September 13, 2019

Zachary Sasnow
Remediation and Reuse Branch
US EPA Region 5
77 W Jackson Blvd
Chicago, IL 60604

via email: sasnow.zachary@epa.gov

Subject: Work Plan, Delineation of LNAPL-Related Contamination in the RAX Building and TFA
PPG Industries, Inc. Oak Creek, Wisconsin Facility

Dear Mr. Sasnow:

On behalf of PPG Industries, Inc. (PPG), Tetra Tech, Inc. (Tetra Tech) is submitting for review and approval the enclosed *Work Plan, Delineation of LNAPL-Related Contamination in the RAX Building and TFA* (Work Plan). This Work Plan is intended to provide the United States Environmental Protection Agency (USEPA) Region 5 with the scope of work and procedures for the delineation of light non-aqueous phase liquid (LNAPL)-related contamination at the RAX Building and former Tank Farm Area (TFA) at the PPG Oak Creek, Wisconsin Facility located at 10800 South 13th Street, Oak Creek, Wisconsin. Tetra Tech will commence with the scope of work described in the Work Plan upon USEPA approval.

Since our last call on the proposed boring locations the proposed locations south of the RAX Building were moved farther to the south to avoid proximity to tankers containing flammable material. The step out locations were also shifted to the south, accordingly.

Please contact me at 412.921.4052 if you have any questions on this submittal or require additional information.

Sincerely,

Erica Love, PG
Project Manager
Tetra Tech, Inc

ec: Eric Amadi – WDNR, RR Program (hardcopy)
Angela Cary – WDNR, RR Program (hardcopy)
Jody Overmyer – PPG EHS, Monroeville
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TETRA TECH

Work Plan
Delineation of LNAPL-Related Contamination in the RAX Building and TFA

PPG Oak Creek Facility
Oak Creek, Wisconsin

PPG Industries, Inc.
Pittsburgh, PA

September 2019

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CLEAR SOLUTIONS™

Work Plan
Delineation of LNAPL-Related Contamination in the RAX Building and TFA

PPG Industries, Inc. Oak Creek Facility
Oak Creek, Wisconsin

September 2019

PRESENTED TO

PPG Industries, Inc.
Monroeville, Pennsylvania

PRESENTED BY

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1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) has prepared this Work Plan on behalf of PPG Industries, Inc. (PPG) to provide the United States Environmental Protection Agency (USEPA) Region 5 with the scope of work and procedures for the delineation of light non-aqueous phase liquid (LNAPL)-related contamination at the RAX Building and former tank farm area (TFA) at the PPG Oak Creek, Wisconsin Facility (Site) located at 10800 South 13th Street, Oak Creek, Wisconsin (Figure 1).

The results of the May 14, 2019 synoptic groundwater level measurement event, which was the first to include both wells from the RAX Building and TFA, indicated that the extent of groundwater contamination may not be fully delineated. Further delineation was requested by the USEPA for two areas. The two areas include the area south of the RAX Building, related to a February 12, 2002 xylene and naptha spill at the Site, and the area west of the TFA, where contaminants of concern (COCs) may have migrated via the utility corridor preferential pathways.

The objective of this Work Plan is to determine if COC delineation is complete south and east of the RAX Building and west of the TFA.

1.1 OVERVIEW

The Site covers approximately 51-acres and is located in a primarily rural area. The City of Oak Creek is located approximately 3.5-miles to the northeast. The adjoining properties are undeveloped or utilized for agricultural purposes with the exception of one residential property located west and adjacent to the Site. Railroad tracks run parallel to the eastern property boundary. The Root River is located approximately 750-feet south/southwest of the Site. The PPG Facility was constructed between 1973 and 1975. The major components of the facility include a resin plant, a paint production plant, and an above ground tank farm which replaced the former TFA, and a former impoundment basin. The RAX Building was an addition built around the APA Laboratory located on the south side of the Facility. Administrative buildings, laboratories, raw materials, and finished goods warehouses are also located at the Facility. The general facility layout is shown on Figure 1. The Facility is currently operational, and processes primarily involve those associated with paint production.

