



May 8, 2020

Project No. 19119232

Ms. Maureen Hatfield

VCP-CA Section - Remediation Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC-127
Austin, Texas 78711-3087

**RE: RESPONSE TO TCEQ APPROVAL WITH COMMENTS LETTER DATED APRIL 23, 2020
PENTACHLOROPHENOL SOIL ASSESSMENT INTERIM REPORT DATED MARCH 30, 2020
UNION PACIFIC RAILROAD COMPANY – HOUSTON WOOD PRESERVING WORKS
HOUSTON, HARRIS COUNTY, TEXAS
HAZARDOUS WASTE PERMIT/COMPLIANCE PLAN NO: 50343, ISWR NO 31547
EPA IDENTIFICATION NO TXD000820266; RN100674613/CN600131098**

Dear Ms. Hatfield:

Golder Associates Inc. (Golder), on behalf of Union Pacific Railroad Company (UPRR), appreciates the Texas Commission on Environmental Quality's (TCEQ's) prompt review and approval of the UPRR Houston Wood Preserving Works Pentachlorophenol (PCP) Soil Assessment Interim Report (Report) dated March 30, 2020 as provided in a TCEQ letter dated April 23, 2020. In addition to the report approval, the TCEQ letter also provided the following comments and recommendations:

1. *The Report documents the results of 15 soil samples collected on-site at the UPRR northwestern and western property boundary. In summary, the assessment results indicate:*
 - a. *PCP concentrations in all 15 soil samples locations are below the commercial/industrial (C/I) $^{Tot}Soil_{Comb}$ protective concentration level (PCL) for a 30-acre source area of 32 milligrams per kilogram (mg/kg).*
 - b. *PCP concentrations in three (3) of the 15 soil sample locations exceeded the Tier 1 Residential $^{Tot}Soil_{Comb}$ PCL for a 30-acre source of 0.73 mg/kg which included sample locations SSO-03 on the northern property boundary, and SSO-07 and SSO-08 on the western property boundary.*
 - c. *PCP concentrations reported in nine (9) of the 15 soil sample locations exceeded the Tier 2 $^{GW}Soil_{Inq}$ PCL of 0.12 mg/kg. To further assess the soil-to-groundwater pathway, UPRR evaluated groundwater sampling results for PCP concentrations from monitoring wells in the uppermost groundwater bearing zone across the site. The TCEQ concurs that the results generally support the conclusion that the concentrations of PCP in soil are protective of groundwater. However, the groundwater investigation has not addressed all locations identified*

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with PCP Tier 2 ^{GW}Soil_{Ing} PCL exceedances. Please identify how these locations will be addressed in the proposed sampling plan.

Response: As detailed the response to Comment No. 2 below, soil samples containing elevated PCP concentrations exceeding the PCP Tier 2 ^{GW}Soil_{Ing} PCL will be further assessed by collecting and analyzing additional samples for PCP concentrations using appropriate leachate tests (i.e., synthetic precipitation leaching procedure (SPLP)). These data will be used to evaluate if the soil to groundwater PCL for PCP is applicable at the Site pursuant to 30 Texas Administrative Code (TAC) §350.75(i)(7)(C). Specifically, if the PCP concentrations through this evaluation indicate that PCP concentrations in the SPLP leachate are less than the Texas Risk Reduction Program (TRRP) residential groundwater PCL (^{GW}GW_{Ing}), then, in conjunction with the groundwater monitoring data discussed in the PCP Report and per 30 TAC §350.75(i)(7)(C) further assessment of the soil to groundwater pathway for PCP at these locations will not be required. The SPLP data will also be used as a Tier 3 approach for the ^{GW}Soil_{Ing}.PCL.

2. *Based on review of the PCP soil assessment results, additional soil sampling is necessary to delineate PCP concentrations off-site to ^{Total}Soil_{Comb} residential PCLs. Additional soil and/or groundwater sampling may be necessary to address the PCP Tier 2 ^{GW}Soil_{Ing} PCL exceedances discussed above. Please include step-out soil sampling locations to ensure that the extent of the impacted soil is delineated. Soil samples should be collected using a similar approach as described in the Report and should be analyzed for PCP.*

Response: Based on the PCP Report results, UPRR proposes to conduct additional soil sampling activities on-site and off-site with the following assessment objectives: 1.) evaluate the lateral extent of PCP concentrations in surface soils off-site where PCP concentrations in surface soil samples collected on-site along the property boundary exceeded the residential ^{Tot}Soil_{Comb} PCL; and 2.) evaluate the soil to groundwater pathway through a Tier 3 PCL evaluation by assessing potential leachability of PCP from surface soils in areas where the highest PCP concentrations from the February 2020 sampling activities were detected. The proposed additional soil sampling activities for the two objectives are detailed below.

