Moraine Environmental, Inc.

Design • Engineer • Construct

May 25, 2017

Mr. Paul Grittner Wisconsin Department of Natural Resources 2300 North Martin Luther King Drive Milwaukee, WI 53212 Project Reference #6078

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RE:

Status Update

St. Francis Auto Wreckers Site; WDNR BRRT's # 02-41-000269

4043 South Pennsylvania Avenue

St. Francis, WI 53235

Dear Paul,

The intent of this status update is to provide compiled historic soil and groundwater laboratory data for the project site dating back to 1991 and address items from the WDNR letter of June 10, 2016 as well as our discussions at the on-site meeting on December 9, 2016. Soil data for the north vacant lot was not included into the compilation since that site has been remediated, capped and issued a case closure. In addition, we have placed historic soil boring/hand auger locations on our detailed site map (Figure B.1.b. Detailed Site Map). These items were completed so that a comprehensive evaluation of sub-surface soil and groundwater conditions could be completed. Moraine has enclosed a check for \$700.00 for the Technical Review and assistance on this project.

SOIL INVESTIGATION SUMMARY

Updated soil tables are provided in Tables A.2. In an effort to evaluate results, soil sample locations have been grouped together, as best as possible, based upon proximity to one another. Soil has been analyzed for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs)/semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs). The sample locations and number of analyzed samples will be discussed separately based upon the analytic group.

Soil VOC Results

VOC analysis was performed on 25 select soil samples (24 unsaturated and one saturated) from 19 boring locations. Results are provided in Table A.2.1. The distribution of locations where VOC analysis was performed appears evenly distributed across the salvage yard. One or more of the petroleum VOCs benzene, ethylbenzene, naphthalene, xylenes, trimethylbenzenes; chlorinated VOCs (CVOCs) tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (Cis) were detected at levels above groundwater pathway RCLs in 18 of the soil samples from 13 locations.

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Where multiple samples were collected in a single borehole (6 locations), no correlation with respect to increasing/decreasing concentrations with depth can be found. Results at HP16, for example, indicate an increase in benzene and PCE from 8 to 12 feet, while the concentrations of naphthalene, cis-1,2-dichloroethene, and xylenes decrease from 8-12 feet. Likewise, petroleum VOCs in GP-2 appear to increase with depth between 1 and 9 feet while PCE and TCE concentrations decrease with depth.

Nine soil samples within the upper four feet (direct contact zone) were collected from seven locations. There were no VOC detections in the upper 4 feet of soil column which exceeded industrial direct contact RCLs.

Soil PAH Results

PAH analysis was performed on 20 select soil samples (19 unsaturated samples) from 15 boring locations. Results are provided in Table A.2.2. The distribution of locations where PAH analysis was performed appears evenly distributed across the salvage yard. One or more of the PAH compounds benzo(a)anthracene (BaA), benzo(a)pyrene (BaP), benzo(b)fluoranthene (BbF), benzo(g,h,i)perylene (BP), benzo(k)fluoranthene (BkF), chrysene (C), dibenz(a,h)anthracene (DahA), indeno(I,2,3-cd)pyrene(IP), and naphthalene (N) were detected at levels above respective soil RCLs. PAH groundwater pathway RCLs were exceeded at GP-1, SF-11-15, SF-12-15, and SF-14-15.

PAH industrial direct contact exceedances within the upper 4 feet of soil column were identified at GP-1 (0'-1'), SF-11-15 (0'-1'), and SF-12-15 (0'-1'). Detections of benzo(a)pyrene are prevalent within the direct contact zone and indicate the entire salvage yard area and most of the drainage swale exceed non-industrial direct contact RCL of 15 ug/kg. Industrial direct contact RCL exceedances for BaP cover a considerable portion of the salvage yard south of the building as well as a smaller area within the drainage swale to the north of the salvage yard main building. A figure is attached representing benzo(a)pyrene in the upper 4 feet of soil column.

Two samples were collected at GP-1,2,3, SF-14-15 and SF-15-15. PAH concentrations decrease with depth at each location with the exception of GP-1. GP-1 (13') appears to be the only sample location near the water table which contains PAH compounds in excess of groundwater pathway RCLs. Significant contaminant level reductions between 1 and 4 feet at SF-14-15 and SF-15-15 were observed. Similarly, PAH levels in the samples collected at GP-2 (1 and 10 feet) as well as at GP-3 (1 and 16 feet) decreased considerably with depth. PAH impacts in soil at levels above soil RCLs generally appears limited to within the upper 4 feet of soil column.

Soil Metals Results

Resource Conservation and Recovery Act (RCRA) metals analysis was performed on 20 select soil samples (19 unsaturated samples) from 15 boring locations. The distribution of locations where RCRA metals analysis was performed appears evenly distributed across the salvage yard.

Metals data review (Table A.2.3.) indicates one or RCRA metals are present at levels above soil RCLs in 10 of the 15 boring locations (13 samples). Arsenic, lead, and mercury detections are most common at levels above respective RCLs.

Arsenic exceeds it background threshold value (BTV) of 8 mg/kg at HP14 (17.3 mg/kg), GP-2 (13.2 J mg/kg @ 1' and 57.4 mg/kg @ 10'), SF-15-15 (14.6 J mg/kg @1'), and HP22 (9.6 mg/kg @ 4'). Mercury was detected above its groundwater pathway RCL of 0.208 mg/kg at HP14 (0.214 mg/kg @ 6'), SF-15-15 (0.23 mg/kg @ 1'), SF-14-15 (0.58 mg/kg @ 1'), HP22 (0.0277 mg/kg @ 4'), HB02 (1.06 mg/kg @ 1'), HB01 (46.6 mg/kg @ 1'), and SF-12-15 (0.53 mg/kg @ 1'). The mercury detection of 46.6 mg/kg at HB01 (1') also exceeds its industrial direct contact RCL of 3.13 mg/kg. Lead was detected above its industrial direct contact RCL and within the upper 4 feet of soil column at GP-1 (1010 mg/kg @ 1'), SF-15-15 (1570 mg/kg @ 1'), and GP-3 (1000 mg/kg @ 1'). An isoconcentration map for lead is attached. The industrial direct contact RCL for lead (800 mg/kg) is interpreted to cover most of central and southern area of the property. In most cases where 2 or more depth samples were analyzed in a particular boring location, metals concentrations decrease with depth.

Soil PCB Results

Polychlorinated biphenyls (PCBs) were analyzed at gridded locations encompassing the entire salvage yard, beginning in 1991, and primarily samples were analyzed in the upper 1 foot of soil column. Sampling in 1999 by Montgomery Watson was completed to obtain deeper PCB sample results at several 1991 locations. By 1999, the new main building had been constructed and samples near the 1991 locations C1, C2, D1, and D2 were not obtained as these locations are below the main building footprint. Samples by Moraine in July 2015 were collected to get a better understating of previous results as well as obtain a few deeper samples than previously investigated. Overall, PCB analysis has been performed on 53 soil samples. Results are shown on Table A.2.4. Sample locations and total PCB distribution in the upper 4 feet of soil column are presented on the attached figure.

PCB analytes consist of Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260. Aroclors 1016, 1221, 1232, and 1242 were not detected in any samples. Individually, the Aroclors do not have a groundwater pathway RCL; however, total PCBs (the sum of the individual Aroclors) has a groundwater pathway RCL of 0.0094 mg/kg. The attached Total PCB isoconcentration map reveals that the entire salvage yard area has groundwater pathway RCL exceedances for total PCBs. (Total PCBs in groundwater samples have not been detected at any location with the exception of TW-3, which resulted in an ES exceedance of total PCBs at 1.9 ug/L in December 2015). It should be noted that the 1991 sample locations were tested for PCBs from 0-0.5 feet and 0.5-1.0 feet. The largest value detected in this range is represented on the attached isoconcentration map.

Individually, each Aroclor compound has a non-industrial and industrial direct contact RCL. Detections of the Aroclors 1248, 1254, and 1260 were predominant across the salvage yard at levels in excess of respective industrial direct contact RCLs.

Locations within the upper 4 feet and having one or more of the aforementioned Aroclors at levels above respective industrial standards include: A2 & HP15, B1, GP-3, SF-15-15, B3, BC4, C1, C2, C3 & HP13, CD4, D1, D2, D3 & SF-14-15, HB01, and SF-12-15. Generally, Aroclor 1248 values are the most elevated PCB detections at the salvage yard.

GROUNDWATER INVESTIGATION SUMMARY

History

Three wells (SF-6, BW-13, and SF-9) were installed and sampled one time in 1991. The wells were placed along the former western boundary of the salvage yard (now in the off-ramp area). SF-6 was installed near the southwest property boundary; BW-13A was installed just northwest of current well MW-01; SF-9 was installed due west of current well MW-02. Well MW-11 was placed near S. Pennsylvania Avenue in 1996 and reportedly tested one time. This well was placed as an up-gradient well by the consultants performing work on the D-F Inc property to the east. Soil data was obtained from MW-11 by Moraine, but no groundwater results could be found. MW-11 was a temporary well. Wells MW-1 through MW-5 were installed and sampled in July 2001. Moraine performed the second round of sampling in July 2015. No other groundwater monitoring has been completed, although it should be noted that there has been more extensive off-site groundwater monitoring down-gradient to the east of the property. MW-02, MW-03, and MW-05 were placed on the vacant parcel north of the salvage yard (MW-03 could not be located in 2015 after several search attempts). MW-01 and MW-04 were placed on the salvage yard property.

Updated groundwater analytical results tables are provided in Tables A.1. Groundwater elevations are provided in Table A.6. Groundwater has been analyzed for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs)/semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs). The groundwater results are provided below.

