

July 1, 2019

Reference No. 086165-06-13

Mr. Phil Richard Wisconsin Department of Natural Resources 875 S 4<sup>th</sup> Avenue Park Falls, Wisconsin 54552

Dear Phil:

Re: USEPA/WDNR Cooperative Agreement Work Plan Wetland Excavation and Surface Debris Mitigation Penta Wood Products Superfund Site Siren, Wisconsin

# 1. Introduction

GHD Services Inc. (GHD) has prepared this letter presenting a work plan intended to be included with a cooperative agreement between the Wisconsin Department of Natural Resources (WDNR) and United States Environmental Protection Agency (USEPA) for wetland excavation and surface debris mitigation at the Penta Wood Products Superfund Site (Site) located in Siren, Wisconsin. The objectives of this work plan are to excavate and remove impacted soil and sediment from the wetland at properties located adjacent to the Site, place this impacted material within an expanded corrective action management unit (CAMU) on the Site property, and cover impacted surface debris.

# 2. Background

### 2.1 Background

The Site is an inactive wood-treating facility located on Daniels 70 (former State Route 70) in Burnett County, Wisconsin. It is located approximately 78 miles northeast of Minneapolis, Minnesota, and 60 miles south of Duluth, Minnesota (Figure 1.1). The Village of Siren, Wisconsin, is approximately 2 miles east of the Site. The Site plan is shown on Figure 1.2.

The Site property currently consists of approximately 82 acres that were actively used for wood-treating activities. Forty undeveloped, forested acres were sold after the facility closed. The property is located in a rural agricultural and residential setting and is bordered to the east, west, and north by forested areas. Some of these areas are classified by the State of Wisconsin as wetlands. With the exception of an 8-acre parcel, Daniels 70 forms the southern property boundary.

The Site is situated on a hill with an 110-foot drop in elevation from the southern boundary to the northern boundary. The Site stratigraphy consists of three layers: an upper sand layer, a silt and clay layer that is not continuous throughout the Site, and a lower sand layer. The depth to groundwater is typically 100 feet or more from the ground surface. Groundwater occurs both in a thin, unconfined aquifer, and within the semi-confined aquifer. The regional groundwater flow direction is to the north, although local groundwater flows radially away from the Site.





A number of surface water bodies are present north and east of the Site. Doctor Lake and an unnamed lake are located 2,000 feet east and northeast of the Site, respectively. Approximately 2,140 acres of lakes, 94 acres of bogs, and 7,500 acres of wetland are located within a 4-mile radius of the Site. A wetland is located within 130 feet of the northern property boundary.

#### 2.2 Previous Remedial Actions

In September 1998, the ROD was finalized specifying remedies to address contamination associated with soil and sediment, surface water, LNAPL and groundwater. The following are the specific remedial action objectives:

- Reduce or eliminate the potential risk to human health and ecological receptors associated with
  exposure to pentachlorophenol (PCP) and fuel oil components in surface water and groundwater, and
  PCP/fuel oil components and metals in the soil and sediment.
- Reduce or control the source of contaminants.
- Meet the ARARs, including reducing contaminant concentrations in the groundwater beneath the Site to below WDNR's Preventive Action Limits.
- The remedial action for the contaminated soil was completed in 2000 and included the construction and consolidation of material into an onsite CAMU. The remedial action to address LNAPL and contaminated groundwater is ongoing and includes the following:
- Groundwater extraction and treatment
- LNAPL recovery
- Bioventing
- Monitored natural attenuation

A remediation system operated continuously from March 2004 through November 2015.

The performance goals for the extraction and treatment system were as follows:

- Remove LNAPL, to the extent practicable, to reduce a source of PCP to the groundwater.
- Extract and treat the most concentrated portions (exceeding 1,000 μg/L) of PCP in the groundwater, and reduce concentrations to a level that allows natural attenuation to achieve the NR 140 standards in a reasonable period of time.
- Lower the water table, to the extent practicable, to allow bioventing to promote natural degradation of the residual diesel fuel petroleum hydrocarbons and PCP in the LNAPL smear zone.
- Comply with discharge standards.

As of November 2015, the groundwater extraction and biovent systems ceased operations and were decommissioned to initiate the remediation system shutdown pilot study as conditionally approved by the USEPA in a letter dated November 17, 2015.



During 1999 and 2000, soil excavation work and associated sampling was conducted by CH2M HILL on behalf of the USEPA. As documented in the Remedial Action Report (December 2000, CH2M HILL), the Area 29 wetland excavation was completed and confirmation soil samples were collected. However, following sample collection, a storm washed impacted material back into the wetland. The material was re-excavated, but confirmation samples were not collected. The impacted portion of the wetland is located on two separate parcels located adjacent to the Penta Wood Site. Parcels are identified on Figure 1.2. The former wetland excavation location is shown on Figure 4.2.

As of September 1, 2014, the WDNR assumed responsibility from the USEPA for continuing the remedial action at the Penta Wood Products Superfund Site. WDNR retained GHD to conduct the remedial action. WDNR directed GHD to collect soil/sediment samples from the Area 29 wetland to confirm the results of the previous USEPA sampling and delineate the extent of the impacted area.

A total of 39 soil samples were collected in 2017 from 15 soil boring locations. Samples were collected from the borings at depths ranging from the ground surface to 6 feet below the ground surface. The samples were submitted for laboratory analysis of PCP. The soil sample locations are shown on Figure 4.2. Soil sample results are summarized in Table 2.1.

PCP was detected above the USEPA criteria of 900 micrograms per kilogram (µg/kg) in eight of the soil samples. These soil sample results were generally consistent with the results previously reported by USEPA. However, a statistical evaluation of these results indicates that the soil/sediment within the sampling area requires additional measures to meet the cleanup objectives for the Site and surrounding properties.

During Site walks by GHD, surface debris was observed in three areas. One of the areas is located west-southwest of well MW7. In this area, a sawdust like material was observed. A second area of surface debris consisting primarily of treated wood is located north of wells MW17 and MW16. A third are included a small amount of drum debris west of well MW8. The surface debris locations are shown on Figure 2.1. Samples were collected from the surface debris and submitted for laboratory analysis of volatile organic compounds (VOC), semivolatile organic compounds (SVOC), metals, PAHs, and PCP. Surface debris sample results are summarized in Table 2.2.

