 2018

Steve Meer
Sigma Environmental Services
1300 W. Canal St.
Milwaukee, WI 53233

RE: Project: 15772 Chilton
Pace Project No.: 10424669

Dear Steve Meer:
Enclosed are the analytical results for sample(s) received by the laboratory on March 23, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
1(612)607-6351
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 15772 Chilton
Pace Project No.: 10424669

Minnesota Certification IDs
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970

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Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 15772 Chilton
Pace Project No.: 10424669

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10424669001	**SV-1**	Air	03/21/18 10:12	03/23/18 10:45
10424669002	**SV-2**	Air	03/21/18 12:02	03/23/18 10:45
10424669003	**SV-3**	Air	03/21/18 11:10	03/23/18 10:45
10424669004	**SV-4**	Air	03/21/18 12:05	03/23/18 10:45
10424669005	**SV-5**	Air	03/21/18 11:52	03/23/18 10:45

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SAMPLE ANALYTE COUNT

Project: 15772 Chilton
Pace Project No.: 10424669

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10424669001	**SV-1**	TO-15	MG2	5	PASI-M
10424669002	**SV-2**	TO-15	MG2	5	PASI-M
10424669003	**SV-3**	TO-15	MG2	5	PASI-M
10424669004	**SV-4**	TO-15	MG2	5	PASI-M
10424669005	**SV-5**	TO-15	MG2	5	PASI-M

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ANALYTICAL RESULTS

Project: 15772 Chilton
Pace Project No.: 10424669

Sample: SV-1 **Lab ID: 10424669001** Collected: 03/21/18 10:12 Received: 03/23/18 10:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**13.5**	ug/m3	1.1	0.48	1.41		04/05/18 18:51	156-59-2	
trans-1,2-Dichloroethene	**0.60J**	ug/m3	1.1	0.42	1.41		04/05/18 18:51	156-60-5	
Tetrachloroethene	**8.8**	ug/m3	0.97	0.40	1.41		04/05/18 18:51	127-18-4	
Trichloroethene	**39.9**	ug/m3	0.77	0.38	1.41		04/05/18 18:51	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.37	0.18	1.41		04/05/18 18:51	75-01-4	

Sample: SV-2 **Lab ID: 10424669002** Collected: 03/21/18 12:02 Received: 03/23/18 10:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**0.73J**	ug/m3	1.2	0.49	1.44		04/05/18 20:01	156-59-2	
trans-1,2-Dichloroethene	**0.54J**	ug/m3	1.2	0.42	1.44		04/05/18 20:01	156-60-5	
Tetrachloroethene	**0.65J**	ug/m3	0.99	0.41	1.44		04/05/18 20:01	127-18-4	
Trichloroethene	**16.0**	ug/m3	0.79	0.39	1.44		04/05/18 20:01	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.37	0.18	1.44		04/05/18 20:01	75-01-4	

Sample: SV-3 **Lab ID: 10424669003** Collected: 03/21/18 11:10 Received: 03/23/18 10:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**14400**	ug/m3	139	58.9	172.8		04/07/18 00:16	156-59-2	
trans-1,2-Dichloroethene	**5260**	ug/m3	139	51.0	172.8		04/07/18 00:16	156-60-5	
Tetrachloroethene	**136**	ug/m3	119	49.6	172.8		04/07/18 00:16	127-18-4	
Trichloroethene	**8940**	ug/m3	94.3	46.3	172.8		04/07/18 00:16	79-01-6	
Vinyl chloride	**262**	ug/m3	44.9	21.8	172.8		04/07/18 00:16	75-01-4	

Sample: SV-4 **Lab ID: 10424669004** Collected: 03/21/18 12:05 Received: 03/23/18 10:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<28.8**	ug/m3	68.2	28.8	84.6		04/06/18 23:44	156-59-2	
trans-1,2-Dichloroethene	**<25.0**	ug/m3	68.2	25.0	84.6		04/06/18 23:44	156-60-5	
Tetrachloroethene	**58.7**	ug/m3	58.3	24.3	84.6		04/06/18 23:44	127-18-4	
Trichloroethene	**278**	ug/m3	46.2	22.7	84.6		04/06/18 23:44	79-01-6	
Vinyl chloride	**<10.7**	ug/m3	22.0	10.7	84.6		04/06/18 23:44	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15772 Chilton
Pace Project No.: 10424669

Sample: SV-5 **Lab ID: 10424669005** Collected: 03/21/18 11:52 Received: 03/23/18 10:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**162**	ug/m3	11.8	5.0	14.6		04/06/18 13:17	156-59-2	
trans-1,2-Dichloroethene	**125**	ug/m3	11.8	4.3	14.6		04/06/18 13:17	156-60-5	
Tetrachloroethene	**174**	ug/m3	10.1	4.2	14.6		04/06/18 13:17	127-18-4	
Trichloroethene	**1150**	ug/m3	8.0	3.9	14.6		04/06/18 13:17	79-01-6	
Vinyl chloride	**<1.8**	ug/m3	3.8	1.8	14.6		04/06/18 13:17	75-01-4	

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QUALITY CONTROL DATA

Project: 15772 Chilton
Pace Project No.: 10424669

QC Batch: 530918 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10424669001, 10424669002

METHOD BLANK: 2882253 Matrix: Air
Associated Lab Samples: 10424669001, 10424669002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.34	0.81	04/05/18 10:00	
Tetrachloroethene	ug/m3	<0.29	0.69	04/05/18 10:00	
trans-1,2-Dichloroethene	ug/m3	<0.30	0.81	04/05/18 10:00	
Trichloroethene	ug/m3	<0.27	0.55	04/05/18 10:00	
Vinyl chloride	ug/m3	<0.13	0.26	04/05/18 10:00	