Groundwater Analytical Results

Historic Well Results - July 1991

SF-6 was located near the southwest corner of the salvage yard in the current ROW.

VOCs - Enforcement standard (ES) exceedances of trichloroethene (TCE) and vinyl chloride (VC) were observed at SF-6, with preventive action limit exceedances of benzene, methylene chloride (a common laboratory artifact) and cis-1,2-dichloroethene (cis). No other detected VOCs exceeded respective PALs.

SVOCs – Semi-volatile organic compounds were not analyzed at SF-6.

Metals – PAL exceedances of arsenic (2.2 ug/L) and mercury (1.1 ug/L) were identified. No other detected metals exceeded respective PALs.

PCBs - No PCBs were detected.

BW-13A was placed 50 feet northwest of well MW-01 in what is now the off-ramp ROW.

VOCs - PAL exceedances of benzene and methylene chloride were observed at BW-13A. No other detected VOCs exceeded respective PALs.

SVOCs – Bis(2-ethylhexyl)phthalate was detected at 24.2 ug/L, an ES exceedance. No other SVOCs were detected.

Metals – A PAL exceedance mercury (0.68 ug/L) was identified. No other detected metals exceeded respective PALs.

PCBs – No PCBs were detected.

SF-9 was located approximately 25 feet up-gradient and west of current well MW-02.

VOCs - ES exceedances of benzene, ethylbenzene, and xylenes; and PAL exceedances of 1,2-dichloroethene (1,2-DCA) methylene chloride, and TCE were observed at SF-9. It is important to note there were no ES exceedances at MW-02 in July 2015.

SVOCs – Bis(2-ethylhexyl)phthalate was detected at 54.9 ug/L, an ES exceedance. Naphthalene (32 ug/L) exceeded its PAL. No other detected SVOCs exceeded respective PALs.

Metals – PAL exceedances of arsenic (2.7 ug/L), barium (406 ug/L), cadmium (13 ug/L), and mercury (1.1 ug/L) were identified. No other detected metals exceeded respective PALs.

PCBs – No PCBs were detected.

Existing Monitoring Wells

MW-1 is an up-gradient well located centrally on the west property line of the salvage yard.

VOCs – Vinyl chloride (VC) was detected at 0.33 ug/L, an ES exceedance, in 2001, and was not detected in 2015. Benzene exceeded its PAL in 2001 (4.4 ug/L) and again in 2015 (3.9 ug/L). No other detected VOCs exceeded respective PALs.

PAHs/SVOCs – PAL exceedances of naphthalene (13 ug/L) in 2001 and chrysene (0.035 J ug/L) in 2015 were identified. No other detected PAHs/SVOCs exceeded respective PALs.

Metals – An ES exceedance of zinc (22.7 ug/L) and PAL exceedances of beryllium (0.68 ug/L), and cadmium (0.84 ug/L) were identified in 2001. A PAL exceedance of barium (1320 ug/L) was identified in 2015. No other detected metals exceeded respective PALs. PCBs – No PCBs were detected.

MW-2 is an up-gradient well located on the west property line of the vacant land.

VOCs - VC was detected at 0.46 ug/L, an ES exceedance, in 2001 and was not detected in 2015. Benzene was detected during each event and exceeded its PAL (0.59 J ug/L) in 2015. No other detected VOCs exceeded respective PALs.

PAHs/SVOCs – PAL exceedances of Bis(2-ethylhexyl)phthalate (1.6 ug/L) in 2001 and chrysene (0.032 J ug/L) in 2015 were identified. No other detected PAHs/SVOCs exceeded respective PALs.

Metals – ES exceedances of arsenic (13.5 ug/L) and zinc (38.4 ug/L) and PAL exceedances of beryllium (0.73 ug/L), and lead (2.6 ug/L) were identified in 2001. There were no PAL exceedances in 2015.

PCBs - No PCBs were detected.

MW-3 is/was located in the northeast corner of the vacant land north of the salvage yard.

VOCs - VC was detected at 4.8 ug/L, an ES exceedance, and benzene was detected at 4.7 ug/L, a PAL exceedance, in 2001. No other detected VOCs exceeded respective PALs. MW-3 could not be located in 2015.

PAHs/SVOCs – A PAL exceedance of Bis(2-ethylhexyl)phthalate (1.9 ug/L) was detected in 2001. No other detected PAHs/SVOCs exceeded respective PALs.

Metals – An ES exceedance of zinc (13.2 ug/L) and PAL exceedances of beryllium (0.64 ug/L were identified in 2001. No other detected metals exceeded respective PALs. **PCBs** – No PCBs were detected.

MW-4 is located on the salvage yard property near the northeast corner of the main building in a down-gradient position.

VOCs - Groundwater had a PAL exceedance of benzene (2.5 ug/L) in 2001 and no PAL exceedances in 2015. No other detected VOCs exceeded respective PALs.

PAHs/SVOCs – PAL exceedances of Bis(2-ethylhexyl)phthalate (1.4 ug/L) in 2001 and chrysene (0.032 J ug/L) in 2015 were identified. No other detected PAHs/SVOCs exceeded respective PALs.

Metals – An ES exceedance of zinc (16.3 ug/L) and PAL exceedance of beryllium (0.62 ug/L) were identified in 2001. There were no PAL exceedances in 2015.

PCBs – No PCBs were detected.

MW-5 is located centrally along the north property line of the vacant lot to the north of the salvage yard, in a down/side-gradient position.

VOCs - Analysis resulted in an ES exceedance of benzene (10 ug/L) in 2001 and a PAL exceedance (4 ug/L) in 2015. Trimethylbenzenes (365 ug/L) exceeded its PAL in 2001 and was not detected in 2015. Naphthalene (51 ug/L) exceeded its PAL in 2001 and was not detected in 2015. TCE was not detected in 2001 and was detected at 0.57 J ug/L in 2015, above its PAL. No other detected VOCs exceeded respective PALs.

PAHs/SVOCs – PAL exceedances of naphthalene (25 ug/L) in 2001 and chrysene (0.037 J ug/L) in 2015 were identified. No other detected PAHs/SVOCs exceeded respective PALs.

Metals – An ES exceedance of zinc (7.2 ug/L) and PAL exceedances of beryllium (0.79 ug/L) and lead (2.0 ug/L) were identified in 2001. There were no PAL exceedances in 2015.

PCBs – No PCBs were detected.

TW-1 was located along the south property line near the southwest corner of the salvage yard and sampled in July 2015.

VOCs – Analysis resulted in an ES exceedance of TCE (15.4 ug/L) and a PAL exceedance of PCE (1.3 ug/L) in 2015. No other detected VOCs exceeded respective PALs.

PAHs – PAHS were not analyzed at TW-1 in 2015.

Metals – PAL exceedances of lead (8.5 ug/L) and selenium (10.2 J ug/L) were identified. No other detected metals exceeded respective PALs.

PCBs – No PCBs were detected.

TW-3 was located just south of the salvage yard's main building and sampled in July 2015.

VOCs – Analysis resulted in an ES exceedance of benzene (8.4 ug/L). No other detected VOCs exceeded respective PALs.

PAHs - ES exceedances of benzo(a) pyrene (0.28 ug/L), benzo(b)fluoranthene (0.37 ug/L), and chrysene (0.35 ug/L) were identified at TW-3. No other detected PAHs exceeded respective PALs.

Metals – ES exceedances of arsenic (20.5 μ L), cadmium (5.9 μ L), and lead (1050 μ L), and PAL exceedances of barium (493 μ L), total chromium (62.8 μ L), and mercury (1.4 μ L) were identified. No other metals were detected.

PCBs — PCB detections included Aroclor 1248 (0.57 ug/L), Aroclor 1254 (0.70 ug/L), and Aroclor 1260 (0.60 ug/L). There are no listed ES or PAL standards for individual Aroclors. The sum of individual Aroclors, or Total PCBs, does have an ES of 0.03 ug/L. Total PCBs at TW-3 (1.9 ug/L), exceeds the ES.

Groundwater Elevations

The shallow water table is present between 16 and 18 feet below ground surface (Table A.6.). The flow direction has been interpreted to be northeasterly. A figure showing the flow direction on July 21, 2015, is attached as Figure B.3.c.

Response to items 1 through 5 of WDNRs June 10, 2016, letter.

1) Based on the significant data available, both historic and current, Moraine concluded upon review of the compiled data that the entire rear enclosed yard plus the swale to the north has WDNR Standard Exceedances. As we all are aware, both Direct Contact and Groundwater Pathway standards are exceeded in various pockets in the salvage yard as determined by current and historic analytical data dating back to 1991. The presence of isolated pockets of soil contamination is not surprising given the historical fill activity and use of the site as a vehicle salvage yard. Based upon review, above, of the compiled soil data, Moraine believes the extent of soil contamination have been defined on the property. When Final Case Closure is granted, it will be issued with the same directives (restrictions) as we know today; a GIS Soil Use and Groundwater Use Restriction and a Continuing Obligation directive for an "Institutional Control", and WDNR approved cap.

In response to your other question in this section, there have not been any new releases on the site since 1999, when all vehicle fluid draining activities were moved to within the interior of the building. Prior to 1999, fluids were drained into containers for recycling and/or disposal off-site. If spillage had occurred, it was minor for the containers in which the fluid was being collected. Currently very little activity occurs in the rear yard ("low occupancy use") and certainly no fluid draining of any sort.