Analysis of the debris samples show detections above Residual Contaminant Levels (RCLs) for Arsenic, PCP, and other SVOCs for direct contact and groundwater protection. Subsequent soil samping under the surface debris confirmed that contamination levels meet the groundwater protection RCLs.

# 3. Outcomes and Objectives

The objectives of this work plan are to remove contaminated soil/sediment located in a wetland adjacent to the Penta Wood Site and eliminate the direct contact exposure pathway related to contaminated surface debris at the Penta Wood Site. To achieve the necessary outcomes, WDNR plans to:

• Excavate contaminated soil/sediment from the wetland and place and cover the excavated material with a 2-foot thick imported clay layer adjacent to the existing CAMU at the Site; conduct confirmation



sampling in the wetland excavation to verify all impacted soil/sediment has been removed from the wetland

• Cover the impacted surface debris in place with clean borrow soil from the Site

# 4. Wetland Excavation Work Tasks

The wetland excavation work will include the review, modification, or completion of the health and safety plan, permitting, access agreements, soil erosion and sedimentation controls, excavation limits and methods, confirmation sampling and soil/sediment clean-up criteria, excavated soil disposal on the CAMU, borrow soil area and characterization, clay cover placement, restoration, fencing, well modifications, surveying, decontamination, and reporting. Detailed project specifications and drawings will be prepared to obtain potential contractor bids to complete the work.

#### 4.1 Health and Safety

A Site-Specific Health and Safety Plan (HASP) has been prepared for previous work conducted at the Site. This HASP would be updated to include work that would be conducted during the wetland excavation activities. The HASP would be prepared and work would be conducted in general accordance with Occupational Safety and Health Administration (OSHA) standards and regulations contained in 29 CFR 1910 and 1926 to ensure safe operations. It is anticipated that the soil excavation work can be conducted safely in Level D personal protective equipment (PPE). Site conditions will be continually monitored during the work to confirm the appropriate level of PPE. A copy of the updated HASP will be provided to USEPA.

#### 4.2 Permitting

This work will be completed during the winter and frozen conditions to minimize the potential for stormwater runoff and adverse impacts to the surface water quality in the wetland. WDNR confirmed that a wetland permit and mitigation are not required if the excavation work is conducted during the winter and no backfill is placed in the wetland excavation. Other potential permit requirements will be assessed during the project design and prior to beginning the work.

#### 4.3 Access Agreements

Access agreements were obtained from the adjacent property owners (Mr. Erik Johnson - Parcel Identification Number 07-006-2-38-17-11-4-01-000-011000 and Mr. Ken and Mrs. Sheri Nelson - Parcel Identification Number 07-006-2-38-17-12-3-02-000-011000 for excavation of soil and sediment from the wetland area. The signed access agreements are provided in Attachment A.

#### 4.4 Soil Borrow Area

Soil samples were previously collected from the proposed onsite borrow area location as shown on Figure 4.1 to confirm that the soil was not impacted and was suitable for use. The samples were analyzed for select metals, select VOCs, select SVOCs, and PCP. All of the results were below the RCLs, with the exception of arsenic. However, arsenic was below the Site specific background concentration of



2.05 milligrams per kilogram (mg/kg). Borrow soil sample results are included in Table 4.1. Soil within this borrow area is primarily sand.

Existing topsoil over the soil borrow area would be stripped and segregated. This topsoil would be placed back over the excavated borrow area for vegetation restoration following completion of the work.

### 4.5 Soil Erosion and Sedimentation Controls

Silt fence and other necessary soil erosion and sedimentation controls will be installed around the wetland excavation area, the borrow area, and the excavated soil/sediment placement area adjacent to the onsite CAMU before excavation work begins. Soil erosion and sedimentation controls would remain in place until vegetation is established following completion of all work.

#### 4.6 Excavation Limits and Methods

The size of the excavation is expected to be approximately 1.1 acres. The excavation depth is expected to range between approximately 3 feet and 6 feet. The estimated quantity of soil/sediment to be excavated from the wetland is approximately 5,900 cubic yards.

Excavation would likely be conducted with tracked excavation equipment. Mats would be placed under the equipment to allow access across the wetland and to stay on top of the saturated soil/sediment and work would likely be conducted during winter to allow better equipment access across frozen ground. Mats would also be used to allow equipment to transport the excavated material out of the wetland. The excavation would proceed from the outer limits of the impacted area toward the south/west preventing the equipment from having to work in submerged conditions. Alternatively, amphibious excavation equipment may be considered. The excavation limits are shown on Figures 4.1 and 4.2.

### 4.7 Confirmation Sampling and Soil/Sediment Clean-up Criteria

Following the wetland excavation work, confirmation soil samples would be collected from the sidewalls and bottom of the excavation areas to confirm PCP concentrations remaining at the Site meet the USEPA criteria of 900  $\mu$ g/kg. Sidewall samples would be collected from each 5-foot vertical interval with a maximum 100-foot horizontal spacing. The bottom of the excavation would be sampled at a frequency of one sample per 5,000-square foot area. The samples would be submitted for laboratory analysis of PCP.

All confirmation sample concentrations will be compared to the 900  $\mu$ g/kg criteria. If any concentrations exceed the criteria, additional soil would be excavated and follow-up confirmation samples would be collected. When confirmation sample concentrations meet the criteria the excavation activities would be complete.

Samples for quality assurance/quality control, sampling methods, and analytical procedures will be performed in accordance with the previously approved Site procedures.

#### 4.8 Excavated Soil Management

The excavated soil/sediment from the offsite wetland will be transported to the existing CAMU area northeast of well EW11 at the Penta Wood Site property. The CAMU area would be extended to the



northeast of wells MW9 and MW23 potentially extending as far as well MW13. The soil would be placed and graded to create a maximum 3:1 (horizontal:vertical) slope and allow for the addition of a clay cover between wells MW23 and MW13 northeast of the current CAMU boundary. The approximate location for placement of the excavated soil/sediment is shown on Figures 4.1 and 4.2.