1.2 PROJECT OBJECTIVES

The scope of work for this investigation will include supplemental assessment of soil and groundwater conditions. The objectives include collecting the data required to complete the following:

- Delineate the extent of volatile organic compounds (VOCs) in groundwater contamination (associated with the 2002 spill) to the south of the RAX Building; and
- Determine if light non-aqueous phase liquid (LNAPL) is present in utility corridors between the RAX Building and TFA.

2.0 PROJECT HISTORY AND BACKGROUND

2.1 RAX BUILDING

During February 2002, an on-site spill of solvent comprised of approximately 75% xylene and 25% naptha occurred near the APA Laboratory and the newly constructed RAX Building. PPG reported the spill of xylenes and naphtha to the WDNR and the EPA on February 12, 2002. The project was subsequently transferred to the open Environmental Repair Program (ERP) Activity (BRRTS # 02-41-241728, PPG IND Tank Farm – Corrective Action) associated with the closure of the former TFA on the property. In December 2018, EPA's RCRA Corrective Action program was made aware of a spill of naphtha and xylene solvents at the Facility that took place in February 2002. It was decided between EPA and WDNR to include this spill under the EPA Final Remedy for the Facility.

In 2002, up to approximately 1,500 gallons (11,250 pounds) of solvent was released from the Thin Tank Overflow to gravel and soil adjacent to the origin of the spill (Figure 1). All visibly contaminated soil was removed and disposed of offsite. An interim recovery well was installed (by PPG) into the backfill of the abandoned fire water line, east of the spill area, immediately following the spill and continued pumping until May 2005. The volume of water pumped varied depending on precipitation recharge but averaged less than 2,000 gallons per day. Based on the site data collected during the spill cleanup, the solvent was believed to have traveled below ground into the backfill surrounding nearby underground utilities and building foundations. Underground utilities in the area include an active fire water line, an abandoned fire water line, an active storm water drain, and an abandoned storm water drain.

As part of the spill response, a subsurface investigation was also completed in 2002 and soil borings determined that the native soil beneath the area consists predominantly of low permeability clay till. This investigation determined that groundwater at the site is encountered primarily in the shallow coarse backfill materials associated with building foundations and underground utility lines. While in the native material, groundwater was found in occasional fine to coarse-grained sand lenses interspersed in the low permeability clay till. Six groundwater monitoring wells (MW-1 through MW-6) were installed during the 2002 investigation (Figure 1). Groundwater flow direction was found to be generally to the west in the vicinity of the RAX Building and COCs associated with the spill (ethylbenzene and xylene) migrated to the west along these preferential pathways based on the presence of LNAPL west of the RAX Building in monitoring well (MW)-4. In addition, soil and groundwater samples collected east of the RAX Building did not detect LNAPL or elevated concentrations of xylene in boring locations GP-5, GP-7, GP-11, GP-12, or GP-17.

Pilot dual phase extraction events were completed and approximately 150 gallons of solvent in all phases was recovered. These events also determined that MW-1 and MW-4 could produce abundant groundwater, are located adjacent to the underground fire line within gravel backfill and are hydraulically connected via preferential pathways. However, MW-2 and MW-3 did not appear to be hydraulically connected to MW-1.

Based on the subsurface investigation, and results of the pilot dual phase extraction events, the location of the interim recovery well was moved to MW-1 in December 2002 and pumped continuously until 2012 to hydraulically contain the spill. LNAPL has not been detected in the RAX Building monitoring wells since 2003 but semiannual groundwater monitoring for ethylbenzene and xylene has been conducted as the Site from 2002 to present. Currently groundwater monitoring only occurs in monitoring wells MW-2 and MW-3, installed in the foundation backfill located on the south side of the RAX Building. Sampling of MW-1, MW-4, MW-5, and MW-6 was discontinued in November 2012 because concentrations were consistently below laboratory method detection limits or well below the Wisconsin Preventive Action Limit (PAL). The results for MW-2 and MW-3 continue to have fluctuating concentrations of ethylbenzene and xylene with concentrations exceeding the maximum contaminant levels (MCL), and Wisconsin PALs and the enforcement standards (ES).