- 2) In its June 10, 2016, letter, the WDNR pointed out that soil direct contact RCLs will need to be remediated, capped, or mitigated in order to obtain closure. The type of cap has been the subject of follow up discussions, correspondence and an on-site meeting on December 9, 2016 with yourself, Trevor Nobile, Bob Melton (owner), Timm Speerschneider (owner's attorney) and Tom Sweet (owner's environmental consultant). We believe those discussions should continue and reflect the current and planned land uses in the area.
- 3) PCB soil contamination is present in the salvage yard and north drainage swale at levels above individual Aroclor direct contact standards, as well as total PCB protection of groundwater standards. Moraine has reviewed guidance document RR 786 and will complete the necessary written request under the "coordinated approval process". Further review indicates the PCB release is "Type B". The site is not subject to TSCA Section 6(e) and the PCB waste was released prior to April 18, 1978. This type of site is managed by the WDNR under the 700-rule series. Moraine believes the identified shallow soil PCB impacts can be addressed through an approved capping plan, without remediation.
- 4) Moraine will not be conducting any off—site soil investigations. The entire area in the vicinity of the site is fill and thus Moraine does not see a point in chasing soil fill issues off site. Groundwater contamination from soil impacts is minimal, and defined. MW-04 is in a down-gradient position near the northeast main building corner, and has no current VOC or PAH preventive action limit exceedances. Detected metals are below standards and there were no PCBs detected in July 2015. The results at MW-04 are indicative of soil impacts remaining in soil pores and not being released to the groundwater. Moraine recommends no additional groundwater investigation.
- 5) Moraine will not be performing vapor intrusion in the building for two reasons: 1) the volatilization of heavy petroleum, mainly oils and hydraulic fluid is very low and will not cause a vapor intrusion risk and 2) due to the nature of the business and the petroleum lubricants used within the interior of the facility and the coating of various parts for resale; the potential exposure to vapors is already a factor.

Summary

Site soil has been investigated to the extent practicable both vertically and horizontally. The site and surrounding lands all contain fill and impacts deposited long before salvage yard operations began on the property.

Groundwater contamination from soil impacts is minimal, and defined. MW04 is in a downgradient position near the northeast main building corner, and has no current VOC or PAH preventive action limit exceedances. Detected metals are below standards and there were no PCBs detected in July 2015. The results at MW-4 are indicative of soil impacts remaining in soil pores and not being released to the groundwater. Moraine recommends no additional groundwater investigation.

Recommendations

Moraine recommends moving forward with the following two activities:

- Development of an engineered cap acceptable to the WDNR that would eliminate the
 direct contact exceedances in the entire rear yard and the swale directly to the north of
 the active auto salvage yard property. Accordingly, only a minimal cap should be
 required to address the direct contact issues on an interim basis. As you are aware, no
 cap has been in place since contamination was discovered in 1991.
- 2. Move forward with a 4400-202 Case Closure-GIS report for submittal upon installation of the WDNR approved maintenance cap.

Given that we have a significant amount of data collected by the past and current consultants, we do not believe that additional data gathering is necessary, or required by applicable codes. Additional investigation/monitoring will not change the outcome of the restrictions to be placed on the property.

Thank you,

Thomas C. Sweet

President

Moraine Environmental, Inc.

enclosures: soil and groundwater tables & figures

Table A.1.3 Metals Groundwater Analytical Results St. Francis Auto Wreckers 4043 S Pennsylvania Ave

St. Francis, WI 53235

Well ID	SF-6	BW-13A	SF-9	MV	V-1	M	W-2	M\	N-3	M۱	N-4	M	N-5	TW-1	TW-3	NR 140	
Location	Located in curre	ent Off-Ramp to \	Nest of Yard	Salvag	e Yard	North V	acant Lot	North V	acant Lot	Salvag	e Yard	North V	acant Lot	Salvage Yard	Salvage Yard	Preventive	NR 140 Enforcement
Sample Collection Date	7/23/91	7/11/91	7/23/91	7/26/01	7/21/15	7/26/01	7/21/15	7/26/01	7/21/15	7/26/01	7/21/15	7/26/01	7/21/15	12/17/15	12/17/15	Action Limit	Standard (ES)
Dissolved RCRA Metals (ug/l	L)			•		•	•			•						(PAL)	
Arsenic	2.2	ND	2.7	<1.3	<7.2	13.5	<7.2	4.4		<1.3	<7.2	4.4	<7.2	<6.8	20.5	1	10
Antimony				<3.4		<3.4		<3.4		<3.4		<3.4				1.2	6
Beryllium				0.68		0.76		0.64		0.62		0.79				0.4	4
Barium	147	180	406		1320		117				134		125	82.5	493	400	2,000
Cadmium	ND	ND	ND	0.84	<0.60	0.44	<0.60	<0.42		<0.42	<0.60	<0.42	<0.60	<1.0	5.9	0.5	5
Total Chromium	ND	ND	13	1.4	2.5J	<0.61	<2.1	1.2		<0.61	<2.1	0.69	<2.1	9.8	62.8	10	100
Lead	ND	ND	ND	<1.4	<3.0	2.6	<3.0	<1.4		<1.4	<3.0	2	<3.0	8.5	1050	1.5	15
Copper				<2.9		4.8		<2.9		<2.9		<2.9				130	1,300
Nickel				10.2		16.7		9.1		6.7		10.3			-	20	100
Selenium	ND	4.2	ND	<5.2	<6.7	<5.2	<6.7	<5.2		<5.2	<6.7	<5.2	<6.7	10.2 J	<6.8	10	50
Silver	ND	ND	ND	<0.62	<2.7	<0.62	<2.7	<0.62		<0.62	<2.7	<0.62	<2.7	<3.2	<3.2	10	50
Thallium				<5.4		<5.4		<5.4		<5.4		<5.4				0.4	2
Zinc				22.7		34.4		13.2		16.3		7.2				2.5	5
Mercury	1.1	0.68	0.90	<0.14	<0.10	<0.14	<0.10	<0.14		<0.14	<0.10	<0.14	<0.10	<0.10	1.4	0.2	2

Note:

All values expressed in ug/L (micrograms per liter).

NA - sample Not Analyzed for this parameter

NS - No Standard established for this analyte

Bold text identifies NR 140 Enforcement Standard Exceedance

Italics text identifies Preventative Action Limit Exceedance.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

^{*}MW-3 could not be located and TW-2 did not yield groundwater during sampling events.

Table A.1.4 PCB Groundwater Analytical Results St. Francis Auto Wreckers 4043 S Pennsylvania Ave St. Francis, WI 53235

Well ID	SF-6	BW-13A	SF-9	M	N-1	M	W-2	M	W-3	W	N-4	M	N-5	TW-1	TW-3	NR 140	
Location	Located in curre	ent Off-Ramp to V	Vest of Yard	Salvag	ge Yard	North V	acant Lot	North V	acant Lot	Salvag	ge Yard	North Va	acant Lot	Salvage Yard	Salvage Yard	Preventive	NR 140
Sample Collection Date	7/23/91	7/11/91	7/23/91	07/26/01	07/21/15	07/26/01	07/21/15	07/26/01	07/21/15	07/26/01	07/21/15	07/26/01	07/21/15	12/17/15	12/17/15	Action Limit	Enforcement Standard (ES)
Polychlorinated Biphenyls (ug/L)		····										^			(PAL)	
PCB, Total	ND	ND	ND	<0.002	<0.28	<0.002	<0.30	<0.002	-	<0.002	<0.33	<0.002	<0.31	<0.45	1.9	0.003	0.03
PCB-1016 (Aroclor 1016)	ND	ND	ND	<0.003	<0.28	<0.003	<0.30	<0.003	Well	<0.003	<0.33	<0.15	<0.31	<0.45	<0.26	NS	NS
PCB-1221 (Aroclor 1221)	ND	ND	ND	<0.002	<0.28	<0.002	<0.30	<0.002	-	<0.002	<0.33	<0.1	<0.31	<0.45	<0.26	NS	NS
PCB-1232 (Aroclor 1232)	ND	ND	ND	<0.003	<0.28	<0.003	<0.30	<0.003	Not	<0.003	<0.33	<0.15	<0.31	<0.45	<0.26	NS	NS
PCB-1242 (Aroclor 1242)	ND	ND	ND	<0.003	<0.28	<0.003	<0.30	<0.003	-	<0.003	<0.33	<0.15	<0.31	<0.45	<0.26	NS	NS
PCB-1248 (Aroclor 1248)	ND	ND	ND	<0.003	<0.28	<0.003	<0.30	<0.003	Located	<0.003	<0.33	<0.003	<0.31	<0.45	0.57	NS	NS
PCB-1254 (Aroclor 1254)	ND	ND	ND	<0.002	<0.28	<0.002	<0.30	<0.002	-	<0.002	<0.33	<0.002	<0.31	<0.45	0.7	NS	NS
PCB-1260 (Aroclor 1260)	ND	ND	ND	<0.003	<0.28	<0.003	<0.30	<0.003	-	<0.003	<0.33	<0.003	<0.31	<0.45	0.6	NS	NS

Note:
All values expressed in ug/L (micrograms per liter).