#### 4.9 Clay Cover Placement

Following placement northeast of the CAMU, the excavated soil/sediment will be graded for surface water drainage. The excavated soil/sediment will then be covered by a 24-inch clay layer. This clay material will be imported from an offsite source. The clay cover with a low hydraulic conductivity (permeability) will prevent surface water infiltration and leaching through the impacted soil/sediment. Testing will be performed to confirm that the constructed clay cover meets specification requirements. A 6-inch sand drainage layer would be placed over the clay for surface water drainage. The sand would be obtained from the soil borrow area at the Site.

#### 4.10 Restoration

The wetland excavation area will not be backfilled but will be allowed to naturally fill with water, creating a shallow vegetated pond.

The 6-inch sand drainage layer over the top of the clay cover and excavated soil/sediment will be covered with approximately 6 inches of topsoil imported from an offsite source. The imported topsoil will be fertilized, seeded, and covered with mulch. Any grades steeper than 4:1 will include erosion control blankets and any graded areas that are likely to be concentrated surface water flow areas will include turf reinforcement mat. The restoration areas will be periodically inspected and repairs will be made if necessary, including additional reinforcement, seeding, and fertilizing until vegetation is established.

The borrow area, hauling routes, and any other areas disturbed by the Site activities will also be covered with topsoil, fertilized, seeded, and covered with mulch to restore vegetation over the disturbed areas.

#### 4.11 Fencing

The existing fence along the northeast side of the CAMU will be removed to allow for placement of the excavated material. This fencing will be replaced after completion of the work to provide security around the CAMU and excavated wetland soil/sediment.

#### 4.12 Well Modifications

Placement of the excavated soil/sediment at the CAMU will increase the ground surface elevation at wells MW9 and MW23. These well casings will be modified by extending the well and protective casings above the raised ground surface.

#### 4.13 Surveying

The excavated wetland area and elevations, modified CAMU area and elevations/grades, and the modified top of well casing elevations (MW9 and MW23) will be surveyed by a surveyor registered in the State of Wisconsin following completion of the work to accurately document Site conditions.



#### 4.14 Decontamination

Equipment and personnel decontamination facilities will be set up prior to beginning the soil excavation work. All equipment, transport vehicles, and containers will be decontaminated on an equipment decontamination pad prior to leaving the Site. Decontamination will include cleaning vehicle tires prior to exiting the Site. All personnel will be decontaminated before leaving the exclusion zone. PPE will be placed in a container for proper disposal. Decontamination water and sediment will be contained and subsequently disposed on the CAMU.

#### 4.15 Reporting

Following completion of this work, a report will be submitted to USEPA to document the wetland excavation work. The report will include a discussion of wetland excavation activities, confirmation soil sampling results, and CAMU modification.

# 5. Surface Debris Mitigation Work Tasks

The surface debris mitigation work will include the review, modification, or completion of the health and safety plan, permitting, access agreements, surface debris limits, soil erosion and sedimentation controls, clearing and grubbing, soil cover placement, borrow soil area and characterization, final grading, surveying, restoration, and reporting. Detailed project specifications and drawings will be prepared to obtain potential contractor bids to complete the work.

#### 5.1 Health and Safety

A HASP has been prepared for previous work conducted at the Site. This HASP would be updated to include work that would be conducted during the wetland excavation activities. The HASP would be prepared and work would be conducted in general accordance with OSHA standards and regulations contained in 29 CFR 1910 and 1926 to ensure safe operations. It is anticipated that the work can be conducted safely in Level D PPE. Site conditions will be continually monitored during the work to confirm the appropriate level of PPE. A copy of the updated HASP will be provided to USEPA.

### 5.2 Permitting

Potential permit requirements will be assessed during the project design and prior to beginning the work.

#### 5.3 Access Agreement

An access agreement was requested from the adjacent property owner (Mr. Daniel and Mrs. Julie Johnson (Parcel Identification Number 07-006-2-38-17-11-4-02-000-011000) for placement of clean soil as part of surface debris mitigation on the Penta Wood property. The Johnsons have verbally indicated that they would allow access to complete the work; however, they have not yet signed and returned the access agreement. WDNR will work with the Johnsons to obtain the signed access agreement before work proceeds. A copy of the access agreement provided to the Johnsons is provided in Attachment B.



#### 5.4 Soil Borrow Area

Soil samples were previously collected from the proposed onsite borrow area location as shown on Figure 4.1 to confirm that the soil was not impacted and was suitable for use. The samples were analyzed for select metals, select VOCs, select SVOCs, and PCP. All of the results were below the RCLs, with the exception of arsenic. However, arsenic was below the Site specific background concentration of 2.05 mg/kg. Borrow soil sample results are included in Table 4.1. Soil within this borrow area is primarily sand.

Existing topsoil over the soil borrow area would be stripped and segregated. This topsoil would be placed back over the excavated borrow area for vegetation restoration following completion of the work.

#### 5.5 Surface Debris Limits

The surface debris limits have been determined based on visual inspection and surface soil testing. The western sawdust area is approximately 0.7 acres and the northern wood debris area is approximately 1.1 acres. The drum debris will be removed from the current location and combined with the wood debris. A total of approximately 1.8 acres are impacted by the surface debris. The approximate extent of surface debris is shown in Figure 5.1.

#### 5.6 Soil Erosion and Sedimentation Controls

Silt fence and other necessary soil erosion and sedimentation controls will be installed along the perimeter of the working area prior to clearing and grubbing to help ensure that discharges outside of the work areas do not occur. Controls will also be installed around the soil borrow area. Soil erosion and sedimentation controls would remain in place until vegetation is established following completion of all work.

### 5.7 Clearing and Grubbing

Prior to placing soil over of surface debris areas, the placement area will be prepared by clearing and grubbing existing vegetation (i.e., trees, brush, etc.). The cleared vegetation would be placed on the Penta Wood Site at a location that does not interfere with access to wells and other Site features.