2.2 TANK FARM AREA

The former TFA is in the southeastern portion of the Facility. The historical use of this area was for bulk solvent, organic acid, and raw materials storage. The former TFA contained both underground storage tanks (USTs) and aboveground storage tanks (ASTs), all of which were closed in 1999 in accordance with State of Wisconsin regulations. During construction of the former TFA, a drainage system was designed and installed to create a depression in the groundwater potentiometric surface so that any materials that leached to groundwater around the storage tanks would be collected and sent to the local public treatment works with other discharged water. The under-drain system was deactivated in the fall of 2006 and is currently inactive (Aptim, 2018).

From the beginning of 2004 through September 2011, PPG voluntarily monitored groundwater quality (quarterly then semiannually) (Aptim, 2018). The COCs for this area include benzene, toluene, ethylbenzene, and xylenes (BTEX), and Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, mercury, selenium, and silver).

In March 2017, USEPA raised an additional concern regarding the LNAPL present in the former TFA. Specifically, USEPA requested that PPG conduct a subsurface investigation to determine the extent of the LNAPL. In October 2017, two additional observation wells were installed. In October of 2018, in an effort to address and abate the LNAPL present in the area of TF-3, Aptim conducted an enhanced fluid recovery event focused on TF-3. Aptim is currently implementing the monitoring outlined in the August 2018 *Work Plan, TF-3 Light Non-Aqueous Phase Liquid Bail Down Test and Enhanced Fluid Recovery.*

2.3 TOPOGRAPHY AND DRAINAGE

The general topography of the Site slopes slightly from west to east ranging in elevation from 680-feet to 710-feet National Geodetic Vertical Datum (NGVD). Lake Michigan is located approximately 5-miles east of the property with an approximate mean water surface elevation recorded at 580-feet NGVD according to the Racine North, Wisconsin 7.5 minute USGS Topographic Quadrangle Map (dated 1958 and photo revised in 1971) (Warzyn Inc., 1992).

Surface drainage at the site is primarily, dictated by topography and the stormwater conveyance system. PPG has a WDNR Stormwater Industrial Tier 2 Permit (permit number S067857) regulating the discharge of stormwater at the Facility. The stormwater discharge is regularly sampled prior to discharging to the unnamed creek east of the Facility and ultimately to the Root River (ICF, 1997).

Runoff from the south side of the manufacturing facility along the shipping and receiving area, the grassy area along the west property boundary, the trailer and tank wagon parking areas as well as roof drains from the administrative/technical building and finished good warehouse is conveyed primarily through underground piping to the drainage ditch along South 13th Street. This drainage ditch ultimately discharges to the Root River (Warzyn Inc., 1992).

2.4 GEOLOGY AND HYDROGEOLOGY

The soils at the Site are classified as poorly to well drained and consist of silty soils overlying calcareous silty clay loam glacial till. Permeability of these shallow soils are typically moderately slow to moderate with a high available water capacity. Groundwater in these undisturbed soil series is generally found at less than 5 feet from the ground surface (Warzyn Inc., 1992). Fill materials comprised of lean clay, sand, and gravel are present at ground surface where development has disturbed the native soils.

Underlying the surface soils are glacial till deposits of the Oak Creek formation comprised of fine textured glacial till, lacustrine clay, silt, sand, and some glaciofluvial sand and gravel. The till is strongly calcareous and fine grained, and commonly contains between 80% and 90% silt and clay. The average grain size distribution is typically 12% sand, 43% silt, and 45% clay. The Oak Creek till has a low permeability, generally ranging from $1x10^{-6}$ to $3x10^{-8}$ centimeters per second (cm/sec).

A shallow sand and gravel aquifer located in the glacial till consists of unconsolidated sand and gravel deposits in glacial drift and alluvium. These surficial deposits may be saturated from near the ground surface to the underlying Niagara dolomite. Recharge is primarily from precipitation in more permeable areas. Discharge may be to local waterbodies, the dolomite aquifer, or to Lake Michigan. General flow direction normally parallels surface topography.

The first synoptic groundwater level measurement event including wells from both the RAX Building and TFA was conducted on May 14, 2019. Groundwater from the TFA flows primarily to the east and southeast, as presented in Figure 1. The flow from the RAX Building is generally flat with apparent flow to the south. The potentiometric surface between the TFA and RAX Building is inferred and appears to have a slight southwest gradient.