NA - sample Not Analyzed for this parameter

NS - No Standard established for this analyte

- No sample collected from this location

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

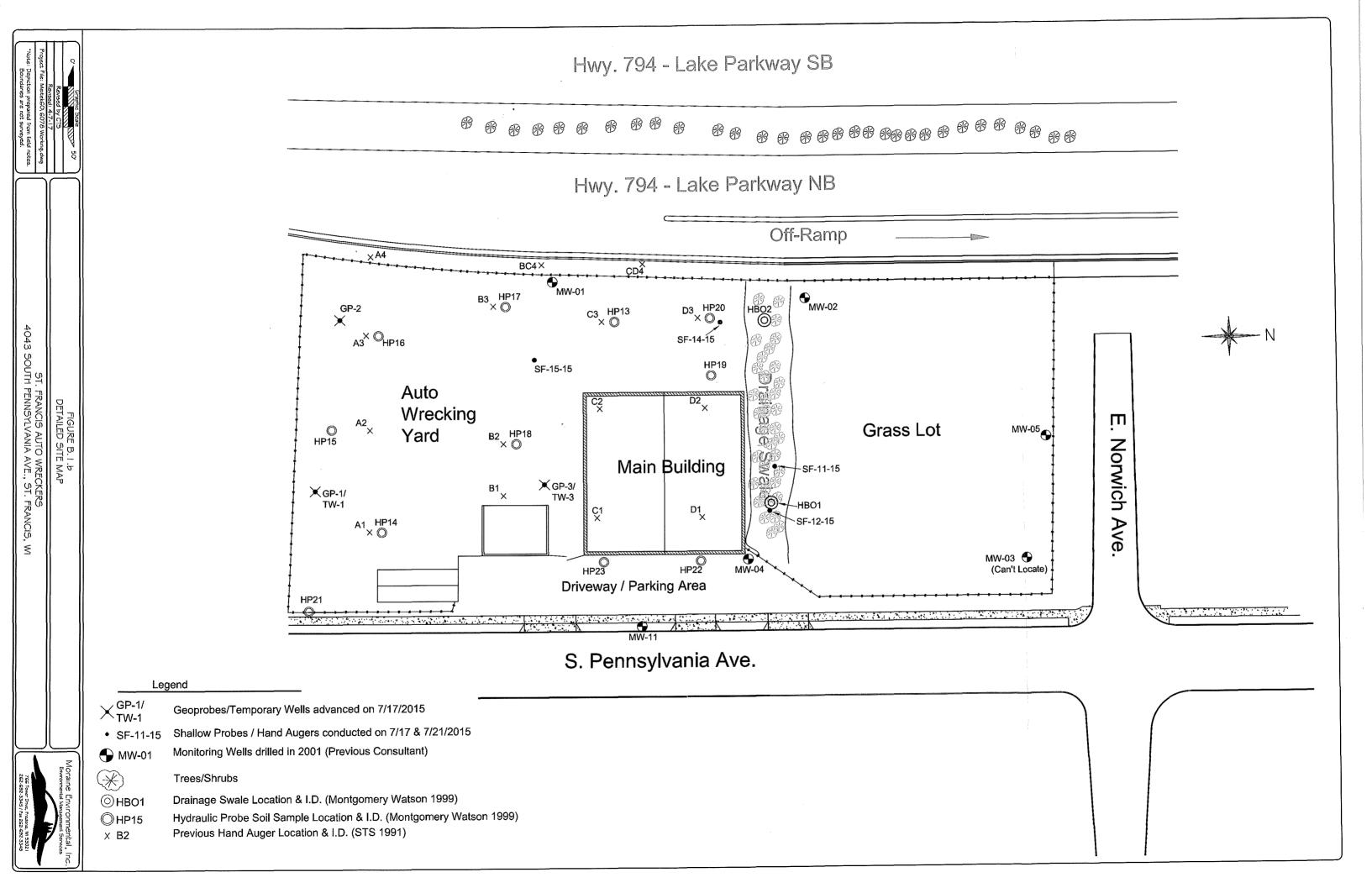
Bold text identifies NR 140 Enforcement Standard Exceedance

Italics text identifies Preventative Action Limit Exceedance.

*MW-3 could not be located and TW-2 did not yield groundwater during sampling events.

Data Table A. 6. Water Level Elevations St. Francis Auto Wreckers 4043 S Pennsylvania Avenue St. Francis, WI 53235

Monitoring	Ground Surface	Top of PVC	Depth to	Groundwate
Well No./ Date	Elevation	Well Casing	Groundwater	Elevation
	(ft)	(ft)	(ft)	(ft)
MW-1				:
July 26, 2001	673.82	676.51	18.5	658.01
July 21, 2015			19.85	656.66
	Well Screened 6	63.82' to 648.82'		
MW-2		, and the second	,	
July 26, 2001	672.12	675.17	17.88	657.29
July 21, 2015	VI L. 12	070.11	18.56	656.61
	Well Screened 6	59.12' to 649.12'	10.00	
MW-3				
July 26, 2001	665.29	664.95	14.10	650.85
July 21, 2015			Not Located	
	Well Screened 6	55.29' to 645.29'		
MW-4				
July 26, 2001	669.97	672.27	17.98	654.29
July 21, 2015			18.54	653.73
	Well Screened 6	59.97' to 649.97'		
MW-5				
July 26, 2001	669.14	671.74	18.84	652.90
July 21, 2015			18.00	653.74
	Well Screened 64	49.84' to 644.84'		
es:				
m is concrete sidev	walk slab at the sw corne	er of the intersection	of E Norwalk and S I	^o ennsylvania



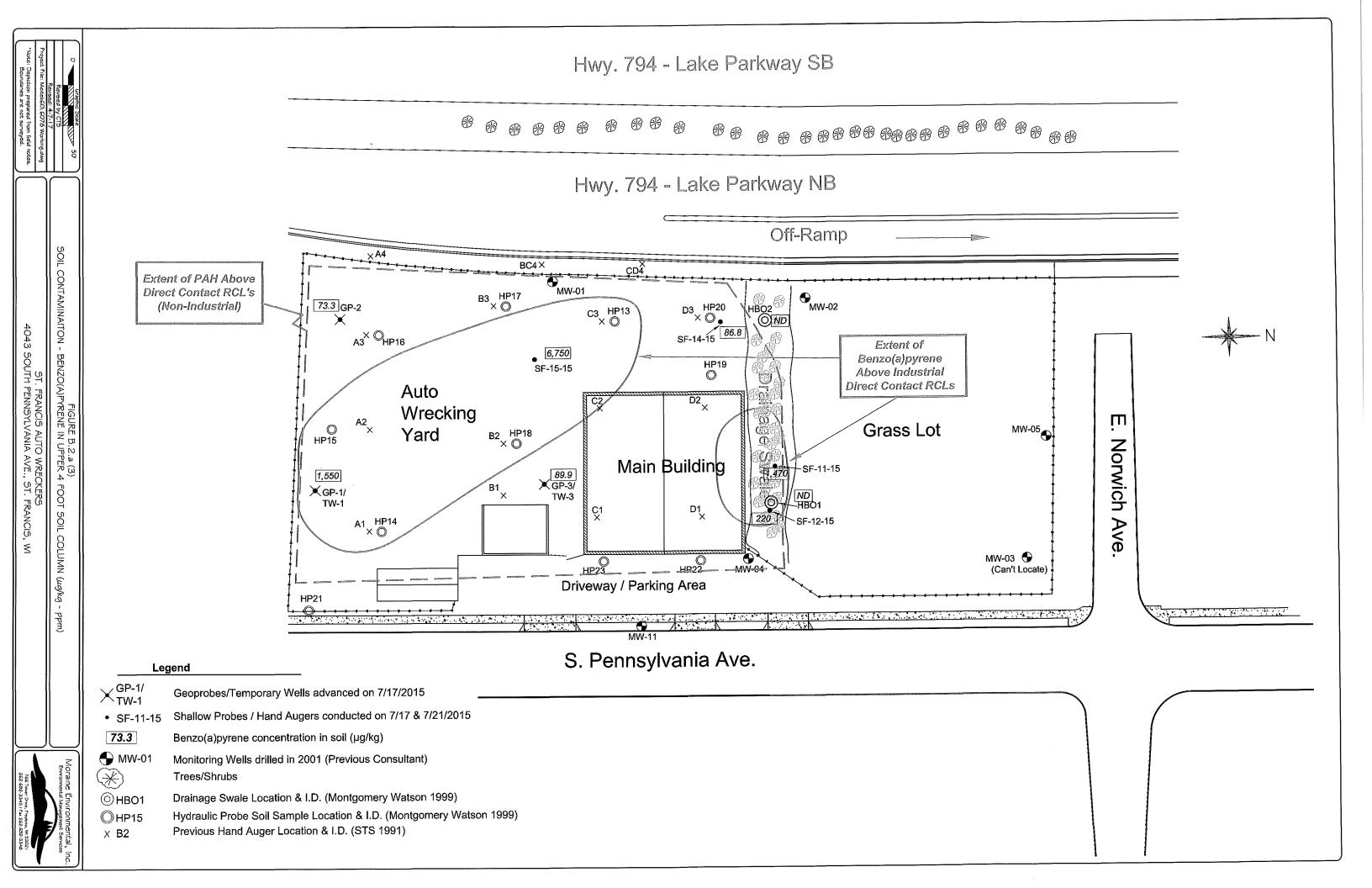


Table A.1.1
Groundwater VOC Analytical Results
St. Francis Auto Wreckers
4043 S Pennsylvania Ave
St. Francis, WI 53235