PCP Delineation Assessment

As detailed in the PCP Report and shown on the attached Figure 1, three soil samples collected on-site near the property boundary at SSO-03 (along the northern perimeter), SSO-07, and SSO-08 (along the western perimeter) had PCP concentrations that exceeded the residential ^{Tot}Soil_{Comb} PCL of 0.73 mg/kg. To assess the lateral extent of PCP concentrations in surface soil off-site to the residential ^{Tot}Soil_{Comb} PCL, surface soil samples are proposed to be collected in the following areas (shown on attached Figure 1):

- North of the Site – Five soil borings are proposed to be sampled within the City of Houston right-of-way (ROW) north of the Site near on-site location SSO-03. The City of Houston ROW is approximately 8 to 10 feet in width between the UPRR fence line and the southern street curb for Liberty Road. The area is covered with soil and vegetation. The five proposed soil boring locations will be spaced approximately 50 feet from each other extending to the west and east from SSO-03. As feasible, proposed soil borings will be drilled and sampled between

the fence line and the curb for Liberty Road. Utility maps indicate an underground natural gas pipeline may be present near this area, and as a result, proposed locations may be modified following the necessary underground utility locate one-calls.

- West of the Site – The off-site area within the City of Houston ROW between the western fence line of the Site and Kashmere Street consists of an unlined storm water drainage ditch approximately 2 feet in depth and 15 feet in width that runs from Eddie Street along Kashmere and ends at Liberty Road. The drainage ditch between the UPRR property and Kashmere Street appears to flow to the north to near Liberty Road. The proposed additional soil sampling to delineate PCP concentrations to the residential $T^{ot}Soil_{Comb}$ PCL near SSO-07 and SSO-08 consists of soil borings to be sampled within the drainage ditch in the City of Houston ROW. UPRR proposes to drill and sample six transects of three soil borings each stepped out across the drainage ditch at the following locations:
 - Within two feet of the UPRR fence line,
 - At the bottom or centerline of the drainage ditch, and
 - Within two feet of Kashmere Street.

A cross section showing the approximate locations of the proposed soil borings across the drainage ditch is provided on Figure 1. Some of the proposed locations may need to be adjusted (or potentially eliminated) based on accessibility/field conditions (e.g., underground utilities). These six transects of three soil borings each across the drainage ditch will be spaced approximately 50 feet apart within, north, and south of the SSO-07 and SSO-08 area.

PCP Soil to Groundwater Pathway Assessment

UPRR proposes to collect soil samples near SSO-03, SSO-07, and SSO-08 where the highest PCP concentrations were detected above the Tier 2 $^{GW}Soil_{Ing}$ PCL during the February 2020 soil sampling activities. These additional soil samples will be collected to conservatively evaluate the soil to groundwater pathway for PCP through a Tier 3 $^{GW}Soil_{Ing}$ PCL evaluation. The Tier 3 $^{GW}Soil_{Ing}$ PCL evaluation will consist of soil samples collected from these areas to be analyzed for PCP concentrations by SPLP (EPA Test Method 1312) to preliminarily evaluate the potential leachability of PCP from soil and comparing the PCP concentrations in the SPLP leachate to the PCP groundwater PCL ($^{GW}GW_{Ing}$ - 0.001 mg/L). If the SPLP results are less than the applicable groundwater PCL, then the PCP concentrations, when evaluated along with previously collected PCP groundwater concentration data, would be considered protective of the shallow groundwater pursuant to 30 TAC §350.75(i)(7)(C).

Field Sampling Procedures

Prior to conducting the additional soil borings, Golder will obtain the required permits from the City of Houston to install the soil borings within the City of Houston ROW. The proposed boring locations will be delineated with white paint for underground utility clearance. Utility notifications through the Texas 811 Call Before You Dig (CBUD) will be conducted a minimum of 72 hours prior to initiating the investigation activities. A private utility locator using ground penetrating radar (GPR) will attempt to locate subsurface utilities within the investigation area. In the event there is a conflict with a proposed location and a located underground utility, the proposed location will be moved to a location cleared of utilities.

At each of the proposed soil boring locations, soil samples will be collected at the following intervals:

- 0 to 2 feet below ground surface (bgs) and
- 2 to 4 feet bgs.

Golder's field staff will collect the soil samples with hand sampling tools (i.e., hand auger). The sampling tools will be decontaminated before and between each boring. Field staff will log soils from the borings to the extent practical to confirm the lithology at each boring. Soil from each boring will be placed in a re-sealable plastic bag, and field screened for headspace organic vapor concentrations using a photoionization detector (PID) with a 10.6 electrovolt (eV) lamp. Prior to sampling, the PID will be calibrated using 100 parts per million (ppm) by volume isobutylene standard. Results of headspace vapor testing will be included on the soil boring logs. The location for each soil boring will be surveyed in the field using a Trimble handheld GPS unit and will be backfilled with bentonite chips (or equivalent plugging material).