3.0 SCOPE OF WORK

The purpose of the field investigation is to delineate COCs in groundwater south of the RAX Building and determine if COCs have migrated along the subsurface utility corridors between the RAX Building and the TFA. The field investigation will include the following activities which are described below:

- Installation of up to 11 soil borings
- Utility clearance at each drilling location via a private utility locate company
- Soil screening at each of the 11 borings
- Installation of up to six temporary monitoring wells
- Backfill screening in the fire suppression corridors up to two locations
- Screening of the storm sewer utility outfall
- Collect a synoptic round of groundwater levels from the RAX Building and TFA areas
- Collection of up to six groundwater samples from the temporary monitoring wells
- Survey of the location of all borings, backfill screening locations, and six temporary monitoring wells

Details pertaining to the field investigation and methodologies are discussed in the following sections.

3.1 SAMPLING METHODOLOGY

All sampling activities will be conducted in accordance with the Quality Assurance Project Plan (QAPP) dated August 2016 and prepared by CB&I Environmental and Infrastructures, Inc. (CB&I). Soil boring, backfill screening, and temporary monitoring well locations were chosen in order to meet the project objectives outlined in Section 2.1. Table 1 describes the rationale for each sample location, which are shown on Figure 1. Up to 11 soil borings and up to 6 temporary monitoring wells will be installed at the Site. In addition, backfill along utility corridors will be screened at up to three locations. In general, soil borings and backfill screening locations situated closest to potential source areas will be installed first, and corresponding step-out locations will be installed if contamination is identified at the initial locations. The monitoring well locations will be chosen in the field based on the results of the soil screening.

Soil boring, temporary monitoring well, and backfill screening locations were approved by the USEPA. However, the six locations to the south of the RAX Building (PB-18 through PB-23) have been moved further south (Figure 1) following conversations with on-site PPG personnel. The boring locations (PB-18, PB-19, and PB-20) were moved to avoid proximity to tankers containing flammable material and step out locations were shifted south accordingly.

3.2 UTILITY CLEARANCE

Prior to mobilization of equipment to the Site, the Wisconsin one-call (Diggers Hotline) number will be called to locate subsurface utilities at the site. Tetra Tech personnel will pre-mark the boring locations with spray paint or pin flags and a third-party utility clearance company will be contracted to locate privately held utilities in the areas of the proposed soil boring/temporary monitoring wells. The objective of the utility clearance services will be to clear each of the 14 proposed sample locations (Figure 1) to allow for drilling services to be performed. PPG facility utility maps will also be reviewed during the clearance activities. The approximate locations of the utilities in the area of the RAX Building and TFA are shown on the attached map.

The third-party utility clearance contractor will clear these locations and mark the underground utilities and buried equipment within the areas using the color code scheme listed below. Utility locations shall be identified using the following color code scheme, unless an alternate method is agreed upon:

- White - Work Location
- Red - Electric
- Yellow - Gas/Oil/Steam
- Orange Telephone/Communications
- Blue - Water
- Green - Sewer/Drain

The third-party utility clearance contractor will utilize a 400-megahertz (MHz) ground penetrating radar (GPR) antenna, an electromagnetic (EM) pipe locator, and a traceable rodder to identify subsurface structures in the vicinity of drilling locations. Drilling locations may be adjusted in the field depending on the results of the utility clearance. Concrete coring through paved areas may be required at some locations prior to the initiation of probing activities. Coring will not be initiated until subsurface utilities have been identified by the third-third party locator and cross checked with available plant drawings.

3.3 SOIL BORING INSTALLATION AND ORGANIC VAPOR SCREENING

Up to 11 borings will be installed (Figure 1) with a direct push technology (DPT) track or truck-mounted drill rig. Soil borings will be installed to approximately 20-feet below ground surface (bgs). Soils will be continuously screened to the maximum depth of each boring with a PID and examined for visual or olfactory signs of contamination. Each borehole will be continuously logged and classified using the Unified Soil Classification System. Classification and screening information will be recorded on a Soil Boring Log form. Organic vapor readings will be recorded on the boring log form approximately every 2-feet at minimum. Soil borings closest to the source area(s) will be installed first. If there is evidence of contamination, the soil boring will be properly abandoned in accordance with the borehole abandonment procedures described in Chapter NR 141 Wisconsin Administrative Code, then the corresponding step-out boring locations will be installed, and screening will be repeated for each step-out location.

