REPORT
OBSERVATION WELL INSTALLATION AND LIGHT NON-AQUEOUS PHASE LIQUID MONITORING

PPG Oak Creek Facility
Oak Creek, Wisconsin

Prepared for:
PPG
Monroeville, Pennsylvania

Prepared by:
Aptim Environmental & Infrastructure, Inc.
Pittsburgh, Pennsylvania

Project No. 119637
January 2018

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List of Acronyms & Abbreviations

APTIM	Aptim Environmental & Infrastructure, Inc.
LNAPL	light non-aqueous phase liquid
PID	photoionization detector
PVC	polyvinyl chloride
VOC	volatile organic compound

1.0 Introduction

This report provides a summary of the field activities conducted for the former Tank Farm Area at the PPG Oak Creek facility (the facility) in Oak Creek, Wisconsin. Before finalizing the Statement of Basis for the facility, the United States Environmental Protection Agency requested that PPG conduct further investigative activities in an attempt to better define the extent of the light non-aqueous phase liquid (LNAPL) present in the area of Monitoring Well TF-3 and to determine if dissolved phase volatile organic compounds (VOCs) are present in groundwater. To accomplish this, two temporary observation wells, OW-1 and OW-2, were installed and groundwater samples were collected from each well.

2.0 Summary of Field Activities

The following tasks were completed during this phase of field work at the facility.

2.1 Observation Well Installation and Development

On October 2, 2017, Aptim Environmental & Infrastructure, Inc. (APTIM) installed two 1-inch polyvinyl chloride (PVC) observation wells (OW-01 and OW-02) northeast and northwest of the area of Monitoring Well TF-3 to thoroughly investigate whether LNAPL is present in these areas. Observation Wells OW-1 and OW-2 were installed using direct push drilling techniques to a total depth of 20 feet below ground surface. Observation well locations are provided on Figure 1. The lithology at each location was logged and recorded on a drilling log for each well. Drilling logs are provided in Attachment 1.

A photoionization detector (PID) reading was recorded every 2 feet. No PID readings indicated the presence of VOCs in the soil columns.

The observation wells were constructed of 1-inch PVC slotted screen and riser pipe. Premade, prepacked well screens were utilized for construction of the observation wells. The observation wells were constructed so that the screened interval intercepted the water table. Flush-mount, bolt-down manhole covers were installed around the wells. Well caps were secured with padlocks. Monitoring well construction forms are provided in Attachment 2.

The new observation wells were developed following applicable Wisconsin Department of Natural Resources regulations for monitoring well installation. The observation wells were surged with a bailer, and water was removed using a peristaltic pump. Development of OW-1 was completed after installation on October 2, 2017. Development of OW-2 could not be completed on October 2 because the recharge of groundwater in the well occurred more slowly in this observation well. Therefore, development of OW-2 was completed on November 1, 2018 during the next scheduled site visit. Monitoring well development forms are provided in Attachment 3.

On November 1, 2017 and December 4, 2017, APTIM personnel returned to the site to monitor for the presence of LNAPL in Monitoring Well TF-3 and Observation Wells OW-1 and OW-2. As discussed above, development of Observation Well OW-2 was completed on November 1, 2017, since the well did not contain enough water to complete development on October 2, 2017.

2.2 Surveying

The ground surface and top of elevation of each observation well were surveyed by APTIM personnel on October 2, 2017. The elevations were surveyed relative to an on-site reference

elevation established in the 2016 survey. The following table summarizes the elevation information obtained for OW-1 and OW-2:

Observation Well ID	Ground Surface Elevation (feet msl[1])	Top of Well Casing Elevation (feet msl)
OW-1	696.7	696.4
OW-2	696.5	696.3

[1] msl = Mean sea level.

2.3 LNAPL Monitoring

APTIM personnel monitored Monitoring Well TF-3 and Observation Wells OW-1 and OW-2 on three occasions: October 2, 2017; November 1, 2017; and December 4, 2017. LNAPL was measured and recorded in Monitoring Well TF-3 on October 2 and November 1, but no LNAPL was observed on December 4. Observation Wells OW-1 and OW-2 did not have LNAPL measured at any time. LNAPL and groundwater measurement information is summarized in the following tables:

Monitoring Well TF-3 Groundwater Level and LNAPL Measurements			
Date	Depth to LNAPL (feet)	Depth to Groundwater (feet)	Free LNAPL (feet)
10/02/2017	9.34	9.54	0.2
11/1/2017	8.65	8.67	0.02
12/4/2017	0	8.86	0

Observation Wells OW-1 and OW-2 Groundwater Level and LNAPL Measurements			
Date	Depth to LNAPL [feet] (OW-1/ OW-2)	Depth to Groundwater [feet] (OW-1 / OW-2)	LNAPL Thickness (feet)
10/02/2017	No LNAPL	7.09 / did not measure	0 / 0
11/1/2017	No LNAPL	6.91 / 5.29	0 / 0
12/4/2017	No LNAPL	6.91 / 5.05	0 / 0

2.4 Groundwater Sampling at OW-1 and OW-2

On December 4, 2017, Observation Wells OW-1 and OW-2 were purged and groundwater samples were collected for VOC analyses. Samples were submitted to Pace Analytical Services, LLC in Green Bay, Wisconsin, for analyses. A trip blank was also submitted for VOC analyses.

Results determined that the groundwater samples collected from Observation Wells OW-1 and OW-2 did not have detected levels of VOCs. Sample collection logs for the groundwater samples

are included in Attachment 4. The analytical report and the analytical chain-of-custody form are presented in Attachment 5.