Well ID	SF-6	BW-13A	SF-9	M	W-1	M	N-2	M	N-3	M	N-4	M	W-5	TW-1	TW-3	NR 140	
Location	Located in curre	ent Off-Ramp to \	West of Yard	Salva	ge Yard	North V	acant Lot	North V	acant Lot	Salva	ge Yard	North V	acant Lot	Salvage Yard	Salvage Yard	Preventive	NR 140
Sample Collection Date	7/23/91	7/11/91	7/23/91	7/26/01	7/21/15	7/26/01	7/21/15	7/26/01	7/21/15	7/26/01	7/21/15	7/26/01	7/21/15	12/17/15	12/17/15	Action Limit	Enforcement Standard (ES)
Detected Volatile Organic Comp	ounds (ug/L)			•	<u> </u>				I			1		. •		(PAL)	510.70010 (25)
1,1,1-Trichloroethane	0.8	ND	ND	ND	<0.50	ND	<0.50	ND		ND	<0.50	ND	<0.50	3.9	<0.50	40	200
1,1-Dichloroethane	23.4	1	ND	0.86	<0.24	0.94	<0.24	2.0	Not	0.13	<0.24	<1.5	<0.24	<0.24	<0.24	85	850
1,2,4-Trimethylbenzene	ND	ND	ND	6.4	<0.50	0.11	<0.50	0.33		<0.10	<0.50	350	<0.50	<0.50	<0.50	NS	NS
1,2-Dichloroethane	3.3	ND	2.5	0.4	<0.17	<0.2	<0.17	<0.2	Located	<0.2	<0.17	<2.2	<0.17	<0.17	<0.17	0.5	5
1,3,5-Trimethylbenzene	ND	ND	ND	1.7	<0.50	0.11	<0.50	<0.1	<u> </u>	<0.1	<0.50	15	<0.50	<0.50	<0.50	NS	NS
1,3-Dichlorobenzene	ND	ND	ND	0.16	<0.50	<0.1	<0.50	<0.1		<0.1	<0.50	<1.3	<0.50	<0.50	<0.50	120	600
1,4-Dichlorobenzene	ND	ND	ND	0.5	0.63 J	<0.1	<0.50	0.32		<0.1	<0.50	<2.1	<0.50	<0.50	<0.50	15	75
Benzene	1.1	1.2	93.5	4.4	3.9	0.35	0.59 J	4.7		2.5	<0.50	10	4	<0.50	8.4	0.5	5
Bromomethane	ND	ND	15**	ND	<2.4	ND	<2.4	ND		ND	<2.4	ND	<2.4	<2.4	<2.4	1	10
Chlorobenzene	ND	ND	ND	0.38	<0.50	<0.1	<0.50	6.5		<0.1	<0.50	<1.2	0.61 J	<0.50	<0.50	NS	NS
Chloroethane	ND	ND	15**	ND	<0.37	ND	<0.37	ND		ND	<0.37	ND	<0.37	<0.37	<0.37	80	400
Chloroform	ND	ND	ND	<0.1	<2.5	<0.1	<2.5	<0.1		<0.1	<2.5	1.9	<2.5	<2.5	<2.5	0.6	6
Chloromethane	ND	ND	ND	0.34	<0.50	0.35	<0.50	0.67		0.32	<0.50	<4.0	<0.50	<0.50	<0.50	3	30
Ethylbenzene	ND	ND	8500	1.3	<0.50	<0.1	<0.50	0.26		<0.1	<0.50	5.9	<0.50	<0.50	<0.50	140	700
Isopropylbenzene (Cumene)	ND	ND	ND	5.4	2.9	0.32	<0.14	10		<0.1	<0.14	120	11.9	<0.14	<0.14	NS	NS
Methyl-tert-butyl ether	ND	ND	ND	2.3	<0.17	0.95	<0.17	<0.3		2.3	0.97 J	<1.6	<0.17	<0.17	<0.17	12	60
Methylene Chloride	4.6	2.7	4.1	ND	<0.23	ND	<0.23	ND		ND	<0.23	ND	<0.23	<0.23	<0.23	0.5	5
Naphthalene	ND	ND	ND	26	<2.5	<0.2	<2.5	<0.2		<0.2	<2.5	51	<2.5	<2.5	<2.5	10	100
Tetrachloroethene	ND	ND	2.0	<0.1	<0.50	<0.1	<0.50	0.15		<0.1	<0.50	<1.5	<0.50	1.3	<0.50	0.5	5
Toluene	ND	ND	802	1.7	<0.50	<0.2	<0.50	0.64		<0.2	<0.50	<1.4	<0.50	<0.50	<0.50	160	800
Trichloroethene	8.9	ND	0.9	ND	<0.33	ND	<0.33	ND		ND	<0.33	ND	0.57 J	15.4	<0.33	0.5	5
Trichlorofluoromethane	ND	ND	ND	ND	<0.18	ND	<0.18	ND		ND	<0.18	ND	<0.18	<0.18	<0.18	698	3,490
Vinyl chloride	31.3	ND	ND	0.33	<0.18	0.46	<0.18	4.8		<0.1	<0.18	<1.8	<0.18	<0.18	<0.18	0.02	0.2
cis-1,2-Dichloroethene	38.9***	1***	6.9***	4.1	<0.26	<0.2	<0.26	0.42		<0.2	<0.26	<2.8	<0.26	<0.26	0.34 J	7	70
Xylenes, total	ND	ND	34000	71.67	<1.5	<0.1	<1.5	0.62		<0.1	<1.5	40.4	<1.5	<1.5	<1.5	400	2,000
n-Butylbenzene	ND	ND	ND	1.3	0.72 J	<0.1	<0.50	4.7		<0.1	<0.50	95	3.3	<0.50	<0.50	NS	NS
n-Propylbenzene	ND	ND	ND	2.7	<0.50	0.15	<0.50	14		<0.1	<0.50	250	19.4	<0.50	<0.50	NS	NS
p-Isopropyltoluene	ND	ND	ND	6.8	<0.50	0.72	<0.50	<0.1		<0.1	<0.50	28	<0.50	<0.50	<0.50	NS	NS
sec-Butylbenzene	ND	ND	ND	0.86	<2.2	0.47	<2.2	8.7		<0.2	<2.2	140	9.9	<2.2	<2.2	NS	NS
tert-Butylbenzene	ND	ND	ND	0.23	<0.18	1	<0.18	3		<0.1	<0.18	25	3.6	<0.18	<0.18	NS	NS
trans-1,2-Dichloroethene	ND	ND	ND	0.19	<0.26	<0.1	<0.26	<0.1		<0.1	<0.26	<4.0	<0.26	<0.26	<0.26	20	100
Total Trimethylbenzenes	ND	ND	ND	8.1	<0.50	0.22	<0.50	0.33		ND	<0.50	365	<0.50	<0.50	<0.50	96	480

Note:

NA - sample Not Analyzed for this parameter

NS - No Standard established for this analyte

ND - Not Detected

--- Not Analyzed

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

Bold text identifies NR 140 Enforcement Standard Exceedance

Italics text identifies Preventative Action Limit Exceedance.

*MW-3 could not be located and TW-2 did not yield groundwater during sampling events.

 $[\]ensuremath{^{**}}$ - Bromomethane and Chloroethane results were combined in 1991 lab report

^{*** - 1991} lab report listed only 1,2-dichloroethene results. Values placed in cis-1,2-DCE row due to lower PAL and ES values compared to trans-1,2-DCE All values expressed in ug/L (micrograms per liter).

Table A.1.2 Groundwater PAH & SVOC Analytical Results St. Francis Auto Wreckers 4043 S Pennsylvania Ave ST. Francis, WI 53235

Well ID	SF-6	BW-13A	SF-9	M	W-1	Mι	N-2	М	W-3	M\	N-4	M\	W-5	TW-1	TW-3		
Location	Located in curre	ent Off-Ramp to \	West of Yard	Salvag	ge Yard	North V	acant Lot	North V	acant Lot	Salvag	ge Yard	North V	acant Lot	Salvage Yard	Salvage Yard	NR 140	NR 140
Sample Collection Date	7/23/91	7/11/91	7/23/91	07/26/01	07/21/15	07/26/01	07/21/15	07/26/01	07/21/15	07/26/01	07/21/15	07/26/01	07/21/15	12/17/15	12/17/15	Preventive Action Limit (PAL)	Enforcement Standard (ES)
Polycylcic Aromatic Hydrocarb	ons & Detected	SVOCs (ug/L)					<u> </u>	<u></u>			l	<u> </u>		<u> </u>		Lillie (FAL)	Standard (ES)
1-Methylnaphthalene					0.31		0.0066 J				0.0090 J		0.037 J		0.072	NS	NS
2-Methylnaphthalene		ND	4		0.061		0.0090 J		С		0.010 J		0.15		0.16	NS	NS
Acenaphthene		ND	-	ND	0.23	ND	0.0056 J	ND	0	ND	<0.0050	ND	0.08		0.062	NS	NS
Acenaphthylene		ND	ND	ND	0.023 J	ND	<0.0049	ND	U	ND	<0.0049	ND	0.0086 J		0.033 J	NS	NS
Anthracene		ND	ND	ND	0.042 J	ND	0.029 J	ND	L	ND	0.0084 J	ND	0.047 J		0.11	600	3,000
Benzo(a)anthracene		ND	ND	ND	<0.0051	ND	<0.0051	ND	D	ND	<0.0051	ND	<0.0051		0.31	NS	NS
Benzo(a)pyrene		ND	ND	ND	<0.0044	ND	<0.0044	ND		ND	<0.0044	ND	<0.0044		0.28	0.02	0.2
Benzo(b)fluoranthene		ND	ND	ND	<0.0053	ND	<0.0053	ND	N	ND	<0.0053	ND	<0.0053		0.37	0.02	0.2
Benzo(g,h,i)perylene		ND	ND	ND	<0.0035	ND	<0.0035	ND	0	ND	<0.0035	ND	<0.0035		0.2	NS	NS
Benzo(k)fluoranthene		ND	ND	ND	<0.0056	ND	<0.0056	ND	Т	ND	<0.0056	ND	<0.0056		0.14	NS	NS
Chrysene		ND	ND	ND	0.035 J	ND	0.032 J	ND		ND	0.032 J	ND	0.037 J		0.35	0.02	0.2
Dibenz(a,h)anthracene		ND	ND	ND	<0.0056	ND	<0.0056	ND	L	ND	<0.0056	ND	<0.0056		0.042 J	NS	NS
Fluoranthene		ND	ND	ND	0.052	ND	<0.0094	ND	0	ND	<0.0094	ND	0.050 J		0.62	80	400
Fluorene		ND	ND	ND	0.18	ND	0.0040 J	ND	С	ND	<0.0040	ND	0.044 J		0.063	80	400
Indeno(1,2,3-cd)pyrene		ND	ND	ND	<0.0036	ND	<0.0036	ND	Α	ND	<0.0036	ND	<0.0036		0.16	NS	NS
Naphthalene		ND	32	13	0.84	<0.48	0.0076 J	<0.48	Т	<0.48	0.0098 J	25	0.16		0.087	10	100
Phenanthrene	~~-	ND	ND	ND	0.027 J	ND	0.012 J	ND	E	ND	0.010 J	ND	<0.0077		0.3	NS	NS
a PAL exceedance of the PAH c		ND	ND	ND	0.039J	ND	<0.0077	ND		ND	<0.0077	ND	0.059		0.53	50	250
1,2-Dichlorobenzene		ND	ND	<0.38		<0.38		0.46		<0.19		<4.8				60	600
2-Methylphenol	*	ND	ND	34		<0.45		<0.45		<0.45		<11				NS	NS
3&4-Methylphenol		ND	ND	29		<0.34		<0.38		<0.38		<9.5				NS	NS
Acetophenone		ND	ND	2.7		<0.5		<0.5		<0.5		<13				NS	NS
Bis(2-ethylhexyl)phthalate		24.2	54.9	<2.8		1.6		1.9		1.4		<35				0.6	6
Di-n-butylphthalate	AR 18. AL	ND	ND	<1.4		<0.68		1.2		<0.68		<17				100	1000
Di-n-octylphthalate		ND	ND	<0.64		<0.32		0.69		<0.32		<8				NS	NS
Diethylphthalate		ND	13.3	<0.1		<0.51		0.52		<0.51		<13			And the	NS	NS
N-Nitroso-di-n-propylamine		ND	ND	1.3		<0.48		<0.48		<0.48		<12				NS	NS
Naphthalene		ND	32	13	0.84	<0.48	0.0076J	<0.48		<0.48	0.0098J	25	0.16		0.087	10	100
Phenol		ND	ND	3		<0.23		<0.23		<0.23		<5.8				400	2000