Composite soil samples will be collected from each location, placed in laboratory-supplied containers, stored on ice in an insulated cooler, and hand delivered to ALS Environmental in Houston, Texas for PCP analysis by EPA Method 8270. Soil samples for the soil to groundwater pathway assessment collected from the proposed borings near SSO-03, SSO-07, and SSO-08 will also be analyzed for SPLP PCP by EPA Test Method 1312 and EPA Method 8270, and pH by EPA Method 9045D. Quality assurance/quality control (QA/QC) samples (i.e., field duplicates and equipment blanks) will be collected approximately one per 20 samples collected.

3. *The report contains original geoscience interpretation, and as a result, those pages should be sealed by a Professional Geoscientist (P.G.) licensed in the State of Texas. Please submit a sealed copy of each figure, soil boring log, or other item, where geoscientific interpretations have been made.*

Response: As provided in Attachment A of this letter, replacement pages (Table 1, Figure 1, and Figure 2) for the PCP Report dated March 30, 2020 have been sealed by a Professional Geoscientist.

The TCEQ letter also requested that UPRR submit a schedule to complete the recommended additional PCP assessment activities, with a figure depicting proposed soil locations, and the submittal of a revised PCP Soil Assessment Report. Attached hereto is a figure (Figure 1) showing the proposed soil sampling locations. Provided below is an estimated schedule for completing the additional assessment activities and reporting:

- Additional PCP Soil Assessment Activities:
 - Golder will submit, within one week of the date of this letter, the permit application to the City of Houston for the proposed soil borings within the City ROW;
 - Field activities will be initiated within one week of obtaining the City of Houston permits (typically takes two weeks to receive the permits from the City);
 - Subject to weather, access and field conditions, soil sampling is anticipated to take five working days to complete; and
 - Laboratory analysis of the soil samples is assumed to take approximately 10 working days to complete.
- Updated Pentachlorophenol Soil Assessment Interim Report

- Golder will prepare an Updated Pentachlorophenol Soil Assessment Interim Report with the additional soil data collected for the PCP delineation and soil to groundwater pathway assessment. We anticipate submitting the updated report to the TCEQ within four weeks of receiving the soil analytical data report from the laboratory.

Please feel free to contact us at 512-671-3434 or Kevin Peterburs of UPRR at 414-267-4164 if you have any questions or comments.

Sincerely,

Golder Associates Inc.