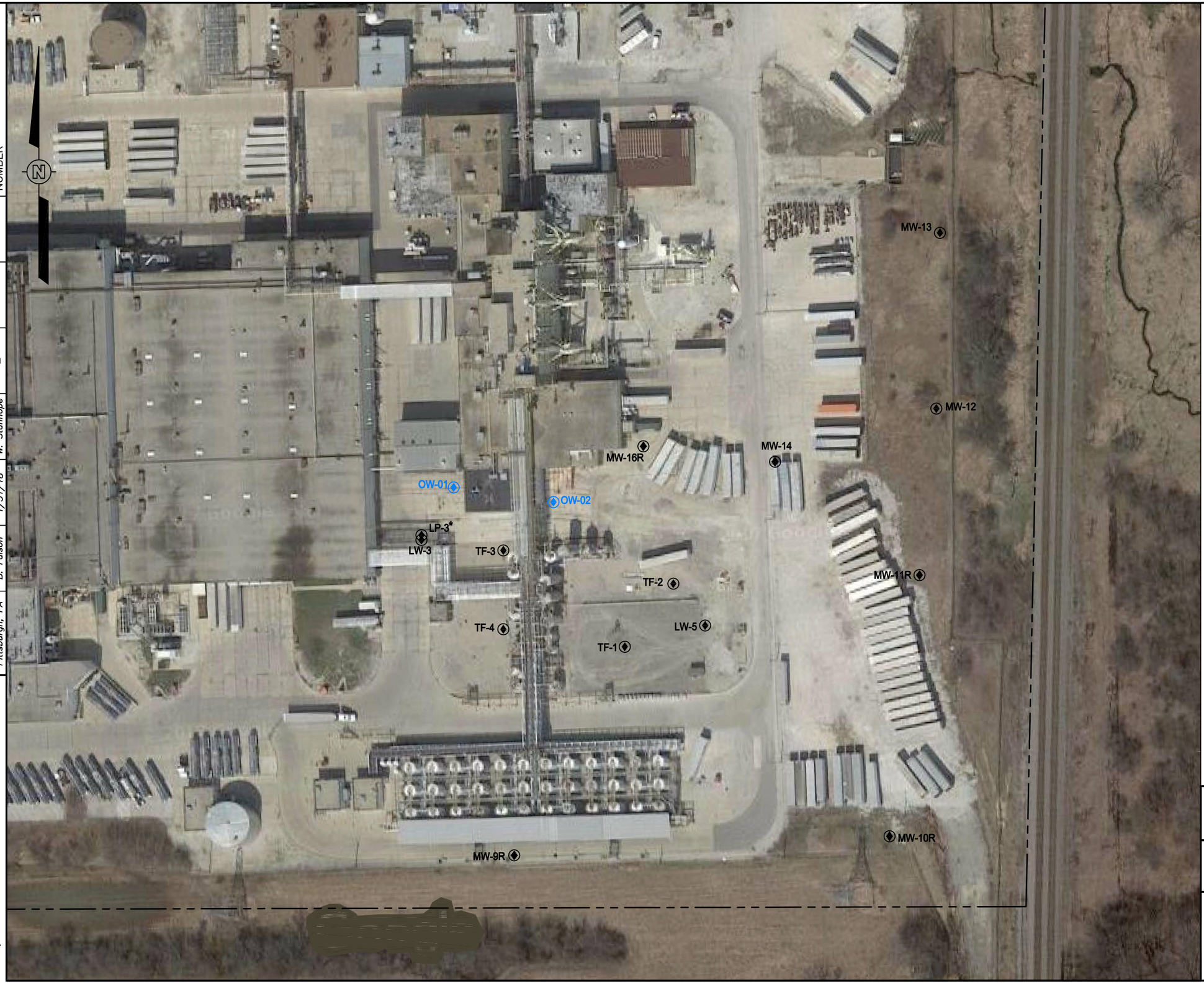
3.0 Conclusions

Observation Wells OW-1 and OW-2 were installed on October 2, 2017 to determine if LNAPL is located to the northwest and northeast of Monitoring Well TF-3 at the facility. Additional monitoring was conducted on November 1 and December 4, 2017. The following are the conclusions based on the results of the monitoring of Observation Wells OW-1 and OW-2:

- Based on the results of monitoring for LNAPL at Observation Wells OW-1 and OW-2, LNAPL is not present in the areas of the facility where OW-1 and OW-2 are located.
- Analytical results of groundwater samples collected from OW-1 and OW-2 determined that dissolved phase VOCs are not present in the groundwater samples collected from OW-1 and OW-2.
- The LNAPL present in area of TF-3 continues to fluctuate from not measureable to 0.2 foot.

Figure

DRAWING NUMBER	119637-B29
APPROVED BY	
CHECKED BY	–
	W. Stanhope
DRAWN BY	1/31/18
	B. Faison
OFFICE	Pittsburgh, PA



LEGEND:

- APPROXIMATE PPG PROPERTY LINE
- LP-3 EXISTING MONITORING WELL LOCATION
- OW-01 NEW OBSERVATION WELL LOCATION
- * DENOTES GROUNDWATER WELL; SCREENED ZONE DOES NOT INTERCEPT WATER TABLE.

SCALE
0 100 200 FEET

APTIM
500 Penn Center Boulevard, Suite 10
Pittsburgh, PA 15235

PPG
Oak Creek, Wisconsin

FIGURE 1
FORMER TANK FARM AREA
CURRENT SITE LAYOUT
STATEMENT OF BASIS
OAK CREEK, WISCONSIN

File: O:\project\PPG\119637\119637B29.dwg
Plot Date/Time: Jan 31, 2018 – 2:12pm
Plotted By: bernadette.oconnor

Attachment 1

Drilling Logs

Drilling Log

Observation Well **OW-1**

Project *PPG - Oak Creek* Owner *PPG*

Location *Oak Creek, WI* Proj. No. *119637*

Surface Elev. *696.7 ft.* Total Hole Depth *20.0 ft.* bgs North _____ East _____

Top of Casing *696.4 ft.* Initial *NA* Static *NA*

Screen: Dia *1 in.* Length *15 ft.* Type *Prepacked screen with steel mesh/PVC*

Casing: Dia *1 in.* Length *5 ft.* Type *PVC*

Fill Material _____ Rig/Core *NA*

Drill Co. *On-Site Environmental* Method *Direct Push, 3.5 inch diameter*

Driller *Tony Kapugi* Log By *Jared Schmidt* Date *10/2/17* Permit # *NA*

Checked By *NA* License No. *NA*

COMMENTS
bgs - below ground surface

Depth (ft.)	Well Completion	PID (ppm)	Sample ID %Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure)
0		0	100%			Concrete
2		0	100%		SM	Light brown, silty SAND with gravel, slightly moist
4		0	100%		ML	Light brown, sandy SILT with gravel, slightly moist
6		0	100%		CL	Light gray, medium soft CLAY, slightly moist
8		0	100%			
10		0	100%			
12		0	100%			
14		0	100%			
16		0	100%		GP	6" SAND seam, poorly sorted, fine-coarse grained with gravel, moist
					CL	Light gray, medium soft silty CLAY, moist
18		0	100%			
20						End of Boring