Note:
All values expressed in ug/L (micrograms per liter).

NA - sample Not Analyzed for this parameter

NS - No Standard established for this analyte

Bold text identifies NR 140 Enforcement Standard Exceedance

Italics text identifies Preventative Action Limit Exceedance.

⁻ No sample collected from this location

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

^{*}MW-3 could not be located and TW-2 did not yield groundwater during sampling events.

^{*} An attempt to sample TW-1 for PAHs was made however slow recharge did not yield enough sample for analysis.

Table A.2.1 Soil VOC Analytical Results St. Francis Auto Wreckers 4043 S Pennsylvania Ave St. Francis, WI 53235

Boring ID	HP-13	HP14	G	P-1	HP15	G	P-2	Н	216	HP17	SF-	15-15	HP18	G	P-3	HP19	SF-1	4-15	HP20	HP21	HP22	MW-11	HP23	SF-11-15	SF-12-15			
Depth of Sample (feet bgs)	12	12	0-1	13	12	0-1	9-10	8	12	10	0-1	3-4	12	0-1	15-16	12	0-1	3-4	12	12	12	5-6	10	0-1	0-1		Non-Industrial	Industrial Direct
Saturated (S)/Unsaturated (U)	U	U	U	U	U	U	U	U	U	U	U	U	U	U	S	U	U	U	U	U	U	U	U	U	U	Groundwater	Direct Contact	Contact Pathway
Sample Collection Date	8/9/99	8/9/99	7/17/15	7/17/15	8/9/99	7/17/15	7/17/15	8/9/99	8/9/99	8/9/99	7/17/15	7/17/15	8/9/99	7/17/15	7/17/15	8/9/99	7/17/15	7/17/15	8/9/99	8/9/99	8/9/99	11/12/96	8/9/99	7/21/15	7/21/15	Pathway RCL (ug/kg)	Pathway RCL (ug/kg)	RCL (ug/kg)
Detected Volatile Organic Compounds	(ug/kg)					<u> </u>	<u> </u>		ſ		<u> </u>		1		1	<u> </u>			1		<u> </u>	1		L				
1,1-Dichloroethane	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	ND	60	<25.0	<25.0	ND	<25.0	<25.0	ND	<50.0	<200	ND	ND	ND	ND	ND	<25.0	<25.0	483	4,720	23,700
1,2,4-Trichlorobenzene	ND	ND	<47.6	<47.6	ND	<47.6	<47.6	ND	ND	ND	79.2 J	<47.6	ND	<47.6	<47.6	ND	<95.1	<380	ND	ND	ND	ND	ND	<47.6	<47.6	408	22,000	98,700
1,2,4-Trimethylbenzene	ND	ND	<25.0	<25.0	ND	<25.0	36.7 J	16000	ND	130	186	40.8 J	ND	<25.0	<25.0	140	19,500	41,500	3000	ND	ND	23	35	<25.0	51.8 J	NS	89,800	219,000
1,2-Dichlorobenzene	ND	ND	<25.0	<25.0	ND	<25.0	54.6 J	ND	ND	88	73.8	<25.0	ND	<25.0	<25.0	ND	<50.0	<200	ND	ND	ND	ND	ND	<25.0	<25.0	1,168	376,000	376,000
1,2-Dichloroethane	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	ND	180	<25.0	<25.0	ND	<25.0	<25.0	ND	<50.0	<200	ND	ND	ND	ND	ND	<25.0	<25.0	2.8	608	3,030
1,3,5-Trimethylbenzene	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	4600	180	73	93.8	<25.0	ND	<25.0	<25.0	89	6,330	13,200	970	ND	ND	27	ND	<25.0	62.4 J	NS	182,000	182,000
1,3-Dichlorobenzene	ND	ND	<25.0	<25.0	ND	<25.0	42.2 J	ND	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	<50.0	<200	ND	ND	ND	ND	ND	<25.0	<25.0	1,153	297,000	297,000
1,4-Dichlorobenzene	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	95	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	<50.0	<200	730	ND	ND	ND	ND	<25.0	<25.0	144	3,480	17,500
Benzene	45	ND	<25.0	44 J	ND	<25.0	68.1 J	340	720	260	<25.0	<25.0	ND	<25.0	28.4 J	ND	801	818	260	ND	ND	29	35	<25.0	<25.0	5.1	1,490	7,410
Chlorobenzene	ND	ND	<25.0	<25.0	ND	<25.0	51.5 J	ND	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	<50.0	<200	ND	ND	ND	ND	ND	<25,0	<25.0	NS	392,000	761,000
Ethylbenzene	ND	ND	<25.0	<25.0	ND	<25.0	41.2 J	730	170	85	54.7 J	<25.0	ND	112	<25.0	39	4.640	12,400	570	ND	ND	25	ND	<25.0	<25.0	1,570	7,470	37,000
Isopropylbenzene (Cumene)	ND	ND	<25.0	<25.0	ND	<25.0	129	630	48	76	<25.0	<25.0	ND	<25.0	<25.0	ND	584	1,250	83	ND	ND	ND	ND	<25.0	<25.0	NS	268,000	268,000
Methyl-tert-butyl ether	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	ND	44	<25.0	<25.0	ND	<25.0	<25.0	ND	<50.0	<200	ND	ND	ND	ND	ND	<25.0	<25.0	27	59,400	293,000
Naphthalene	ND	ND	71.3 J	123 J	45	68.1 J	148 J	960	220	230	226 J	98.5 J	ND	50.5 J	<40.0	ND	6,940	12,200	700	ND	31	110	ND	<40.0	51.1 J	658	5,150	26,000
Styrene	ND	ND	<25.0	<25.0	ND	32.2 J	<25.0	ND	ND	ND	45.7 J	<25.0	ND	252	<25.0	ND	2,220	<200	58	ND	ND	ND	ND	<25,0	<25.0	220	867.000	867,000
Tetrachloroethene	ND	ND	<25.0	69.5	1,000	62.8 J	42.2 J	ND	69	56	193	116	ND	42.1 J	<25.0	ND	<50.0	<200	ND	ND	120	ND	250	<25.0	<25.0	4.5	30,700	153,000
Toluene	ND	ND	32.8 J	<25.0	ND	92.3	66.9 J	ND	100	94	204	<25.0	ND	<25.0	<25.0	42	8,280	1,160	2,600	ND	ND	150	100	<25.0	55.2 J	1,107	818,000	818,000
Trichloroethene	ND	ND	83.2	133	6.700	131	<25.0	ND	ND	130	1,180	308	ND	64.4 J	<25.0	ND	173	<200	46	ND	36	ND	160	<25.0	<25.0	3.6	1,260	8,810
Trichlorofluoromethane	ND	ND	<25.0	<25.0	780	<25.0	<25.0	ND	52	ND	<25.0	<25.0	150	<25.0	<25.0	ND	<50.0	<200	140	ND	170	ND ND	150	<25.0	<25.0	4,476	1,230,000	1,230,000
cis-1,2-Dichloroethene	ND	ND	<25.0	<25.0	130	<25.0	<25.0	1,200	110	98	<25.0	<25.0	ND	<25.0	<25.0	ND	124 J	<200	38	ND	ND	ND .	66	<25.0	<25.0	41	156,000	2,040,000
Xylenes, total	ND	ND	<75.0	<75.0	ND	<75.0	79.9 J	1090	300	131	484	161	ND	<75.0	<75.0	51	29.030	58,250	2400	ND	ND	131	96	<75.0	109 J	3,940	258,000	258,000
n-Butylbenzene	ND	ND	<25.0	<25.0	ND	<25.0	241	13000	1000	100	<25.0	<25.0	ND	<25.0	<25.0	ND	2,730	<200	530	ND	ND	ND ND	ND	<25.0	<25.0	NS	108,000	108,000
n-Propylbenzene	ND	ND	<25.0	<25.0	ND	<25.0	90.8	2000	230	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	2,440	5,980	390	ND	ND	58	ND	<25.0	<25.0	NS	264,000	264,000
p-isopropyltoluene	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	3700	130	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	275	519 J	57	ND	ND	ND	ND	<25.0	<25.0	NS	162,000	162,000
sec-Butylbenzene	ND	ND	<25.0	<25.0	ND	<25.0	126	4800	290	87	<25.0	<25.0	ND	<25.0	<25.0	ND	357	1120	83	ND	ND	ND ND	ND	<25.0	<25.0	NS	145,000	145,000
trans-1,2-Dichloroethene	ND	ND	<25.0	<25.0	ND	<25.0	<25.0	630	38	ND	<25.0	<25.0	ND	<25.0	<25.0	ND	<50.0	<200	ND	ND	ND	ND	ND	<25.0	<25.0	63	1,560,000	1,850,000
Total Trimethylbenzenes	ND	ND	<25	<25	ND	<25	36.7J	20,600	180	203	279.80	40.8J	ND	<25	<25	229	25,830	54,700	3,970	ND	ND	50	35	<25	114.2J	1,382	NS	NS