### 5.8 Soil Cover Placement and Grading

Soil will be placed over surface debris areas to a minimum thickness of 18 inches. Because of the steepness along the northern property boundary, to cover the exposed surface debris in that area, additional soil is required to achieve an acceptable slope. This additional material will be installed with a maximum slope of 3:1. The approximate extent of additional soil material placement is shown in Figure 5.1 and will extend onto the Johnson property located north of the Penta Wood Site.

#### 5.9 Final Grading and Restoration

After rough grading of cover soil is completed, clean imported topsoil will be placed over the disturbed areas. The new grades would be constructed to gradually transition with the existing grades. The imported topsoil will be fertilized, seeded, and covered with mulch. Any grades steeper than 4:1 will include erosion control blankets and any graded areas that are likely to be concentrated surface water flow areas will



include turf reinforcement mat. The restoration areas will be periodically inspected and repairs will be made if necessary, including additional reinforcement, seeding, and fertilizing until vegetation is established.

The borrow area, hauling routes, and any other areas disturbed by the Site activities will also be covered with topsoil, fertilized, seeded, and covered with mulch to restore vegetation over the disturbed areas.

#### 5.10 Surveying

The surface debris and cover areas and elevations/grades will be surveyed by a surveyor registered in the State of Wisconsin following completion of the work to accurately document Site conditions.

#### 5.11 Reporting

Following completion of this work, a report will be submitted to USEPA to document the surface debris mitigation work.

## 6. Cost Estimate

Currently, WDNR lacks funding necessary to complete the scope of work discussed above. The estimated cost to complete the wetland excavation is \$776,462, and the estimated cost to complete the surface debris mitigation is \$337,815. The total estimated cost is \$1,114,277.

The work has not been formally bid. Should contractor bids or differing Site conditions indicate that total project costs would exceed the estimated costs, WDNR would notify USEPA before proceeding with the work.

# 7. Schedule

#### 7.1 Wetland Excavation

The anticipated schedule is to install erosion control measures in the fall of 2019. The wetland excavation would be completed during the winter of 2020. Grading and covering the excavated wetland soil and sediments would occur in spring of 2020 followed by vegetation establishment during the summer of 2020. A report would be submitted within three months after completion of the work.

#### 7.2 Surface Debris Mitigation

Surface debris mitigation is anticipated to start in the spring of 2020 with completion in late spring or early summer 2020. Vegetation establishment would occur during the summer of 2020. A report would be submitted within three months after completion of the work.



Please contact us if you have any questions.

Sincerely,

GHD

tink

Tim Ree

TB/sb/71

Encl.





PENTA WOOD PRODUCTS SUPERFUND SITE SIREN, WISCONSIN WORK PLAN - WETLAND EXCAVATION AND SURFACE DEBRIS MITIGATION 086165-06-13 Jun 28, 2019

SITE LOCATION

FIGURE 1.1

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FIGURE 1.2



ource: DigitalGlobe 2011				
0 200 400 ft	LEGEND EXTRACTION WELL NEST UNCONFINED MONITORING WELL SEMICONFINED MONITORING WELL WATER SUPPLY WELL BIOVENTING WELL SOIL GAS WELL NEST	<ul> <li>DRUM REMNANT LOCATION</li> <li>APPROXIMATE WETLAND LIMIT</li> <li>APPROXIMATE EXCAVATION EXTENT</li> <li>APPROXIMATE EXTENT OF SAWDUST</li> <li>APPROXIMATE EXTENT OF WOOD DEBRIS</li> <li>SITE PARCEL BOUNDARY</li> </ul>	GHD	PENTA WOOD PRODUCTS SUPERFUND SIREN, WISCONSIN WORK PLAN - WETLAND EXCAVATION AND WETLAND EXCAVATION AND SI

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# SURFACE DEBRIS AREAS

# AND SURFACE DEBRIS MITIGATION

# ) SITE

# Jun 28, 2019

FIGURE 2.1





<u>LEGEND</u> PENTA WOOD PRODUCTS SUPERFUND SITE SOIL SAMPLE LOCATION EXTRACTION WELL NEST SIREN, WISCONSIN UNCONFINED MONITORING WELL APPROXIMATE WETLAND LIMIT ----GHD WORK PLAN - WETLAND EXCAVATION AND SURFACE DEBRIS MITIGATION SEMICONFINED MONITORING WELL APPROXIMATE EXCAVATION EXTENT • WATER SUPPLY WELL SITE PARCEL BOUNDARY ⊕ BIOVENTING WELL ---- ADJACENT PARCEL BOUNDARY WETLAND EXCAVATION AREA ▲ SOIL GAS WELL NEST

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FIGURE 4.1





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FIGURE 4.2



Source: Burnett County, Wisconsi



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FIGURE 5.1

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## Table 2.1

Pentachlorophenol Soil Sample Results
Penta Wood Products Superfund Site
Siren, Wisconsin

Sample	Sample	Sample Depth	Concentration			
Location	Identification	(fbgs)	(µg/kg)			
GP-1	S-170116-PS-01	0	1200			
GP-1	S-170116-PS-02	3	ND			
GP-1A	S-170501-PS-22A	0	220J			
GP-1A	S-170501-PS-22B	3	ND			
GP-2	S-170116-PS-03	0	1700			
GP-2	S-170116-PS-04	3	ND			
GP-2	S-170116-PS-05	5	ND			
GP-3	S-170117-PS-23	0	730J			
GP-3	S-170117-PS-24	3	ND			
GP-4	S-170116-PS-06	0	1400			
GP-4	S-170116-PS-07	3	ND			
GP-4	S-170116-PS-08	6	ND			
GP-5	S-170116-PS-09	0	3200			
GP-5	S-170116-PS-10	3	ND			
GP-5	S-170116-PS-11	6	ND			
GP-6	S-170116-PS-12	0	1500			
GP-6	S-170116-PS-13	3	ND			
GP-6	S-170116-PS-14	5	ND			
GP-7	S-170116-PS-15	0	1100			
GP-7	S-170116-PS-16	3	890			
GP-7A	S-170501-PS-23A	0	350J			
GP-7A	S-170501-PS-23B	3	ND			
GP-8	S-170116-PS-17	0	360			
GP-8	S-170116-PS-18	3	2700			
GP-8	S-170116-PS-19	6	ND			
GP-9	S-170116-PS-20	0	210J			
GP-9	S-170116-PS-21	3	ND			
GP-9	S-170116-PS-22	6	ND			
GP-10	S-170428-PS-16A	0	4800			
GP-10	S-170428-PS-16B	3	ND			
GP-10	S-170428-PS-16C	6	72J			
GP-11	S-170428-PS-17A	0	ND			
GP-11	S-170428-PS-17B	3	ND			