Drilling Log

Observation Well **OW-2**

Project *PPG - Oak Creek* Owner *PPG*

Location *Oak Creek, WI* Proj. No. *119637*

Surface Elev. *696.5 ft.* Total Hole Depth *20.0 ft.* bgs North _____ East _____

Top of Casing *696.3 ft.* Initial *NA* Static *NA*

Screen: Dia *1 in.* Length *15 ft.* Type *Prepacked screen with steel mesh/PVC*

Casing: Dia *1 in.* Length *5 ft.* Type *PVC*

Fill Material _____ Rig/Core *NA*

Drill Co. *On-Site Environmental* Method *Direct Push, 3.5 inch diameter*

Driller *Tony Kapugi* Log By *Jared Schmidt* Date *10/2/17* Permit # *NA*

Checked By *NA* License No. *NA*

COMMENTS
bgs - below ground surface

Depth (ft.)	Well Completion	PID (ppm)	Sample ID %Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure)
0		0	100%			Concrete
2		0	100%		CL	Light brown, stiff CLAY, slightly moist
4		0	100%			
6		0	100%			
8		0	100%			
10		0	100%			
12		0	100%			
14		0	100%			
16		0	100%		GP CL	4" SAND seam, poorly sorted, fine-course grained with gravel, moist Light gray, medium soft silty CLAY, moist
18		0	100%			
20						End of Boring

Attachment 2

Monitoring Well Construction Forms

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: PPG	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: OW-1
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. 42° 848250" Long. -87° 928647" or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: 241014620	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 10 / 02 / 2017 (m m d d y y y y)
Type of Well: Well Code 11 / mw	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 32, T. 5 N, R. 22 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Tony Kapugi, On-Site Environmental, Sun Prairie, WI
Distance from Waste/Source: 100 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation 696.69 ft. MSL

B. Well casing, top elevation 696.39 ft. MSL

C. Land surface elevation 696.69 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 3 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☐ 41
Other ☒ Geoprobe and pushed prepack well screen

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☐ No

Describe _____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top ____ ft. MSL or 4 ft.

F. Fine sand, top ____ ft. MSL or 4.5 ft.

G. Filter pack, top ____ ft. MSL or 5 ft.

H. Screen joint, top ____ ft. MSL or 5 ft.

I. Well bottom ____ ft. MSL or 20 ft.

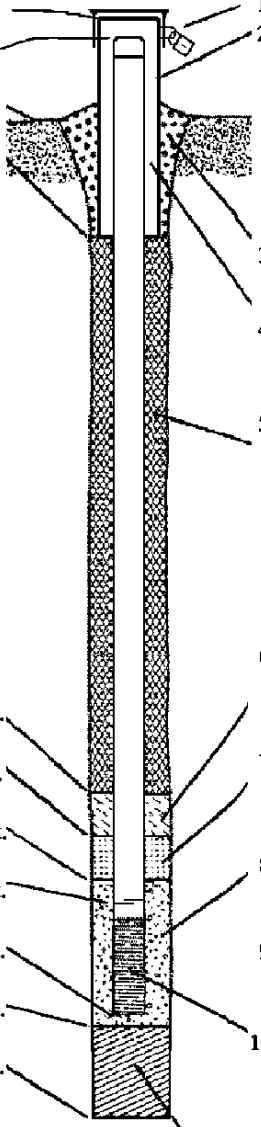
J. Filter pack, bottom ____ ft. MSL or 20 ft.

K. Borehole, bottom ____ ft. MSL or 20 ft.

L. Borehole, diameter 3 in.

M. O.D. well casing 1 in.

N. I.D. well casing ____ in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 0.5 ft.
c. Material: Aluminum flushmount — Steel ☐ 04 Other ☒
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____

3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐

4. Material between well casing and protective pipe: Bentonite ☐ 30 Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Sidley 4000
b. Volume added <0.1 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Pre fabricated well packing
b. Volume added ____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☐ 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐

10. Screen material: PVC and steel screen
a. Screen type: Factory cut ☐ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer _____
c. Slot size: 0.____ in.
d. Slotted length: ____ ft.

11. Backfill material (below filter pack): None ☐ 14 Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	Aptim Environmental

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: PPG	Local Grid Location of Well: _____ ft. ☐ N. ☐ S. _____ ft. ☐ E. ☐ W.	Well Name: OW-2
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. 42° 84' 19.0" Long. -87° 92' 78" or	Wis. Unique Well No. _ _ _ _ _ _ _	DNR Well ID No. _ _ _
Facility ID: 241014620	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 10 / 02 / 2017 (m m d d y y y y)
Type of Well Well Code 11 / mw	Section Location of Waste/Source NW 1/4 of SW 1/4 of Sec. 32, T. 5 N, R. 22 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm Tony Kapugi On-Site Environmental Sun Prairie, WI
Distance from Waste/Source 100 ft. Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation 696.49 ft. MSL
B. Well casing, top elevation 696.25 ft. MSL
C. Land surface elevation 696.49 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 3 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

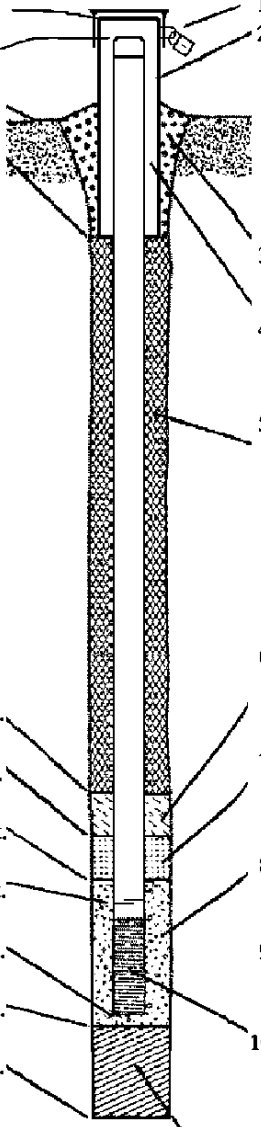
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☐ 41
Geoprobe and pushed prepack well screen Other ☒

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☐ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or 4 ft.
F. Fine sand, top _____ ft. MSL or 4.5 ft.
G. Filter pack, top _____ ft. MSL or 5 ft.
H. Screen joint, top _____ ft. MSL or 5 ft.
I. Well bottom _____ ft. MSL or 20 ft.
J. Filter pack, bottom _____ ft. MSL or 20 ft.
K. Borehole, bottom _____ ft. MSL or 20 ft.
L. Borehole, diameter 3 in.
M. O.D. well casing 1 in.
N. I.D. well casing _____ in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 0.5 ft.
c. Material: Aluminum flushmount Steel ☐ 04 Other ☒
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30 Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Sidley 4000
b. Volume added <0.1 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Pre fabricated well packing
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☐ 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐
10. Screen material: PVC and steel screen
a. Screen type: Factory cut ☐ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer _____
c. Slot size: 0.___ in.
d. Slotted length: ____ ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	Aptim Environmental

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Attachment 3

Monitoring Well Development Forms

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	County Name	Well Name
PPG	Milwaukee	OW-1

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	41		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 55 min.