Eric C. Matzner, P.G.
Principal / Practice Leader



Eric F. Pastor, P.E.
Principal / Practice Leader



Texas Geoscience Firm No. 50369

CC: Mr. Kevin Peterburs, UPRR
TCEQ Region 12, Waste Section Manager

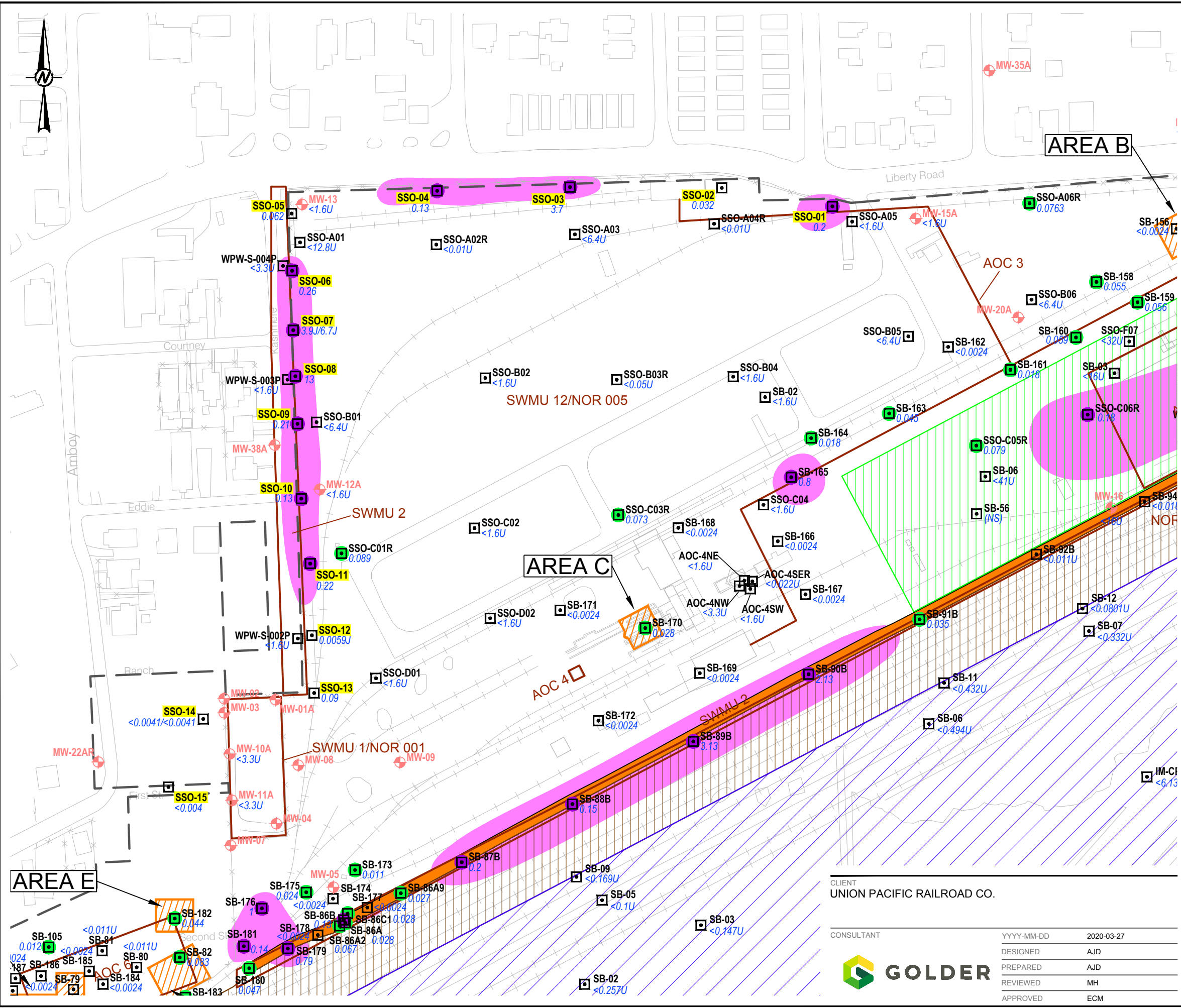
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FIGURE

ATTACHMENT A

PCP Report Replacement Pages

Path: \\user\andrea\Projects - Round Rock\19119232 - HWPW\2020-3\Feb_11_Files\Name_FIG 2 - 2020 Surface Soil Sample Locations-Franklin\fig2.dwg | Last Edited By: andreas Date: 2020-03-30 Time: 1:56:11 PM | Printed By: andreas Date: 2020-03-30 Time: 4:23:56 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ▭ HISTORICAL STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- × FENCE
- RAILROAD
- ⊕ A-TZ MONITORING WELL LOCATION
- ⊕ TEMPORARY MONITORING WELL LOCATION
- ⊠ SOIL BORING LOCATION
- 0.078 PENTACHLOROPHENOL CONCENTRATION IN mg/Kg
- (NS) NOT SAMPLED
- PCL EVALUATION**
- DETECTED SURFACE SOIL CONCENTRATION <RAL
- DETECTED SURFACE SOIL CONCENTRATION >cPCL
- AFFECTED PROPERTY/PCL ZONE
- ▨ SURFACE SOILS EXCAVATED WITHIN AOC AND CONSOLIDATED IN SOIL CAP AREA
- ▨ RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- ▨ SOIL CAP
- ▨ CONCRETE CAP AREA

- NOTE(S)**
- J = ESTIMATED CONCENTRATION LESS THAN MDL.
 - U = NOT DETECTED (SQL REPORTED).
 - RESIDENTIAL ASSESSMENT LEVEL (RAL) = 0.12 mg/Kg.
 - CRITICAL PCL (cPCL) = 0.12 mg/Kg (ON-SITE AND OFF-SITE).
 - RAL & cPCL BASED ON TIER 1 & 2 RES/CI PCLs, 30 ACRE SOURCE AREA.
 - R = RESAMPLED LOCATION (2006) (i.e., SSO-C01R).
 - YELLOW HIGHLIGHTED LOCATIONS WERE COLLECTED IN FEBRUARY 2020.

REFERENCE(S)
 BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.



CLIENT
 UNION PACIFIC RAILROAD CO.

CONSULTANT	YYYY-MM-DD	2020-03-27
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	MH
	APPROVED	ECM

PROJECT
 HOUSTON WOOD PRESERVING WORKS

TITLE
 SURFACE SOIL SAMPLE LOCATION - TIE STORAGE AREA - PENTACHLOROPHENOL

PROJECT NO.
 19119232

REV.
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FIGURE
 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B