LABORATORY CONTROL SAMPLE: 2882254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	40.3	36.8	91	70-136	
Tetrachloroethene	ug/m3	68.9	62.0	90	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	33.2	82	70-132	
Trichloroethene	ug/m3	54.6	49.0	90	70-135	
Vinyl chloride	ug/m3	26	24.8	95	70-141	

SAMPLE DUPLICATE: 2883635

Parameter	Units	10425232001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.49		25	
Tetrachloroethene	ug/m3	ND	<0.41		25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.42		25	
Trichloroethene	ug/m3	ND	<0.39		25	
Vinyl chloride	ug/m3	ND	<0.18		25	

SAMPLE DUPLICATE: 2883641

Parameter	Units	10424669001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	13.5	14.1	4	25	
Tetrachloroethene	ug/m3	8.8	8.4	4	25	
trans-1,2-Dichloroethene	ug/m3	0.60J	0.60J		25	
Trichloroethene	ug/m3	39.9	40.8	2	25	
Vinyl chloride	ug/m3	<0.18	<0.18		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 15772 Chilton
Pace Project No.: 10424669

QC Batch: 531084 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10424669003, 10424669004, 10424669005

METHOD BLANK: 2883604 Matrix: Air
Associated Lab Samples: 10424669003, 10424669004, 10424669005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.34	0.81	04/06/18 08:52	
Tetrachloroethene	ug/m3	<0.29	0.69	04/06/18 08:52	
trans-1,2-Dichloroethene	ug/m3	<0.30	0.81	04/06/18 08:52	
Trichloroethene	ug/m3	<0.27	0.55	04/06/18 08:52	
Vinyl chloride	ug/m3	<0.13	0.26	04/06/18 08:52	

LABORATORY CONTROL SAMPLE: 2883605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	40.3	37.1	92	70-136	
Tetrachloroethene	ug/m3	68.9	61.5	89	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	35.1	87	70-132	
Trichloroethene	ug/m3	54.6	49.7	91	70-135	
Vinyl chloride	ug/m3	26	25.0	96	70-141	

SAMPLE DUPLICATE: 2884463

Parameter	Units	10425393001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.50		25	
Tetrachloroethene	ug/m3	ND	<0.42		25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.43		25	
Trichloroethene	ug/m3	ND	<0.39		25	
Vinyl chloride	ug/m3	ND	<0.18		25	

SAMPLE DUPLICATE: 2884464

Parameter	Units	10425393003 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.53		25	
Tetrachloroethene	ug/m3	ND	<0.44		25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.46		25	
Trichloroethene	ug/m3	ND	<0.42		25	
Vinyl chloride	ug/m3	ND	<0.20		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 15772 Chilton
Pace Project No.: 10424669

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 15772 Chilton
Pace Project No.: 10424669

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10424669001	**SV-1**	TO-15	530918		
10424669002	**SV-2**	TO-15	530918		
10424669003	**SV-3**	TO-15	531084		
10424669004	**SV-4**	TO-15	531084		
10424669005	**SV-5**	TO-15	531084		

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AIR: CHAIN-OF-CUSTODY / An

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant field

WO# : 10424669

10424669

31940

Page: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: The Sigma Group	Report To: Steve Meer	Attention: Steve Meer
Address: 1300 W Canal St Milwaukee, WI 53233	Copy To:	Company Name: The Sigma Group
Email To: smeer@thesigmagroup.com	Purchase Order No.:	Address: 1300 W Canal St Milwaukee, WI
Phone: 414-643-4124 Fax:	Project Name: Chilton	Pace Quote Reference:
Requested Due Date/TAT:	Project Number: 15772	Pace Project Manager/Sales Rep.
		Pace Profile #: 38705

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: WI

Reporting Units: ug/m³ X mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	SV-1	6LC	0.5	3-21-18	09:30	3-21	10:12	-30	-4	1730							X				001
2	SV-2	6LC	N/A	3-21-18	10:59	3-21	12:02	-30	-4	1231							X				002
3	SV-3	6LC	22.	3-21-18	10:31	3-21	11:10	-30	-4	1694							X				003
4	SV-4	6LC	0.6	3-21-18	11:24	3-21	12:05	-29	-4	93							X				004
5	SV-5	6LC	1.6	3-21-18	11:14	3-21	11:52	-29	-4	2843							X				005
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments: Analyze for: PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Jacob Krause / Sigma	3-22	2pm	FedEx Pace	3/23/18	1045

SAMPLE CONDITIONS

	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jacob Krause

SIGNATURE of SAMPLER: Jacob Krause DATE Signed (MM / DD / YY): 03-21-18

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 28Dec2017 Page 1 of 1
	Document No.: F-MN-A-106-rev.14	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: Sigma Comp

Project #: WO#: 10424669

PM: MEM1 Due Date: 04/05/18

CLIENT: SIGMA ENV

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 777630067649, 16338

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☐ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermom. Used:** ☐ 151401163 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** **Date & Initials of Person Examining Contents:** EMC 3/23/18

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: (Air Can) Airbag Filter TDT Passive				11. Individually Certified Cans Y (N) (list which samples)
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received: Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SV-1		2851	-1.5	+5					
-2		0991	-2	"					
-3		2826	-2	"					
-4		0813	-1.5	"					
-5		1653	-2.5	"					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Megan McCabe **Date:** 3/26/18

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)