4. Depth of well (from top of well casisng) 20. ft.

5. Inside diameter of well 1.0 in.

6. Volume of water in filter pack and well casing 0.75 gal.

7. Volume of water removed from well 9. gal.

8. Volume of water added (if any) 0. gal.

9. Source of water added NA

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☐ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 7.09 ft.	13.04 ft.
Date	b. 10/02/2017	10/02/2017
Time	c. 12:20 ☐ a.m. ☒ p.m.	01:15 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	inches	inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Jared Last Name: Schmidt
Firm: CB&I Environmental

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Mike Last Name: Thompson
Facility/Firm: PPG
Street: S 13th Street
City/State/Zip: Oak Creek, WI

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Jared Schmidt
Firm: Aptim

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	County Name	Well Name
PPG	Milwaukee	OW-2

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	41		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method

surged with bailer and bailed	☐	41
surged with bailer and pumped	☒	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	

3. Time spent developing well 30 min.

4. Depth of well (from top of well casisng) 20. ft.

5. Inside diameter of well 10 in.

6. Volume of water in filter pack and well casing 0.75 gal.

7. Volume of water removed from well 3.5 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☐ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 5.29 ft.	Dry ft.
Date	b. 11/01/2017 (m m d d y y y y)	11/01/2017 (m m d d y y y y)
Time	c. 11:10 ☒ a.m. ☐ p.m.	11:40 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	inches	inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe) Slightly turbid	Clear ☒ 20 Turbid ☐ 25 (Describe) Clear
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Jared Last Name: Schmidt
Firm: Aptim Environmental

17. Additional comments on development:

Well was installed as a 1" diameter observation well to determine if free phase product was present outside tank farm

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Joe Last Name: Ehlinger
Facility/Firm: PPG
Street: 10800 S 13th Street
City/State/Zip: Oak Creek, WI 53154

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Jared Schmidt
Firm: Aptim Environmental

NOTE: See instructions for more information including a list of county codes and well type codes.

Attachment 4

Groundwater Sample Collection Forms

PPG Oak Creek, WI
WELL SAMPLING FORM

Project Number: 119637 **Date:** 12/4/17

Well Number: OW-1 **Weather:** Cloudy, 50s

Casing Dia. (in): 1" **Personnel:** JMS

Well Type: Observation Well

PID Reading: – **O_2 Reading:** ~

LEL Reading: – **Methane Reading:** –

(A) Depth to Water: 6.91 **(B) Total Depth:** 20

Purge Method: (circle) Bailer Submersible Pump (Other) Peristaltic

Well Volume = (B-A)*conversion factor (see below)

(0.04 gal/ft for 1" ID, 0.16 gal/ft for 2" ID, 0.65 gal/ft for 4" ID)

Well Volume (gal) = 0.52 **Equipment:**

Purge Start Time: 0930 **Equipment:**

Sample Time: (0945) **Equipment:**

Sampling Parameters: ~~0.5~~ DS

Time	Water Level (ft toc)	Cumulative Water Volume (gallon)	pH (SU) ±0.3	Cond. (mS/cm) ±10%	ORP (mV) ±10	Turb. (NTU) ±10%	Temp. (°C) ±10%	DO (mg/l) ±10
0930		0.1	7.91	3.419	-115.3		16.1	DS ~~24.2~~ 2.42
0935		0.25	7.67	3.576	-175.3		16.3	~~20.2~~ 2.02
0940		1	7.58	3.679	-206.8		16.5	~~19.4~~ 1.94
0945		1.5	7.48	3.748	-223.8		16.5	~~24.8~~ 2.0
0950		2.5	7.46	3.773	-224.6		16.5	2.01
0955		3.0	7.46	3.707	-225.8		16.5	2.00

NOTES:

Sampled for VOC

PPG Oak Creek, WI
WELL SAMPLING FORM

Project Number: 119637 **Date:** 12/4/17

Well Number: OW-2 **Weather:** Cloudy, 50s

Casing Dia. (in): 1" **Personnel:** JMS

Well Type: Observation well

PID Reading: – **O_2 Reading:** –

LEL Reading: – **Methane Reading:** –

(A) Depth to Water: 5.05 **(B) Total Depth:** 20'

Purge Method: (circle) Bailer Submersible Pump (Other) Peristaltic

Well Volume = (B-A)*conversion factor (see below)

(0.04 gal/ft for 1" ID, 0.16 gal/ft for 2" ID, 0.65 gal/ft for 4" ID)

Well Volume (gal) = 0.66 **Equipment:**

Purge Start Time: 1015 **Equipment:**

Sample Time: 1045 **Equipment:**

Sampling Parameters:

Time	Water Level (ft toc)	Cumulative Water Volume (gallon)	pH (SU) ±0.3	Cond. (mS/cm) ±10%	ORP (mV) ±10	Turb. (NTU) ±10%	Temp. (°C) ±10%	DO (mg/l) ±10
1015		0.5	7.87	1.348	-99.3		14.9	3.27
1020		0.5	7.26	1.600	-157		15.3	3.13
1530		1.0	7.25	1.600	-161.1		15.2	2.70
1040		1.75	7.25	1.607	-168.2		15.2	2.65

NOTES:

Sampled for VOC

Attachment 5

Analytical Report and Sample Chain-of-Custody Form

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

December 13, 2017

Scott Furlong
APTIM
500 Penn Center Blvd
Suite 900
Pittsburgh, PA 15235

RE: Project: 119637 PPG
Pace Project No.: 40161859

Dear Scott Furlong:
Enclosed are the analytical results for sample(s) received by the laboratory on December 05, 2017. 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,

Christopher Hyska

Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

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CERTIFICATIONS

Project: 119637 PPG
Pace Project No.: 40161859

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 119637 PPG
Pace Project No.: 40161859

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40161859001	**OW-1**	Water	12/04/17 10:00	12/05/17 12:50
40161859002	**OW-2**	Water	12/04/17 10:45	12/05/17 12:50
40161859003	**TRIP BLANK**	Water	12/04/17 00:00	12/05/17 12:50