## Table 2.1

# Pentachlorophenol Soil Sample Results Penta Wood Products Superfund Site Siren, Wisconsin

Sample Location	Sample Identification	Sample Depth (fbgs)	Concentration (µg/kg)
GP-12	S-170428-PS-18A	0	110J
GP-12	S-170428-PS-18B	3	ND
GP-12	S-170428-PS-18C	6	ND
GP-13	S-170428-PS-19A	0	110J
GP-13	S-170428-PS-19B	3	ND
GP-13	S-170428-PS-19C	6	ND

Note:

ND - Not Detected

μg/kg - Micorgrams per kilogram

### Table 2.2

#### Surface Debris Sample Analytical Data - Total Penta Wood Products Superfund Site Siren, Wisconsin

				Location ID: Sample Name: Sample Date:	Wood Debris-1 S-161208-PS-01 12/08/2016	Wood Debris-2 S-161208-PS-02 12/08/2016	Wood Debris-3 S-161208-PS-03 12/08/2016	Saw Dust-East S-161208-PS-05 12/08/2016	Saw Dust-Middle S-161208-PS-06 12/08/2016	Saw Dust-West S-161208-PS-07 12/08/2016	Drum Remnants S-161208-PS-04 12/08/2016
Parameters	- Jnit	Residual Contamin Industrial Direct Contact	nant Levels (RCLs) Groundwater Protection	Background Threshold Value							
Penzene	a///a	7.070	26		< 20.000	4 000	- 100	4 220	- 110	4 960	- 0.27
Benzene µ(	g/kg a/ka	7,070	2.0		< 29,000	< 280	< 480	< 330	< 440	< 260	< 0.37
	g/kg a/ka	35,400	780 554	[	< 42,000	< 410	< / 10	< 480	< 640	< 380	< 0.31
Vulence (total)	g/kg a/ka	010,000			< 29,000	< 200	< 400	< 300	< 440	< 200	< 0.39
Xylenes (total) µ(	д/кд	260,000	1,980		< 34,000	< 330	< 570	< 380	< 510	< 300	< 0.40
Semivolatile Organic Compounds											
Acenaphthene µc	g/kg	45,200,000			1,600,000	2,000,000	< 1,000	< 22	< 29	< 18	< 4,100
Acenaphthylene	g/kg				47,000	240,000	< 470	< 10	< 13	< 8.4	< 1,900
Anthracene µc	g/kg	100,000,000	98,475		1,900,000	5,200,000	6,900 J	< 23	< 30	< 19	< 4,200
Benzo(a)anthracene	g/kg	20,800		[	770,000	2,100,000	<850	< 19	< 24	< 15	< 3,400
Benzo(a)pyrene µc	g/kg	2,110	235		230,000	920,000	< 860	< 19	< 24	< 15	< 3,500
Benzo(b)fluoranthene	g/kg	21,100	240		390,000	1,600,000	< 800	< 17	< 23	< 14	< 3,200
Benzo(g,h,i)perylene	g/kg				46,000	250,000	< 470	< 10	< 13	< 8.4	< 1,900
Benzo(k)fluoranthene	g/kg	211,000			170,000	570,000	< 920	< 20	< 26	< 16	< 3,700
Chrysene µc	g/kg	2,110,000	72.3		790,000	2,200,000	< 1,500	< 32	< 42	< 26	< 6,000
Dibenz(a,h)anthracene	g/kg	2,110			15,000	110,000	< 890	< 19	< 25	< 16	< 3,600
Fluoranthene	g/kg	30,100,000	44,439		4,000,000	11,000,000	14,000	< 16	< 21	< 13	21,000 J
Fluorene	g/kg	30,100,000	7,415		1,400,000	2,700,000	< 720	< 16	< 20	< 13	22,000 J
Indeno(1,2,3-cd)pyrene	g/kg	21,100			51,000	280,000	< 470	< 10	< 13	< 8.4	< 1,900
Naphthalene	g/kg	24,100	329		930,000	42000 J	< 1,100	< 24	< 31	< 20	< 4,400
Pentachlorophenol	g/kg	3,970	1.40		33,000 J	< 62,000	1,900,000	530 J	1,700 J	< 220	11,000,000
Phenanthrene	g/kg				6,100,000	14,000,000	14,000	130 J	< 28	< 18	30,000 J
Pyrene µg	g/kg	22,600,000	27,273		2,900,000	7,000,000	16,000	< 13	< 17	< 11	100,000
Metals											
Arsenic m	a/ka	3	0.292	8 Г	3.5	3.3	0.67 J	< 1.8	4.7	< 1.4	3.8
Copper m	a/ka	46.700	45.8	35	38.5	6.8	2.1 J	9.7 J	14.6	5.1 J	25.4
lron m	a/ka	100.000		34,314	1.420	228	105	2.950	651	1.580	12.800
Manganese m	a/ka	25,900	19.6	2.937	42.1 B	23.6 B	36.2 B	84.6 B	233 B	72.1 B	83.7 BF1
Zinc m	ig/kg	100,000		150	12	15.2	16.6	32.1	35.0	21.2	49.8 F1