3.4 UTILITY BACKFILL SCREENING

The utility corridor backfill screening (up to three locations) will be conducted via hydrovac excavation to confirm presence or absence of VOCs related to LNAPL. The initial locations are the storm sewer outfall southwest of the RAX Building (PB-29) and the fire line located east of the RAX Building (PB-20). If VOCs are detected within the initial fire line location, then a step out boring will be completed west of the TFA (PB-31).

The proposed boring at the storm sewer outfall is associated with a grass covered swale that the concrete sewer line discharges into. Therefore, a hand auger may be used in this location to screen the shallow surface immediately adjacent to the concrete outfall. Hydrovac equipment consisting of an air vacuum and a high-pressure water device used to break up soil will be used to access the utility corridors related to the fire line. The hydrovac excavation(s) will be in the backfill near the fire suppression and/or sewer utility lines but will not be placed directly over the utility lines. These excavations will be located as close as is practical without exposing the utility pipes or compromising their integrity. Similar to the soil borings, the step-out location along the fire suppression line (PB-31) (Figure 1) will only be installed if there is evidence of contamination at PB-30.

Once the level of the utility is located as near the bottom of the utility trench as practical, a PID will be used to screen the backfill for presence of VOCs. An interface probe will be used to determine if any LNAPL or groundwater are present within the utility corridor. If the boring is dry, then a drop tube connected to the PID inlet will be used to access the bottom of each boring to screen for soil vapors.

3.5 TEMPORARY WELL INSTALLATION AND SAMPLING

Up to six temporary monitoring wells will be installed following completion of the soil borings. The monitoring well locations will be chosen in the field based on the results of the soil screening. Each temporary monitoring well will be constructed of 1-inch diameter pre-packed poly vinyl chloride (PVC) well screen and casing. The length of the screened interval will be 5 or 10 feet. The actual screen length will be determined in the field based on the depth of the wells and thickness of the saturated zone. For each well, placement of the screen will be determined based upon the depth of the water-bearing zone. The temporary monitoring well screens will be placed such that the water table will fall within the screened interval, but borings will not be deeper than 20-feet bgs. The wells will be developed via pumping and/or surging, then left to stabilize overnight.

A synoptic groundwater level measurement event will be conducted prior to purging activities for all existing and newly installed wells in the RAX Building and TFA areas. An interface probe will be used to determine if any LNAPL is present.

Prior to sampling, the water level in the well will be recorded using an interface probe to determine if any LNAPL is present. The wells will be purged and sampled using low-flow techniques with a peristaltic pump in accordance with Appendix A of the QAPP. Throughout the purging process field parameters, including temperature, pH, specific conductivity, dissolved oxygen, redox potential, and turbidity will be measured. Readings will be recorded at set intervals (every 2 to 10

minutes). Groundwater samples will be collected in laboratory-provided containers once the field parameters meet the appropriate stabilization criteria (three consecutive readings differing by less than 10 percent and +/-0.3 units for pH).

Per Chapter NR 141 Wisconsin Administrative Code, temporary monitoring wells are to be abandoned within 120 days after their installation in accordance with the monitoring well abandonment procedures in Chapter NR 141. The determination regarding which wells, if any, should be abandoned or replaced with permanent wells will be made following the evaluation of the investigation data.

3.6 LABORATORY ANALYTICAL PARAMETERS

Laboratory samples will be analyzed by Pace Analytical Services in Green Bay, Wisconsin. Up to six groundwater samples will be analyzed for the following parameters; BTEX via USEPA SW846 method 8260B, and RCRA 8 metals (arsenic, barium, cadmium, chromium, mercury, selenium, and silver) via USEPA SW846 method 6010B, except mercury will be analyzed via USEPA SW846 method 7470A (Table 1).