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SAMPLE ANALYTE COUNT

Project: 119637 PPG
Pace Project No.: 40161859

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40161859001	**OW-1**	EPA 8260	LAP	54	PASI-G
40161859002	**OW-2**	EPA 8260	LAP	54	PASI-G
40161859003	**TRIP BLANK**	EPA 8260	LAP	54	PASI-G

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ANALYTICAL RESULTS

Project: 119637 PPG
Pace Project No.: 40161859

Sample: OW-1 **Lab ID: 40161859001** Collected: 12/04/17 10:00 Received: 12/05/17 12:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	71-55-6	R1
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/12/17 13:22	79-34-5	R1
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		12/12/17 13:22	79-00-5	R1
1,1,2-Trichlorotrifluoroethane	**<0.81**	ug/L	5.0	0.81	1		12/12/17 13:22	76-13-1	R1
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/12/17 13:22	75-34-3	R1
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		12/12/17 13:22	75-35-4	R1
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		12/12/17 13:22	87-61-6	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		12/12/17 13:22	120-82-1	R1
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		12/12/17 13:22	96-12-8	R1
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		12/12/17 13:22	106-93-4	R1
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	95-50-1	R1
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		12/12/17 13:22	107-06-2	R1
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		12/12/17 13:22	78-87-5	R1
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	541-73-1	R1
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	106-46-7	R1
2-Butanone (MEK)	**<3.0**	ug/L	20.0	3.0	1		12/12/17 13:22	78-93-3	
2-Hexanone	**<1.1**	ug/L	5.0	1.1	1		12/12/17 13:22	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<2.1**	ug/L	5.0	2.1	1		12/12/17 13:22	108-10-1	
Acetone	**<3.0**	ug/L	20.0	3.0	1		12/12/17 13:22	67-64-1	
Benzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	71-43-2	R1
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		12/12/17 13:22	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	75-27-4	R1
Bromoform	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	75-25-2	R1
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		12/12/17 13:22	74-83-9	R1
Carbon disulfide	**<0.61**	ug/L	5.0	0.61	1		12/12/17 13:22	75-15-0	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	56-23-5	R1
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	108-90-7	R1
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		12/12/17 13:22	75-00-3	R1
Chloroform	**<2.5**	ug/L	5.0	2.5	1		12/12/17 13:22	67-66-3	R1
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	74-87-3	R1
Cyclohexane	**<0.88**	ug/L	5.0	0.88	1		12/12/17 13:22	110-82-7	R1
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	124-48-1	R1
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		12/12/17 13:22	75-71-8	R1
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	100-41-4	M1,R1
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		12/12/17 13:22	98-82-8	R1
Methyl acetate	**<2.2**	ug/L	10.0	2.2	1		12/12/17 13:22	79-20-9	R1
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		12/12/17 13:22	1634-04-4	R1
Methylcyclohexane	**<2.3**	ug/L	5.0	2.3	1		12/12/17 13:22	108-87-2	R1
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		12/12/17 13:22	75-09-2	R1
Styrene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	100-42-5	R1
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	127-18-4	R1
Toluene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	108-88-3	M1,R1
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		12/12/17 13:22	79-01-6	R1
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		12/12/17 13:22	75-69-4	R1
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		12/12/17 13:22	75-01-4	R1
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/12/17 13:22	156-59-2	R1

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ANALYTICAL RESULTS

Project: 119637 PPG
Pace Project No.: 40161859

Sample: OW-1 **Lab ID: 40161859001** Collected: 12/04/17 10:00 Received: 12/05/17 12:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	10061-01-5	R1
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		12/12/17 13:22	179601-23-1	R1
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:22	95-47-6	R1
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/12/17 13:22	156-60-5	R1
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		12/12/17 13:22	10061-02-6	R1
Surrogates									
Dibromofluoromethane (S)	100	%	67-130		1		12/12/17 13:22	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		12/12/17 13:22	2037-26-5	
4-Bromofluorobenzene (S)	102	%	61-130		1		12/12/17 13:22	460-00-4	

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ANALYTICAL RESULTS

Project: 119637 PPG
Pace Project No.: 40161859

Sample: OW-2 **Lab ID: 40161859002** Collected: 12/04/17 10:45 Received: 12/05/17 12:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/12/17 14:53	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		12/12/17 14:53	79-00-5	
1,1,2-Trichlorotrifluoroethane	**<0.81**	ug/L	5.0	0.81	1		12/12/17 14:53	76-13-1	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/12/17 14:53	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		12/12/17 14:53	75-35-4	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		12/12/17 14:53	87-61-6	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		12/12/17 14:53	120-82-1	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		12/12/17 14:53	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		12/12/17 14:53	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		12/12/17 14:53	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		12/12/17 14:53	78-87-5	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	541-73-1	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	106-46-7	
2-Butanone (MEK)	**<3.0**	ug/L	20.0	3.0	1		12/12/17 14:53	78-93-3	
2-Hexanone	**<1.1**	ug/L	5.0	1.1	1		12/12/17 14:53	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<2.1**	ug/L	5.0	2.1	1		12/12/17 14:53	108-10-1	
Acetone	**<3.0**	ug/L	20.0	3.0	1		12/12/17 14:53	67-64-1	
Benzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	71-43-2	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		12/12/17 14:53	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		12/12/17 14:53	74-83-9	
Carbon disulfide	**<0.61**	ug/L	5.0	0.61	1		12/12/17 14:53	75-15-0	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		12/12/17 14:53	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		12/12/17 14:53	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	74-87-3	
Cyclohexane	**<0.88**	ug/L	5.0	0.88	1		12/12/17 14:53	110-82-7	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	124-48-1	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		12/12/17 14:53	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	100-41-4	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		12/12/17 14:53	98-82-8	
Methyl acetate	**<2.2**	ug/L	10.0	2.2	1		12/12/17 14:53	79-20-9	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		12/12/17 14:53	1634-04-4	
Methylcyclohexane	**<2.3**	ug/L	5.0	2.3	1		12/12/17 14:53	108-87-2	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		12/12/17 14:53	75-09-2	
Styrene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	108-88-3	
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		12/12/17 14:53	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		12/12/17 14:53	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		12/12/17 14:53	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/12/17 14:53	156-59-2	

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ANALYTICAL RESULTS

Project: 119637 PPG
Pace Project No.: 40161859

Sample: OW-2 **Lab ID: 40161859002** Collected: 12/04/17 10:45 Received: 12/05/17 12:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		12/12/17 14:53	179601-23-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 14:53	95-47-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/12/17 14:53	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		12/12/17 14:53	10061-02-6	
Surrogates									
Dibromofluoromethane (S)	105	%	67-130		1		12/12/17 14:53	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		12/12/17 14:53	2037-26-5	
4-Bromofluorobenzene (S)	103	%	61-130		1		12/12/17 14:53	460-00-4	