Page 1 of 2

#### Table 2.2

#### Surface Debris Sample Analytical Data - Total Penta Wood Products Superfund Site Siren, Wisconsin

				Location ID: Sample Name: Sample Date:	Wood Debris-1 S-161208-PS-01 12/08/2016	Wood Debris-2 S-161208-PS-02 12/08/2016	Wood Debris-3 S-161208-PS-03 12/08/2016	Saw Dust-East S-161208-PS-05 12/08/2016	Saw Dust-Middle S-161208-PS-06 12/08/2016	Saw Dust-West S-161208-PS-07 12/08/2016	Drum Remnants S-161208-PS-04 12/08/2016
Parameters	Unit	Residual Contamii Industrial Direct Contact	nant Levels (RCLs) Groundwater Protection	Background Threshold Value							
<b>Total Petroleum Hydrocarbons</b> Oil and grease	mg/kg				51,800	31,200	242 J	377 J	224 U	262 J	17,700
<b>General Chemistry</b> Flash point (closed cup) pH, lab	Deg F s.u.				> 200 5.8	> 200 5.6	> 200 5.7	> 200 3.9	> 200 4.4	> 200 4.2	> 200 5.3

#### Notes:

- J Reported value was estimated between the limit of detection and limit of quantification
- B Parameter was found in the blank and sample
- F1 MS and/or MSD recovery outside of acceptance limits
- µg/kg micrograms per kilogramM
- mg/kg Milligrams per kilogram
- s.u. Standard units
- Deg F Degrees Fahrenheit
- -- Not applicable
- Not detected above the limit of detection
- Concentration or limit of detections exceed the direct contact RCL
- Concentration or limit of detection exceed the groundwater protection RCL

#### Table 4.1

Sample Date: 10/29/18

Sample Date: 10/29/18																
	ROD Tab	le 1 PRGs	WDNR RCLs (I	Non-Industrial)		Concentration in Sample (mg/kg)										
Compound	Onsite PRG (mg/kg)	Offsite PRG (mg/kg)	Direct Contact (mg/kg)	Groundwater Protection (mg/kg)	B1	B2	В3	B4	В5	В6	B7	B8	В9	B10		
Arsenic <sup>1</sup>	5.2	5.2	0.677	0.584	1.4	1.2	0.97	1.5	1.1	1.1	1.9	1.1	1.1	0.89		
Benzene	0.0055	0.0055	1.6	0.0026	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Copper	100	100	3130	91.6	16.5	12.4	10.6	23.7	15.1	22.2	22.2	12.1	13.3	9.8		
Ethylbenzene	2.9	2.9	8.02	1.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Fluorene	100	100	2390	14.8299	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Isophorone	628	264	571		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
1-Methylnaphthalene			17.6		ND	0.010 J	ND	ND	ND	ND	ND	ND	ND	ND		
2-Methylnaphthalene			239		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Naphthalene	0.4	0.4	5.52	0.6582	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Pentachlorophenol	2.1	0.9	1.02	0.0028	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Phenanthrene					ND	0.017 J	0.0092 J	ND								
Toluene	1.5	1.5	818	1.1072	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Xylenes	4.1	4.1	260	3.96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Zinc	320	320	23500		19.1	11.1	11.4	26.5	14.8	20.1	17.1	18.6	12.2	15.5		

Note:

<sup>1.</sup> Arsenic criteria is site specific background concentration of 2.05 mg/kg

# Attachment A Access Agreement (Wetlands)

Reference No. 086165-05-09



October 4, 2018

Mr. Erik Johnson 5710 148<sup>th</sup> Lane NW Ramsey, Minnesota 55303

Dear Mr. Johnson:

#### Re: Access Agreement for Wetland Excavation Penta Wood Products Superfund Site Siren, Wisconsin

On behalf of the Wisconsin Department of Natural Resources (WDNR), GHD Services Inc. (GHD) is requesting your agreement to access your property (Parcel Identification Number 07-006-2-38-17-11-4-01-000-011000) to excavate soil and sediment from a wetland area as part of the ongoing remedial action associated with the Penta Wood Products Superfund Site.

During 1999 and 2000, soil excavation work and associated sampling was conducted by CH2M HILL on behalf of the United States Environmental Protection Agency (USEPA). This excavation location is shown on Figure 1 and identified as Area 29. During 2017, soil samples were collected from the excavation area to confirm the results of the previous USEPA sampling within the former excavation areas and to delineate the extent of impacts. PCP was detected above the USEPA criteria of 900 micrograms per kilogram (µg/kg) in eight of the soil samples. These soil sample results were generally consistent with the results previously reported by USEPA. However, a statistical evaluation of these results indicates that the soil/sediment within the sampling area requires additional measures to meet the cleanup objectives for the Site and surrounding properties. These sampling results were provided to you in a GHD letter dated November 17, 2017.

WDNR, in coordination with USEPA, has developed a plan to address the impacted area and meet the cleanup objectives. This plan will include excavating the impacted soil and sediment from the wetland and removing it from your property. The work would be conducted in general accordance with the plan discussed below. WDNR has confirmed that a wetland permit is not required to conduct this work.

### Wetland Excavation Plan

WDNR proposes to excavate the soil/sediment with PCP concentrations exceeding 900 µg/kg within the wetland and remove the excavated material from your property. Soil/sediment would also be excavated from the adjacent property to the east owned by Mr. and Mrs. Ken Nelson. The excavated material will be placed for final disposal within the corrective action management unit (CAMU) on the Penta Wood property.

The wetland excavation depth is expected to be 3 to 6 feet. The size of the excavation is expected to be less than 1 acre on your property as shown on Figure 2. The estimated total quantity of soil/sediment to be excavated is approximately 5,900 cubic yards. The duration of excavation activities on your property is anticipated to be less than 1 month.





The excavation would likely be conducted with traditional or amphibious excavation equipment. The excavation would proceed from the outer limits of the impacted area toward the south/west. All equipment would enter your property from the Penta Wood property located to the south.

If necessary, silt fence would be installed along the perimeter of the working area within the wetland prior to beginning the excavation to help ensure that discharges outside of the excavation do not occur. The excavation would be conducted during winter/frozen conditions to further reduce the chance of stormwater runoff and discharges.

The excavation would not be backfilled. It is anticipated that the excavation area would fill with water, creating a shallow pond, and vegetation would be allowed to be restored naturally. Any disturbance to the ground surface outside of the excavation area will be restored as close as practicable to existing conditions.