Note:

All values expressed in ug/kg (milligrams per kilogram).

NA - sample Not Analyzed for this parameter

NS - No Standard established for this analyte

--- No sample collected from this location

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

Bold text identifies Non-Industrial Direct Contact Exceedance

Italics text identifies Groundwater Pathway Exceedance

Table A.2.2 Soil PAH Analytical Results St. Francis Auto Wreckers 4043 S Pennsylvania Ave St. Francis, WI 53235

Boring ID	LIDAE	T	D 4	T	T					· · · · · · · · · · · · · · · · · · ·		Т	r	T								T	
<u> </u>	HP15	G	P-1	HP-16	GI	P-2	HP18	SF-1	l5-15	GI	P-3	HP19	HP20	SF-1	4-15	HP23	HB01	SF-12-15	SF-11-15	HB02		ļ	
Depth of Sample (feet bgs)	12	0-1	13	12	0-1	9-10	12	0-1	3-4	0-1	15-16	12	12	0-1	3-4	10.5	0-1	0-1	0-1	0-1	Groundwater	Non-Industrial	Industrial Direct
Saturated (S)/Unsaturated (U)	U	U	U	U	U	U	U	U	U	U	S	U	U	U	U	U	U	U	U	U	Pathway RCL	Direct Contact	Contact Pathway
Sample Collection Date	8/9/99	7/17/15	7/17/15	8/9/99	7/17/15	7/17/15	8/9/99	7/17/15	7/17/15	7/17/15	7/17/15	8/9/99	8/9/99	7/17/15	7/17/15	8/9/99	8/9/99	7/21/15	7/21/15	8/9/99	(ug/kg)	Pathway RCLs	RCL (ug/kg)
Polycyclic Aromatic Hydrocarbons	and Detected	SVOCs (ug/k	(g)	·····				L	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u></u>	<u> </u>		A	L	J				
1-Methylnaphthalene	NA	136 J	<184	NA	<48.6	<52.7	NA	<370	<9.7	118	<9.4	NA	NA	185	8,910	NA	NA	90.2 J	<193	NA	NS	15,600	53,100
2-Methylnaphthalene	ND	206	<184	ND	<48.6	82.5 J	ND	<370	<9.7	216	<9.4	ND	ND	188	13,500	ND	ND	169	<193	ND	NS	229,000	2,200,000
Acenaphthene	ND	111 J	859	ND	<48.6	<52.7	ND	1420	<9.7	<48.1	<9.4	ND	ND	<44.8	855 J	ND	ND	<50.0	<193	ND	NS	3,440,000	33,000,000
Acenaphthylene	ND	150 J	<165	ND	<43.5	228	ND	<331	<8.7	118	<8.4	ND	ND	<40.1	<658	ND	ND	<44.7	<173	ND	NS	NS	NS
Anthracene	ND	618	3,200	ND	78.8 J	<54.6	ND	3680	<10.1	<49.9	<9.8	ND	ND	<46.4	<763	ND	ND	78.2 J	858	ND	196,744	17,200,000	100,000,000
Benzo(a)anthracene	ND	1,490	6,580	ND	67.7 J	<36.5	ND	7,290	<6.7	83.3 J	<6.5	ND	ND	101	<510	ND	ND	207	1,660	ND	NS	147	2,110
Benzo(a)pyrene	ND	1,550	6,190	ND	73.3 J	<37.7	ND	6,750	<6.9	89.9 J	<6.7	ND	ND	86.8 J	<526	ND	ND	220	1,470	ND	470	15	211
Benzo(b)fluoranthene	ND	1,740	5,760	ND	98.3	84.1 J	ND	6,620	<9.7	161	<9.4	ND	ND	204	<735	ND	ND	324	1,260	ND	480	148	2,110
Benzo(g,h,i)perylene	ND	761	3,840	ND	42.6 J	<40.1	ND	2,840	<7.4	54.3 J	<7.2	ND	ND	48.4 J	<560	ND	ND	144	721	ND	NS	NS	NS
Benzo(k)fluoranthene	ND	1,320	4,950	ND	85.9 J	80.7 J	ND	6,830	<10.7	114	<10.4	ND	ND	144	<814	ND	ND	198	1,500	ND	NS	1,480	21,100
Chrysene	ND	1,390	5,800	ND	126	128	ND	8,750	<9.0	151	<8.7	ND	ND	110	<680	ND	ND	272	1,810	ND	145	14,800	211,000
Dibenz(a,h)anthracene	ND	241	1,380	ND	<35.7	<38.7	ND	1,120	<7.1	<35.3	<6.9	ND	ND	<32.9	<540	ND	ND	39.3 J	322 J	ND	NS	15	211
Fluoranthene	ND	2,850	13,400	ND	131	68.7 J	ND	20,500	<9.7	134	9.9 J	ND	ND	206	<735	ND	ND	440	3,950	ND	88,818	2,290,000	22,000,000
Fluorene	ND	127 J	815	ND	<48.6	<52.7	ND	1,940	<9.7	<48.1	<9.4	ND	ND	<44.8	1,300 J	ND	ND	<50.0	<193	ND	14,815	2,290,000	22,000,000
Indeno(1,2,3-cd)pyrene	ND	732	3,700	ND	45.4 J	<40.0	ND	2,910	<7.4	63.6 J	<7.1	ND	ND	<34.0	<559	ND	ND	122	724	ND	NS	148	2,110
Naphthalene	ND	195	188 J	ND	<48.6	395	ND	<370	<9.7	329	<9.4	ND	ND	102	5,350	ND	ND	198	<193	ND	659	5,150	26,000
Phenanthrene	ND	1,810	8,950	ND	70.2 J	56.1 J	ND	8,360	<9.7	118	11.1 J	ND	ND	69.1 J	2,480	ND	ND	211	2,250	ND	NS	NS	NS
Pyrene	ND	2,620	11,700	ND	97.7	96.9 J	ND	15,000	<9.7	105	<9.4	ND	ND	306	761 J	ND	ND	308	3,010	ND	54,132	1,720,000	16,500,000
Phenol	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	590	2,295	18,300,000	100,000,000
2-Methylphenol	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	4,500	NS	3,060,000	30,800,000

Note:

All values expressed in ug/kg (micrograms per kilogram).

NA - sample Not Analyzed for this parameter

NS - No Standard established for this analyte

- No sample collected from this location

 $\label{eq:concentration} \textit{J-Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.}$

Bold text identifies Non-Industrial Direct Contact Exceedance

Italicized text identifies Groundwater Pathway Exceedance

Boxed text identifies Industrial Direct Contact Exceedance

Table A.2.3 RCRA Metals Soil Analytical Results St. Francis Auto Wreckers 4043 S Pennsylvania Ave St. Francis, WI 53235