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ANALYTICAL RESULTS

Project: 119637 PPG
Pace Project No.: 40161859

Sample: TRIP BLANK **Lab ID: 40161859003** Collected: 12/04/17 00:00 Received: 12/05/17 12:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/12/17 13:45	79-34-5	
1,1,2-Trichloroethane	**<0.20**	ug/L	1.0	0.20	1		12/12/17 13:45	79-00-5	
1,1,2-Trichlorotrifluoroethane	**<0.81**	ug/L	5.0	0.81	1		12/12/17 13:45	76-13-1	
1,1-Dichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/12/17 13:45	75-34-3	
1,1-Dichloroethene	**<0.41**	ug/L	1.0	0.41	1		12/12/17 13:45	75-35-4	
1,2,3-Trichlorobenzene	**<2.1**	ug/L	5.0	2.1	1		12/12/17 13:45	87-61-6	
1,2,4-Trichlorobenzene	**<2.2**	ug/L	5.0	2.2	1		12/12/17 13:45	120-82-1	
1,2-Dibromo-3-chloropropane	**<2.2**	ug/L	5.0	2.2	1		12/12/17 13:45	96-12-8	
1,2-Dibromoethane (EDB)	**<0.18**	ug/L	1.0	0.18	1		12/12/17 13:45	106-93-4	
1,2-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	95-50-1	
1,2-Dichloroethane	**<0.17**	ug/L	1.0	0.17	1		12/12/17 13:45	107-06-2	
1,2-Dichloropropane	**<0.23**	ug/L	1.0	0.23	1		12/12/17 13:45	78-87-5	
1,3-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	541-73-1	
1,4-Dichlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	106-46-7	
2-Butanone (MEK)	**<3.0**	ug/L	20.0	3.0	1		12/12/17 13:45	78-93-3	
2-Hexanone	**<1.1**	ug/L	5.0	1.1	1		12/12/17 13:45	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<2.1**	ug/L	5.0	2.1	1		12/12/17 13:45	108-10-1	
Acetone	**<3.0**	ug/L	20.0	3.0	1		12/12/17 13:45	67-64-1	
Benzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	71-43-2	
Bromochloromethane	**<0.34**	ug/L	1.0	0.34	1		12/12/17 13:45	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	75-27-4	
Bromoform	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	75-25-2	
Bromomethane	**<2.4**	ug/L	5.0	2.4	1		12/12/17 13:45	74-83-9	
Carbon disulfide	**<0.61**	ug/L	5.0	0.61	1		12/12/17 13:45	75-15-0	
Carbon tetrachloride	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	56-23-5	
Chlorobenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	108-90-7	
Chloroethane	**<0.37**	ug/L	1.0	0.37	1		12/12/17 13:45	75-00-3	
Chloroform	**<2.5**	ug/L	5.0	2.5	1		12/12/17 13:45	67-66-3	
Chloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	74-87-3	
Cyclohexane	**<0.88**	ug/L	5.0	0.88	1		12/12/17 13:45	110-82-7	
Dibromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	124-48-1	
Dichlorodifluoromethane	**<0.22**	ug/L	1.0	0.22	1		12/12/17 13:45	75-71-8	
Ethylbenzene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	100-41-4	
Isopropylbenzene (Cumene)	**<0.14**	ug/L	1.0	0.14	1		12/12/17 13:45	98-82-8	
Methyl acetate	**<2.2**	ug/L	10.0	2.2	1		12/12/17 13:45	79-20-9	
Methyl-tert-butyl ether	**<0.17**	ug/L	1.0	0.17	1		12/12/17 13:45	1634-04-4	
Methylcyclohexane	**<2.3**	ug/L	5.0	2.3	1		12/12/17 13:45	108-87-2	
Methylene Chloride	**<0.23**	ug/L	1.0	0.23	1		12/12/17 13:45	75-09-2	
Styrene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	100-42-5	
Tetrachloroethene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	127-18-4	
Toluene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	108-88-3	
Trichloroethene	**<0.33**	ug/L	1.0	0.33	1		12/12/17 13:45	79-01-6	
Trichlorofluoromethane	**<0.18**	ug/L	1.0	0.18	1		12/12/17 13:45	75-69-4	
Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		12/12/17 13:45	75-01-4	
cis-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/12/17 13:45	156-59-2	

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ANALYTICAL RESULTS

Project: 119637 PPG
Pace Project No.: 40161859

Sample: TRIP BLANK **Lab ID: 40161859003** Collected: 12/04/17 00:00 Received: 12/05/17 12:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
cis-1,3-Dichloropropene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	10061-01-5	
m&p-Xylene	**<1.0**	ug/L	2.0	1.0	1		12/12/17 13:45	179601-23-1	
o-Xylene	**<0.50**	ug/L	1.0	0.50	1		12/12/17 13:45	95-47-6	
trans-1,2-Dichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/12/17 13:45	156-60-5	
trans-1,3-Dichloropropene	**<0.23**	ug/L	1.0	0.23	1		12/12/17 13:45	10061-02-6	
Surrogates									
Dibromofluoromethane (S)	98	%	67-130		1		12/12/17 13:45	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		12/12/17 13:45	2037-26-5	
4-Bromofluorobenzene (S)	102	%	61-130		1		12/12/17 13:45	460-00-4	

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QUALITY CONTROL DATA

Project: 119637 PPG
Pace Project No.: 40161859

QC Batch: 276838 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 40161859001, 40161859002, 40161859003