All work would be conducted during the week (Monday through Friday) between 7 a.m. through 6 p.m., unless other arrangements have been made with you. GHD would provide you with a minimum of 10 days written notice prior to beginning the work. The work would be performed by a GHD subcontractor and is tentatively scheduled to be completed during the winter of 2019. The schedule will be finalized after WDNR secures funding to complete the project. A notification letter would be sent to you a minimum of 10 days before beginning work on your property.

By this letter, we are asking for your agreement to access your property to conduct the wetland excavation work. Your signature in the place provided below signifies your agreement to allow the WDNR, GHD, and subcontractors access to your property in accordance to the conditions listed above. Your signature also signifies agreement that you will allow WDNR and GHD to conduct maintenance as necessary to establish vegetation outside of the excavation area and that you will not conduct activities to damage or disturb re-vegetation areas during the establishment period. Once you have signed this letter, we ask that you either mail it back in the attached addressed stamped envelope. Or, you can send us a copy via facsimile (651-639-0923) or email (tim.ree@ghd.com), whichever is most convenient for you.

We appreciate your ongoing cooperation related to the remedial action at the Penta Wood Products Superfund Site. If you have any questions, please contact me at (651) 639-0913 or Phil Richard (WDNR project manager) at (715) 762-1352.

Sincerely,

GHD

Tim Ree TR/sb/23

cc: Phil Richard, WDNR (via email) Stephanie Linebaugh, USEPA (via email)





AGREED:

(Owner)

10-16-14

(Date)

Property owner's signature signifies agreement to allow the WDNR and GHD access to the property (PIN 07-006-2-38-17-11-4-01-000-011000) in accordance to the conditions listed in GHD's letter dated October 4, 2018.

3

Reference No. 086165-03-17



October 4, 2018

Mr. and Mrs. Ken Nelson 8454 Daniels 70 Siren, Wisconsin 54872

Dear Mr. and Mrs. Nelson:

#### Re: Access Agreement for Wetland Excavation Penta Wood Products Superfund Site Siren, Wisconsin

On behalf of the Wisconsin Department of Natural Resources (WDNR), GHD Services Inc. (GHD) is requesting your agreement to access your property (Parcel Identification Number 07-006-2-38-17-12-3-02-000-011000) to excavate soil and sediment from a wetland area as part of the ongoing remedial action associated with the Penta Wood Products Superfund Site.

During 1999 and 2000, soil excavation work and associated sampling was conducted by CH2M HILL on behalf of the United States Environmental Protection Agency (USEPA). This excavation location is shown on Figure 1 and identified as Area 29. During 2017, soil samples were collected from the excavation area to confirm the results of the previous USEPA sampling within the former excavation areas and to delineate the extent of impacts. PCP was detected above the USEPA criteria of 900 micrograms per kilogram (µg/kg) in eight of the soil samples. These soil sample results were generally consistent with the results previously reported by USEPA. However, a statistical evaluation of these results indicates that the soil/sediment within the sampling area requires additional measures to meet the cleanup objectives for the Site and surrounding properties. These sampling results were provided to you in a GHD letter dated November 9, 2017.

WDNR, in coordination with USEPA, has developed a plan to address the impacted area and meet the cleanup objectives. This plan will include excavating the impacted soil and sediment from the wetland and removing it from your property. The work would be conducted in general accordance with the plan discussed below. WDNR has confirmed that a wetland permit is not required to conduct this work.

### Wetland Excavation Plan

WDNR proposes to excavate the soil/sediment with PCP concentrations exceeding 900 µg/kg within the wetland and remove the excavated material from your property. Soil/sediment would also be excavated from the adjacent property to the west owned by Mr. Erik Johnson. The excavated material will be placed for final disposal with the corrective action management unit (CAMU) on the Penta Wood property.

The wetland excavation depth is expected to be approximately 3 feet. The size of the excavation is expected to be less than 0.1 acre on your property as shown on Figure 2. The estimated total quantity of soil/sediment to be excavated is approximately 5,900 cubic yards. The duration of excavation activities on your property is anticipated to be less than 1 week.





The excavation would likely be conducted with traditional or amphibious excavation equipment. The excavation would proceed from the outer limits of the impacted area toward the south/west. All equipment would enter your property from Mr. Johnson's property located to the west.

If necessary, silt fence would be installed along the perimeter of the working area within the wetland prior to beginning the excavation to help ensure that discharges outside of the excavation do not occur. The excavation would be conducted during winter/frozen conditions to further reduce the chance of stormwater runoff and discharges.

The excavation would not be backfilled. It is anticipated that the excavation area would fill with water, creating a shallow pond, and vegetation would be allowed to be restored naturally. Any disturbance to the ground surface outside of the excavation area will be restored as close as practicable to existing conditions.

All work would be conducted during the week (Monday through Friday) between 7 a.m. through 6 p.m., unless other arrangements have been made with you. GHD would provide you with a minimum of 10 days written notice prior to beginning the work. The work would be performed by a GHD subcontractor and is tentatively scheduled to be completed during the winter of 2019. The schedule will be finalized after WDNR secures funding to complete the project. A notification letter would be sent to you a minimum of 10 days before beginning work on your property.

By this letter, we are asking for your agreement to access your property to conduct the wetland excavation work. Your signature in the place provided below signifies your agreement to allow the WDNR, GHD, and subcontractors access to your property in accordance to the conditions listed above. Your signature also signifies agreement that you will allow WDNR and GHD to conduct maintenance as necessary to establish vegetation outside of the excavation area and that you will not conduct activities to damage or disturb re-vegetation areas during the establishment period. Once you have signed this letter, we ask that you either mail it back in the attached addressed stamped envelope. Or, you can send us a copy via facsimile (651-639-0923) or email (tim.ree@ghd.com), whichever is most convenient for you.

We appreciate your ongoing cooperation related to the remedial action at the Penta Wood Products Superfund Site. If you have any questions, please contact me at (651) 639-0913 or Phil Richard (WDNR project manager) at (715) 762-1352.