Boring ID	HP14	G	P-1	G	P-2	HP17	SF-1	5-15	HP18	G	P-3	SF-1	4-15	HP20	HP21	HP22	HB01	SF-12-15	SF-11-15	HB02			
Depth of Sample (feet bgs)	6	0-1	13	0-1	9-10	8	0-1	3-4	8	0-1	15-16	0-1	3-4	4	2	4	0-1	0-1	0-1	0-1	Groundwater	Non-Industrial	Industrial Direct
Saturated (S)/Unsaturated (U)	U	U	U	U	U	U	U	U	U	U	S	U	U	U	U	υ	U	U	U	U	Pathway RCL	Direct Contact Pathway RCL	Contact Pathway
Sample Collection Date	8/9/99	7/17/15	7/17/15	7/17/15	7/17/15	8/9/99	7/17/15	7/17/15	8/9/99	7/17/15	7/17/15	7/17/15	7/17/15	8/9/99	8/9/99	8/9/99	8/9/99	7/21/15	7/21/15	8/9/99	(mg/kg)	(mg/kg)	RCL (mg/kg)
RCRA Metals (mg/kg)	•						•		•	•							•						
Arsenic	17.3	7.2	5.2	13.2 J	57.4	6.6	14.6 J	5.4	4.86	7.9 J	5.3	<6.3	4.3	4.93	5.6	9.6	6.06	7.1	6,1	3.73	0.584	0.61	2.39
Barium	200	253	96.2	484	122	49	627	41.4	49	160	39.3	223	92.3	16	23	25	130	132	70.3	1800	164.8	15,300	100,000
Cadmium	3.9	16.5	3.1	19.8	15.9	ND	38.2	0.34 J	ND	8.9	0.23 J	37.4	0.26 J	ND	ND	ND	4.42	7.6	0.85	40.1	0.752	70	799
Chromium	137	29.2	22.1	20.4	17.5	14.3	963	13.6	19.5	11.1 J	14.1	96	23	46.7	11.4	11.4	112	36.6	27	29.2	360,000	NS	NS
Lead	384	1010	162	242	464	12.9	1570	77.9	14.8	1000	11.2	530	27.9	13.3	16.8	17.8	646	333	50.2	531	27	400	800
Selenium	ND	<0.84	<0.73	<16.1	1.3J	ND	<7.4	<0.80	ND	<17.4	<0.77	<0.76	<0.84	ND	ND	ND	ND	<0.88	<0.81	6.92	0.52	3.1	5,110
Silver	1.05	3.1	0.84J	<5.8	<0.33	ND	16.6	<0.29	ND	<6.3	<0.28	6.3	<0.30	ND	ND	ND	0.114	1.5	<0.29	9.61	0.849	391	5,110
Mercury	0.214	0.089	0.073	0.13	0.062	ND	0.23	0.042	0.0441	0.12	0.010	0.58	0.051	ND	ND	0.0277	46.6	0.53	0.045	1.06	0.208	3.13	3.13

NOTES: NA - Not Analyzed

ND - Not Detected

< incdicates less than the laboratory method detection limit (MDL)

mg/kg - millgrams per kilogram

NS -no standard established for this analyte **Bold** text identifies Non-Industrial Direct Contact Exceedance

Italics text identifies Groundwater Pathway Exceedance

Table A.2.4 PCB Soil Analytical Results St. Francis Auto Wreckers 4043 S Pennsylvania Ave St. Francis, WI 53235

Boring ID		A1	HP14	G	P-1	I A	12	HP15	I A	.3	HP16	l G	P-2	, , , , , , , , , , , , , , , , , , ,	١4	T	31	GI	p-3	В	2	SF-1	5-15	l B	33	BC	24	I	T	
Depth of Sample (feet bgs)	0 -0.5	0.5 - 1	6	0-1	13	0 -0.5	0.5 - 1	2	0 -0.5	0.5 - 1	6	0-1	9-10	0 -0.5	0.5 - 1	0 -0.5	0.5 - 1	0-1	15-16	0 -0.5	0.5 - 1	0-1	3-4	0 -0.5	0.5 - 1	0 -0.5	0.5 - 1	Groundwater	Non-Industrial	Industrial
Saturated (S)/Unsaturated (U)	U	U	U	U	U	U	U	U	υ	U	U	U	U	U	U	U	U	U	S	U	U	U	U	U	U	U	U	Pathway RCL	Direct Contact Pathway RCL	Direct Contact Pathway RCL
Sample Collection Date	5/	16/91	8/9/99	7/17/15	7/17/15	5/1	6/91	8/9/99	5/16	5/91	8/9/99	7/17/15	7/17/15	5/1	6/91	5/1	6/91	7/17/15	7/17/15	5/10	5/91	7/17/15	7/17/15	5/1	6/91	5/15	5/91	(mg/kg)	(mg/kg)	(mg/kg)
Polychlorinated Biphenyls (mg/l	:g)																												(mg/kg)	(III6/ NB)
PCB, Total	ND	ND	0.49	0.938	0.222	0.976	0.096	3.7	ND	ND	ND	0.181	4.76	ND	ND	6.06	ND	4.31	<0.0282	ND	ND	1.82	<0.0291	30.67	ND	6.76	4.04	0.0094	25*	25*
PCB-1016 (Aroclor 1016)	ND	ND	ND	<0.0286	<0.0277	ND	ND	ND	ND	ND	ND	<0.0292	<0.126	ND	ND	ND	ND	<0.116	<0.0282	ND	ND	<0.0555	<0.0291	ND	ND	ND	ND	NS	3.93	20.6
PCB-1221 (Aroclor 1221)	ND	ND	ND	<0.0286	<0.0277	ND	ND	ND	ND	ND	ND	<0.0292	<0.126	ND	ND	ND	ND	<0.116	<0.0282	ND	ND	<0.0555	<0.0291	ND	ND	ND	ND	NS	0.19	0.67
PCB-1232 (Aroclor 1232)	ND	ND	ND	<0.0286	<0.0277	ND	ND	ND	ND	ND	ND	<0.0292	<0.126	ND	ND	ND	ND	<0.116	<0.0282	ND	ND	<0.0555	<0.0291	ND	ND	ND	ND	NS	0.17	0.62
PCB-1242 (Aroclor 1242)	ND	ND	NĐ	<0.0286	<0.0277	ND	ND	ND	ND	ND	ND	<0.0292	0.762	ND	ND	ND	ND	<0.116	<0.0282	ND	ND	<0.0555	<0.0291	ND	ND	ND	ND	NS	0.21	0.717
PCB-1248 (Aroclor 1248)	ND	ND	ND	0.0837	<0.0277	ND	ND	ND	ND	ND	ND	<0.0292	<0.126	ND	ND	4.37	ND	1.36	<0.0282	ND	ND	<0.0555	<0.0291	27.8	ND	4.66	4.04	NS	0.21	0.718
PCB-1254 (Aroclor 1254)	ND	ND	0.23	0.298	0.072	ND	ND	3.7	ND	ND	ND	0.0559 J	0.961	ND	ND	ND	ND	1.7	<0.0282	ND	ND	0.509	<0.0291	ND	ND	ND	ND	NS	0.213	0.724
PCB-1260 (Aroclor 1260)	ND	ND	0.26	0.556	0.15	0.976	0.096	ND	ND	ND	ND	0.126	3.04	ND	ND	1.69	ND	1.25	<0.0282	ND	ND	1.32	<0.0291	2.87	ND	2.1	ND	NS	0.216	0.731

Boring ID	(C1	T (C2	[(C3	HP-13	C	D4	[01	[[02	HP19	[03	HP20	SF-1	4-15	HP21	HP22	HP23	HB01	SF-12-15	SF-11-15	HB02		Non-Industrial	Industrial
Depth of Sample (feet bgs)	0 -0.5	0.5 - 1	0 -0.5	0.5 - 1	0 -0.5	0.5 - 1	2	0 -0.5	0.5 - 1	0 -0.5	0.5 - 1	0 -0.5	0.5 - 1	8	0 -0.5	0.5 - 1	4	0-1	3-4	2	4	2	0-1	0-1	0-1	0-1	Groundwater		1
Saturated (S)/Unsaturated (U)	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	Pathway RCL	Direct Contact Pathway RCL	Direct Contact Pathway RCL
Sample Collection Date	5/1	5/91	5/1	5/91	5/1	5/91	8/9/99	5/1	5/91	5/1	5/91	5/1	5/91	8/9/99	5/1	5/91	8/9/99	7/17/15	7/17/15	8/9/99	8/9/99	8/9/99	8/9/99	7/21/15	7/21/15	8/9/99	(mg/kg)	(mg/kg)	(mg/kg)
Polychlorinated Biphenyls (mg/k	g)																											(IIIg/kg)	(iiig/kg)
PCB, Total	ND	50.7	7.98	ND	52.67	1.68	8.3	10.18	0.585	ND	51.76	16.91	32.51	1.1	ND	12.6	0.82	0.762	3.966	ND	ND	0.41	5.4	1.67	0.0356 J	0.35	0.0094	25*	25*
PCB-1016 (Aroclor 1016)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0269	<0.110	ND	ND	ND	ND	<0.0600	<0.0289	ND	NS	3.93	20.6
PCB-1221 (Aroclor 1221)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0269	<0.110	ND	ND	ND	ND	<0.0600	<0.0289	ND	NS	0.19	0.67
PCB-1232 (Aroclor 1232)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.0269	<0.110	ND	ND	ND	ND	<0.0600	<0.0289	ND	NS	0.17	0.62
PCB-1242 (Aroclor 1242)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.312	<0.110	ND	ND	ND	ND	<0.0600	<0.0289	ND	NS	0.21	0.717
PCB-1248 (Aroclor 1248)	ND	50.7	6.75	ND	49.9	ND	ND	8.44	0.585	ND	48.4	15.8	30.4	ND	ND	12.6	ND	<0.0269	1.84	ND	ND	ND	ND	0.0800 J	<0.0289	ND	NS	0.21	0.718
PCB-1254 (Aroclor 1254)	ND	ND	ND	ND	ND	ND	8.3	ND	ND	ND	ND	ND	ND	1.1	ND	ND	0.36	0.214	1.59	ND	ND	0.23	5.4	0.428	0.0356 J	ND	NS	0.213	0.724
PCB-1260 (Aroclor 1260)	ND	ND	1.23	ND	2.77	1.68	ND	1.74	ND	ND	3.36	1.11	2.11	ND	ND	ND	0.46	0.235	0.536	ND	ND	0.18	ND	1.16	<0.0289	0.35	NS	0.216	0.731

Note:

Note:

All values expressed in mg/kg (milligrams per kilogram) equivalent to parts per million (ppm).

NA - sample Not Analyzed for this parameter

NS - No Standard established for this analyte

- No sample collected from this location

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

Bold text identifies Direct Contact Exceedance

Italics text identifies Groundwater Pathway Exceedance
*The Toxic Substances Control Act (TSCA) requires Total PCB concentration to be less than 25 ppm for closure of a low occupancy area.