METHOD BLANK: 1627947 Matrix: Water
Associated Lab Samples: 40161859001, 40161859002, 40161859003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<0.50	1.0	12/12/17 07:32	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	12/12/17 07:32	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	12/12/17 07:32	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.81	5.0	12/12/17 07:32	
1,1-Dichloroethane	ug/L	<0.24	1.0	12/12/17 07:32	
1,1-Dichloroethene	ug/L	<0.41	1.0	12/12/17 07:32	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	12/12/17 07:32	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	12/12/17 07:32	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	12/12/17 07:32	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	12/12/17 07:32	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	12/12/17 07:32	
1,2-Dichloroethane	ug/L	<0.17	1.0	12/12/17 07:32	
1,2-Dichloropropane	ug/L	<0.23	1.0	12/12/17 07:32	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	12/12/17 07:32	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	12/12/17 07:32	
2-Butanone (MEK)	ug/L	<3.0	20.0	12/12/17 07:32	
2-Hexanone	ug/L	<1.1	5.0	12/12/17 07:32	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.1	5.0	12/12/17 07:32	
Acetone	ug/L	<3.0	20.0	12/12/17 07:32	
Benzene	ug/L	<0.50	1.0	12/12/17 07:32	
Bromochloromethane	ug/L	<0.34	1.0	12/12/17 07:32	
Bromodichloromethane	ug/L	<0.50	1.0	12/12/17 07:32	
Bromoform	ug/L	<0.50	1.0	12/12/17 07:32	
Bromomethane	ug/L	<2.4	5.0	12/12/17 07:32	
Carbon disulfide	ug/L	<0.61	5.0	12/12/17 07:32	
Carbon tetrachloride	ug/L	<0.50	1.0	12/12/17 07:32	
Chlorobenzene	ug/L	<0.50	1.0	12/12/17 07:32	
Chloroethane	ug/L	<0.37	1.0	12/12/17 07:32	
Chloroform	ug/L	<2.5	5.0	12/12/17 07:32	
Chloromethane	ug/L	<0.50	1.0	12/12/17 07:32	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	12/12/17 07:32	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	12/12/17 07:32	
Cyclohexane	ug/L	<0.88	5.0	12/12/17 07:32	
Dibromochloromethane	ug/L	<0.50	1.0	12/12/17 07:32	
Dichlorodifluoromethane	ug/L	<0.22	1.0	12/12/17 07:32	
Ethylbenzene	ug/L	<0.50	1.0	12/12/17 07:32	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	12/12/17 07:32	
m&p-Xylene	ug/L	<1.0	2.0	12/12/17 07:32	
Methyl acetate	ug/L	<2.2	10.0	12/12/17 07:32	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	12/12/17 07:32	
Methylcyclohexane	ug/L	<2.3	5.0	12/12/17 07:32	

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QUALITY CONTROL DATA

Project: 119637 PPG
Pace Project No.: 40161859

METHOD BLANK: 1627947 Matrix: Water
Associated Lab Samples: 40161859001, 40161859002, 40161859003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methylene Chloride	ug/L	<0.23	1.0	12/12/17 07:32	
o-Xylene	ug/L	<0.50	1.0	12/12/17 07:32	
Styrene	ug/L	<0.50	1.0	12/12/17 07:32	
Tetrachloroethene	ug/L	<0.50	1.0	12/12/17 07:32	
Toluene	ug/L	<0.50	1.0	12/12/17 07:32	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	12/12/17 07:32	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	12/12/17 07:32	
Trichloroethene	ug/L	<0.33	1.0	12/12/17 07:32	
Trichlorofluoromethane	ug/L	<0.18	1.0	12/12/17 07:32	
Vinyl chloride	ug/L	<0.18	1.0	12/12/17 07:32	
4-Bromofluorobenzene (S)	%	99	61-130	12/12/17 07:32	
Dibromofluoromethane (S)	%	102	67-130	12/12/17 07:32	
Toluene-d8 (S)	%	99	70-130	12/12/17 07:32	

LABORATORY CONTROL SAMPLE: 1627948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.0	105	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	70-130	
1,1,2-Trichloroethane	ug/L	20	18.3	92	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.7	109	50-150	
1,1-Dichloroethane	ug/L	20	21.3	107	71-132	
1,1-Dichloroethene	ug/L	20	19.6	98	75-130	
1,2,4-Trichlorobenzene	ug/L	20	17.9	90	70-130	
1,2-Dibromo-3-chloropropane	ug/L	20	19.9	99	63-123	
1,2-Dibromoethane (EDB)	ug/L	20	18.2	91	70-130	
1,2-Dichlorobenzene	ug/L	20	21.0	105	70-130	
1,2-Dichloroethane	ug/L	20	21.1	105	70-131	
1,2-Dichloropropane	ug/L	20	22.2	111	80-120	
1,3-Dichlorobenzene	ug/L	20	21.0	105	70-130	
1,4-Dichlorobenzene	ug/L	20	20.5	103	70-130	
Benzene	ug/L	20	19.9	100	73-145	
Bromodichloromethane	ug/L	20	20.7	103	70-130	
Bromoform	ug/L	20	16.8	84	67-130	
Bromomethane	ug/L	20	15.1	76	26-128	
Carbon disulfide	ug/L	20	20.7	104	72-156	
Carbon tetrachloride	ug/L	20	20.6	103	70-133	
Chlorobenzene	ug/L	20	20.9	105	70-130	
Chloroethane	ug/L	20	18.8	94	58-120	
Chloroform	ug/L	20	21.5	107	80-121	
Chloromethane	ug/L	20	17.7	88	40-127	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	70-130	
cis-1,3-Dichloropropene	ug/L	20	19.7	99	70-130	
Cyclohexane	ug/L	20	24.8	124	50-150	

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QUALITY CONTROL DATA

Project: 119637 PPG
Pace Project No.: 40161859

LABORATORY CONTROL SAMPLE: 1627948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	17.6	88	70-130	
Dichlorodifluoromethane	ug/L	20	18.4	92	20-135	
Ethylbenzene	ug/L	20	21.0	105	87-129	
Isopropylbenzene (Cumene)	ug/L	20	21.6	108	70-130	
m&p-Xylene	ug/L	40	42.1	105	70-130	
Methyl acetate	ug/L	20	17.6	88	50-150	
Methyl-tert-butyl ether	ug/L	20	18.7	94	66-143	
Methylcyclohexane	ug/L	20	22.5	113	50-150	
Methylene Chloride	ug/L	20	19.0	95	70-130	
o-Xylene	ug/L	20	21.1	105	70-130	
Styrene	ug/L	20	21.1	106	70-130	
Tetrachloroethene	ug/L	20	19.1	95	70-130	
Toluene	ug/L	20	19.9	100	82-130	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	75-132	
trans-1,3-Dichloropropene	ug/L	20	17.0	85	70-130	
Trichloroethene	ug/L	20	21.5	107	70-130	
Trichlorofluoromethane	ug/L	20	20.3	101	76-133	
Vinyl chloride	ug/L	20	19.6	98	57-136	
4-Bromofluorobenzene (S)	%			102	61-130	
Dibromofluoromethane (S)	%			105	67-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628063 1628064