Sincerely,

GHD

Tim Ree TR/sb/23

cc: Phil Richard, WDNR (via email) Stephanie Linebaugh, USEPA (via email)



RECEIVED OCT 1 5 2018

AGREED:

(Owner)

-18

(Date)

Property owner's signature signifies agreement to allow the WDNR and GHD access to the property (PIN 07-006-2-38-17-12-3-02-000-011000) in accordance to the conditions listed in GHD's letter dated October 4, 2018.

3



<u>LEGEND</u> PENTA WOOD PRODUCTS SUPERFUND SITE SIREN, WISCONSIN EXTRACTION WELL NEST ----- APPROXIMATE CAMU LIMIT UNCONFINED MONITORING WELL SITE PARCEL BOUNDARY GHD PRELIMINARY WETLAND EXCAVATION PLAN SEMICONFINED MONITORING WELL ---- ADJACENT PARCEL BOUNDARY • PRIOR EXCAVATION AREA ⊕ WATER SUPPLY WELL BIOVENTING WELL SITE PLAN ▲ SOIL GAS WELL NEST

086165-05-09 Jun 14, 2018

FIGURE 1





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8
E 2
E

# Attachment B Access Agreement (Surface Debris)

Reference No. 086165-05-09



October 4, 2018

Mr. Daniel and Mrs. Julie Johnson 1620 Johnson Drive Stillwater, Minnesota 55082

Dear Mr. and Mrs. Johnson:

#### Re: Access Agreement for Surface Debris Mitigation and Clean Soil Placement Penta Wood Products Superfund Site Siren, Wisconsin

On behalf of the Wisconsin Department of Natural Resources (WDNR), GHD Services Inc. (GHD) is requesting your agreement to access your property (Parcel Identification Number 07-006-2-38-17-11-4-02-000-011000) to place and grade clean soil as part of surface debris mitigation work on the adjacent Penta Wood Products Superfund Site to the south of your property. As you are aware, debris consisting primarily of treated wood timbers, is present on the Penta Wood property near the property line between your property and the Penta Wood property. The debris location is shown on Figure 1 (attached).

During 2017, GHD conducted a survey of the area and confirmed that the debris visible on the ground surface is all located on the Penta Wood property. Samples of this debris indicated that constituent concentrations exceed WDNR direct contact criteria. This means that there is risk to human health should this material come in direct contact with skin. WDNR, in coordination with United States Environmental Protection Agency (USEPA), has developed a plan to mitigate this issue. The plan will include placing clean soil over all exposed debris on the Penta Wood property. Due to the short distance between the northern limits of the debris and the steep ground surface slope in this area, clean soil will be required to also be placed on your property to construct a new ground surface slope that is less steep and that can be re-vegetated without erosion. The new ground surface slope will be 3:1 (horizontal:vertical) or a 33 percent grade. The work would be conducted in general accordance with the plan discussed below.

### Surface Debris Mitigation Plan

WDNR proposes to use clean soil from the Penta Wood property to cover all exposed surface debris. Prior to placement of any soil on your property, soil samples will be collected from the borrow area to confirm that the soil meets applicable WDNR criteria. The analytical reports will be provided to you with an explanation of the results.

Prior to placing soil on your property, the placement area would be prepared by clearing and grubbing existing vegetation (i.e., trees, brush, etc.). The cleared vegetation would be removed from your property. Silt fence would be installed along the perimeter of the working area prior to beginning the soil placement work to help ensure that discharges outside of the excavation do not occur.

Clean soil placed on your property would extend approximately 60 feet north of the property line over a distance of approximately 60 feet along the property line as shown on Figure 1 (attached). Following





placement and rough grading of the cover soil, clean imported topsoil would be placed over the disturbed areas. The new grades would be constructed to gradually transition with the existing grades. The area would be seeded with a grass mixture to re-establish vegetation. Erosion control measures would also be placed on the ground surface to prevent erosion from occurring prior to vegetation establishment. The duration of soil placement, grading, and seeding activities on your property is anticipated to be less than 2 weeks.

The work would be conducted with standard excavation, grading, and hauling equipment. All equipment would enter your property from the Penta Wood property located to the south.

All work would be conducted during the week (Monday through Friday) between 7 a.m. through 6 p.m., unless other arrangements have been made with you. GHD would provide you with a minimum of 10 days written notice prior to beginning the work. The work would be performed by a GHD subcontractor and is tentatively scheduled to be completed during the spring/summer of 2019. The schedule will be finalized after WDNR secures funding to complete the project. A notification letter would be sent to you a minimum of 10 days before beginning work on your property.

By this letter, we are asking for your agreement to access your property to conduct the surface debris mitigation work. Your signature in the place provided below signifies your agreement to allow the WDNR, GHD, and subcontractors access to your property in accordance to the conditions listed above. Your signature also signifies agreement that you will allow WDNR and GHD to conduct maintenance as necessary and in perpetuity to re-establish vegetation and maintain/repair the new ground surface slopes should erosion occur. Furthermore, you agree to not conduct or not allow activities that may damage or disturb the soil placement and re-vegetation areas in perpetuity. Once you have signed this letter, we ask that you either mail it back in the attached addressed stamped envelope. Or, you can send us a copy via facsimile (651-639-0923) or email (tim.ree@ghd.com), whichever is most convenient for you.

We appreciate your ongoing cooperation related to the remedial action at the Penta Wood Products Superfund Site. If you have any questions, please contact me at (651) 639-0913 or Phil Richard (WDNR project manager) at (715) 762-1352.

Sincerely,

GHD

Tim Ree TR/sb/24 cc: Phil I

: Phil Richard, WDNR (via email) Stephanie Linebaugh, USEPA (via email)



AGREED:

(Owner)

(Date)

Property owner's signature signifies agreement to allow the WDNR and GHD access to the property (PIN 07-006-2-38-17-11-4-02-000-011000) in accordance to the conditions listed in GHD's letter dated October 4, 2018.





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# ACCESS AGREEMENT FOR SURFACE DEBRIS MITIGATION AND CLEAN SOIL PLACEMENT

086165-05-09 Sep 5, 2018