3.7 QUALITY CONTROL SAMPLES

Quality Control (QC) samples will be collected in accordance with the QAPP. Based on a maximum of six groundwater samples, QC samples will be collected as follows:

- One Trip Blank for each cooler containing VOCs
- One Equipment Blank
- One Field Duplicate
- One MS/MSD

3.8 SAMPLE HANDLING

Sample volumes, container types, and preservation requirements for each analytical method will be in accordance with the requirements of USEPA SW846. Groundwater samples will be labeled, placed in laboratory provided containers, placed in an ice-filled cooler, and transported to Pace Analytical Services in Green Bay, Wisconsin, the designated laboratory, for analysis. Sample collection will be documented on a Chain-of-Custody form that will be included in the cooler with the samples.

3.9 DECONTAMINATION

The DPT rig will be cleaned and decontaminated prior to use on-site. The logging tools, sampling tools (if any), augers, rods, and drilling/DPT equipment in direct contact with the soil will be decontaminated on-site after each borehole is advanced. The decontamination water will be pumped or poured into drums. The drums will be in an area designated by PPG and handled in accordance with Section 3.10.

The equipment will be decontaminated using potable water mixed with Alconox and will be rinsed with tap water.

3.10 WASTE HANDLING

Investigation Derived Wastes (IDW), which may or may not be hazardous, will be generated during the field investigation. These wastes will consist primarily of drilling/soil cuttings, groundwater (from monitoring well development and well purging), and decontamination fluids. IDW will be segregated, containerized, and characterized by Tetra Tech. Characterization will be done in accordance with the selected disposal facility's requirements and will include the parameters listed in Table 2. PPG will arrange for the proper method of disposal.

4.0 DATA ASSESSMENT AND REPORTING

Following receipt of analytical results, Tetra Tech will review and conduct validation of field and laboratory data for acceptable accuracy and precision. In addition, Tetra Tech will prepare a summary letter report following completion of the field investigation. The summary letter report will include, but not be limited to, the following:

- Description of project objectives
- Narrative describing field activities
- Field documentation
- Soil boring logs
- Borehole abandonment forms for the soil borings not converted to temporary monitoring wells
- Monitoring well construction and development forms
- Laboratory testing reports and tabular summary of lab data
- Data validation report
- Figures identifying sample locations, analytical data summary (as appropriate), and the potentiometric surface
- Summary of investigation results and recommendations for path forward

5.0 SCHEDULE

It is estimated that the field investigation will take approximately 7 business days to complete and the results will be received within approximately 4 weeks. Tetra Tech will prepare the summary report within 4 weeks of receiving the analytical results. The tentative schedule is provided below:

- Work Plan – September 2019
- Field Investigation – October 2019
- Summary Report – December 2019

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6.0 REFERENCES

Warzyn Inc., 1992. *RCRA Facility Investigation: Description of Current Conditions and Pre-Investigation Evaluation of Corrective Measure Technologies.* Prepared by Warzyn Inc., Milwaukee, Wisconsin for PPG Industries, Inc., Bethesda, Oak Creek, Wisconsin.

ICF Kaiser Engineers, Inc. (ICF), 1997. RCRA Facility Investigation Report. Prepared by ICF Kaiser Engineers, Inc. Pittsburgh, Pennsylvania for PPG Industries, Inc. Oak Creek, Wisconsin.

MFG, Inc. (MFG), 2002. *Results of Subsurface Assessment and Interim Remedial Activities, Xylene Spill Area.* Prepared by MFG, Inc., Pittsburgh, Pennsylvania for PPG Industries, Inc., Bethesda, Oak Creek, Wisconsin.

CB&I Environmental and Infrastructures, Inc. (CB&I)., 2016. *Quality Assurance Project Plan.* Prepared by CB&I, Pittsburgh, Pennsylvania for PPG Industries, Inc., Bethesda, Oak Creek, Wisconsin.