Parameter	Units	40161859001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.50	50	50	55.6	42.6	111	85	70-134	26	20	R1
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	50.1	39.2	100	78	70-130	24	20	R1
1,1,2-Trichloroethane	ug/L	<0.20	50	50	49.5	38.7	99	77	70-130	24	20	R1
1,1,2-Trichlorotrifluoroethane	ug/L	<0.81	50	50	57.1	44.4	114	89	50-150	25	20	R1
1,1-Dichloroethane	ug/L	<0.24	50	50	53.9	41.3	108	83	71-133	27	20	R1
1,1-Dichloroethene	ug/L	<0.41	50	50	51.3	39.8	103	80	75-136	25	20	R1
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	46.8	37.9	94	76	70-130	21	20	R1
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	45.6	36.6	91	73	63-123	22	20	R1
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	49.4	38.5	99	77	70-130	25	20	R1
1,2-Dichlorobenzene	ug/L	<0.50	50	50	50.5	39.6	101	79	70-130	24	20	R1
1,2-Dichloroethane	ug/L	<0.17	50	50	52.6	38.9	105	78	70-131	30	20	R1
1,2-Dichloropropane	ug/L	<0.23	50	50	55.4	41.6	111	83	80-120	29	20	R1
1,3-Dichlorobenzene	ug/L	<0.50	50	50	50.7	40.0	101	80	70-130	23	20	R1
1,4-Dichlorobenzene	ug/L	<0.50	50	50	49.3	40.0	99	80	70-130	21	20	R1
Benzene	ug/L	<0.50	50	50	54.4	43.4	109	87	73-145	23	20	R1
Bromodichloromethane	ug/L	<0.50	50	50	51.8	38.8	104	78	70-130	29	20	R1
Bromoform	ug/L	<0.50	50	50	48.5	37.2	97	74	67-130	26	20	R1
Bromomethane	ug/L	<2.4	50	50	46.0	36.2	92	72	26-129	24	20	R1

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QUALITY CONTROL DATA

Project: 119637 PPG
Pace Project No.: 40161859

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1628063 1628064

Parameter	Units	40161859001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Carbon disulfide	ug/L	<0.61	50	50	55.4	42.8	111	86	72-156	26	30	
Carbon tetrachloride	ug/L	<0.50	50	50	58.0	44.2	116	88	70-134	27	20	R1
Chlorobenzene	ug/L	<0.50	50	50	52.9	40.4	106	81	70-130	27	20	R1
Chloroethane	ug/L	<0.37	50	50	49.6	38.7	99	77	58-120	25	20	R1
Chloroform	ug/L	<2.5	50	50	55.0	41.8	110	84	80-121	27	20	R1
Chloromethane	ug/L	<0.50	50	50	44.7	34.2	89	68	40-128	27	20	R1
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	53.5	41.3	107	83	70-130	26	20	R1
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	52.5	39.4	105	79	70-130	29	20	R1
Cyclohexane	ug/L	<0.88	50	50	65.7	50.6	131	101	50-150	26	20	R1
Dibromochloromethane	ug/L	<0.50	50	50	50.6	37.3	101	75	70-130	30	20	R1
Dichlorodifluoromethane	ug/L	<0.22	50	50	48.2	36.6	96	73	20-146	27	20	R1
Ethylbenzene	ug/L	<0.50	50	50	53.5	40.8	107	82	87-129	27	20	M1,R1
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	54.9	41.6	110	83	70-130	28	20	R1
m&p-Xylene	ug/L	<1.0	100	100	105	80.1	105	80	70-130	27	20	R1
Methyl acetate	ug/L	<2.2	50	50	46.2	32.4	92	65	50-150	35	20	R1
Methyl-tert-butyl ether	ug/L	<0.17	50	50	51.3	39.1	103	78	66-143	27	20	R1
Methylcyclohexane	ug/L	<2.3	50	50	65.6	48.4	131	97	50-150	30	20	R1
Methylene Chloride	ug/L	<0.23	50	50	47.4	36.4	95	73	70-130	26	20	R1
o-Xylene	ug/L	<0.50	50	50	51.4	39.3	103	79	70-130	27	20	R1
Styrene	ug/L	<0.50	50	50	52.0	39.7	104	79	70-130	27	20	R1
Tetrachloroethene	ug/L	<0.50	50	50	53.9	41.0	108	82	70-130	27	20	R1
Toluene	ug/L	<0.50	50	50	53.3	40.1	107	80	82-131	28	20	M1,R1
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	55.7	43.0	111	86	75-135	26	20	R1
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	50.9	37.6	102	75	70-130	30	20	R1
Trichloroethene	ug/L	<0.33	50	50	56.5	43.1	113	86	70-130	27	20	R1
Trichlorofluoromethane	ug/L	<0.18	50	50	53.3	41.1	107	82	76-150	26	20	R1
Vinyl chloride	ug/L	<0.18	50	50	52.6	40.6	105	81	56-143	26	20	R1
4-Bromofluorobenzene (S)	%						99	97	61-130			
Dibromofluoromethane (S)	%						104	103	67-130			
Toluene-d8 (S)	%						101	100	70-130			

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.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 119637 PPG
Pace Project No.: 40161859

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-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 119637 PPG
Pace Project No.: 40161859

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40161859001	**OW-1**	EPA 8260	276838		
40161859002	**OW-2**	EPA 8260	276838		
40161859003	**TRIP BLANK**	EPA 8260	276838		

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(Please Print Clearly)	
Company Name:	Aptim
Branch/Location:	Pittsburgh, PA
Project Contact:	Scott Furlong
Phone:	412-600-0501
Project Number:	119637
Project Name:	PPG
Project State:	WI
Sampled By (Print):	Jared Schmidt
Sampled By (Sign):	
PO #:	Regulatory Program:

Pace Analytical®
www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of

40161859

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: VOC	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	OW-1	12/4/17	1000	GW	N	B	X		3-40mlVB	
002	OW-2	12/4/17	1045	GW	N	B	X		+	
003	Trip Blank	12/4/17		W	N	B	X		2-40mlVB	

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	12/5/17 0837	Pace UMS Rec	12/5/17 0837
Pace UMS Rec	12/5/17 1250		12-5-17 1258

PACE Project No.: 40161859

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical™

Client Name: Aptim

Project #: **WO# : 40161859**

40161859

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☒ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used N/A **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 12-5-17 SW
Initials: _____

				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 & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume: 12/5/17 SW	☑Yes	☐No	☐N/A	8. NO MS/MSD Volume 12-5-17 SW
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☑N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐Yes	☐No	☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☑Yes	☐No		Initial when completed / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14.
Trip Blank Present: 12-5-17 HC	☑Yes	☐No	☐N/A	15.
Trip Blank Custody Seals Present	☐Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased): 388				

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 12/5/17