Aptim Environmental & Infrastructure, Inc. (Aptim). 2018. *Work Plan, TF-3 Light Non-Aqueous Phase Liquid Bail Down Test and Enhanced Fluid Recovery.*

TABLES

Table 1

Summary of Boring Locations, Rationale, and Sample Analysis
PPG Industries, Inc.
Oak Creek, Wisconsin

Boring/Well ID	Rationale	Area	USE	Soil Analysis	Groundwater Analyses [1,2]
PB-18 or PB-21	COC Delineation/Step-Out Location	RAX Building (South)	Soil Boring and/or Temporary Monitoring Well	PID Field Screening	BETX - USEPA SW846 method 8260B RCRA 8 Metals - USEPA SW846 method 6010B, except Mercury via USEPA SW846 method 7470A
PB-19 or PB-22	COC Delineation/Step-Out Location	RAX Building (South)			
PB-20 or PB-23	COC Delineation/Step-Out Location	RAX Building (South)			
PB-24 or PB-26	COC Delineation/Step-Out Location	TFA (West)			
PB-25 or PB-27	COC Delineation/Step-Out Location	TFA (West)			
PB-28	COC Delineation	Area Between the RAX Building and TFA			
PB-29	Backfill Screening Location	Storm Sewer Outfall	Soil Borings/Backfill Screening		NA[3]
PB-30	Backfill Screening Location	Fire Line between RAX Building and TFA	Soil Borings/Backfill Screening		NA
PB-31	Backfill Step-Out Location	Fire Line Downgradient of TFA	Soil Borings/Backfill Screening		NA

Notes:
1. BTEX = benzene, toluene, ethylbenzene, xylenes
2. RCRA 8 metals = arsenic, barium, cadmium, chromium, mercury, selenium, and silver

Table 2

Summary of Waste Characterization Analysis
PPG Industries, Inc.
Oak Creek, Wisconsin

Matrix	Analyis
Solid	EPA 1311 - TCLP - Zero Headspace Extraction (ZHE)
	EPA 8260 - TCLP Volatiles
	EPA 1311 - TCLP Leachate only
	EPA 8270 - TCLP Semi-Volatiles
	EPA 6010/7470 - TCLP RCRA Metals
	Ignitability
	pH
Aqueous	EPA 1311 - TCLP - Zero Headspace Extraction (ZHE)
	EPA 8260 - TCLP Volatiles
	EPA 1311 - TCLP Leachate only
	EPA 8270 - TCLP Semi-Volatiles
	EPA 6010/7470 - TCLP RCRA Metals
	Ignitability
	pH

Notes:
1. TCLP =Toxicity Characteristic Leaching Procedure
2. RCRA 8 metals = arsenic, barium, cadmium, chromium, mercury, selenium, and silver

FIGURES

LEGEND

LP-3	EXISTING MONITORING WELL LOCATION
OW-01	OBSERVATION WELL LOCATION
(690.45)	GROUNDWATER ELEVATION (MSL)
692	GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
	DIRECTION OF GROUNDWATER FLOW
	PROPOSED SOIL BORING/GROUNDWATER SAMPLE LOCATION
	STEPOUT LOCATION
	UTILITY BACKFILL SCREENING LOCATION
	STEPOUT LOCATION
	PREVIOUS SOIL BORING - 2002 RAX BUILDING INVESTIGATION
	FIRE LINE (APPROX. LOCATION)
	SEWER LINE (APPROX. LOCATION)
	OVERHEAD ELECTRICAL LINE (APPROX. LOCATION)

NOTES

1. GROUNDWATER CONTORS CONSTRUCTED FROM WATER LEVELS COLLECTED ON MAY 14, 2019.
2. *LP-3 NOT USED FOR CONTOURING PURPOSES AS IT IS SCREENED AT A DIFFERENT INTERVAL.
3. NG = MONITORING WELL NOT GUAGED ON MAY 14, 2019.

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DISCLAIMER

THE INFORMATION PROVIDED ON THIS DRAWING WAS PRODUCED USING BOTH TECHNICAL INFORMATION AND KNOW HOW. ANY ADAPTATION OR MODIFICATION OF THE INFORMATION OR DRAWING SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE ENGINEER.

REFERENCE

NO.	REVISIONS	BY	DATE
0	ISSUE FOR REVIEW	–	–

DESIGNED BY:	JRF
DRAWN BY:	KAL
CHECKED BY:	EL
APPROVED BY:	JGK
PCP/PC2:	MFG-STD
VIEW NAME:	
ORIGINATION DATE:	08/21/19
PLOT SCALE:	1:120
DATE:	AUGUST 2019

PPG – OAK CREEK

OAK CREEK, WISCONSIN

FIGURE 1

PROPOSED DELINEATION BORINGS AND GROUNDWATER SAMPLING LOCATIONS

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