



January 31, 2020

Project No. 19119232

**Ms. Karen Scott**

Industrial & Hazardous Waste Permits Section  
Texas Commission on Environmental Quality  
P.O. Box 13087, MC-130  
Austin, Texas 78711-3087

**RE: UPDATED PROPOSED VAPOR INTRUSION ASSESSMENT WORK PLAN  
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. Scott:

Golder Associates Inc. (Golder), on behalf of Union Pacific Railroad Company (UPRR), provides this letter detailing proposed changes to the Updated Proposed Vapor Intrusion Assessment Work Plan (Work Plan) dated January 2, 2020 and approved by the Texas Commission on Environmental Quality (TCEQ) in a letter dated January 3, 2020. On January 30, 2020, representatives from UPRR, Golder, and the TCEQ held a conference call to discuss proposed changes to the installation method of the soil gas probes. Details of the proposed changes discussed and agreed upon between UPRR and the TCEQ during the conference call are provided below.

On December 19, 2019, representatives from UPRR, Golder, and the TCEQ met at TCEQ headquarters in Austin, Texas to discuss the proposed soil gas probe locations and methods of installation. After agreeing on the locations of the probes, UPRR proposed installing the soil gas probes using hand clearing methods (hand augering) to reduce the risk of damage to underground utilities occurred. However, TCEQ required UPRR to collect the soil sample at the 5.5 feet to 6 feet below ground surface interval as an undisturbed sample using a destructive method (slide-hammer or similar device).

The soil gas probe installation began on January 29, 2020 following the procedures outlined in the approved Work Plan which included the use of a slide-hammer. Prior to the start of activities, Golder obtained the required permits from the City of Houston, conducted the necessary utility notifications (i.e. 811 One Call and reviewed City of Houston utility maps), and used a private utility locator using ground penetrating radar (GPR) to scan each location. During installation of the second soil gas probe, the field crew encountered material at a depth of around 5.5 feet below ground surface that was suspected to potentially be a buried utility pipe. Upon further investigation, the material encountered was identified as buried brick and concrete debris not associated with an underground utility. However, in consideration of this encounter and given the high potential for the presence of underground

---

Golder Associates Inc.  
2201 Double Creek Dr, Suite 4004, Round Rock, Texas, USA 78664

T: +1 512 671-3434 F: +1 512 671-3446

utilities in the area that are not able to be located with GPR or identified on city utility maps (i.e., private sanitary sewer service lines), Golder proposes to modify the soil gas probe installation procedures.

In consideration of the encountered material described above and the high potential for underground utilities, UPRR and TCEQ agreed to modify the Work Plan by advancing the soil borings using non-destructive excavation methods (i.e., air knife and/or hydrovac excavation). These non-destructive methods will allow excavation of the boring and reduce the potential for damaging underground utilities relative to the methods proposed in the Work Plan. The TCEQ agrees that this method represents an adequate alternative that will result in representative data collection.

As agreed, UPRR will use the air knife and/or hydrovac excavation methods to advance the borehole after the concrete coring is completed and the 0.5-1-foot undisturbed soil sample is collected. The borehole diameter using the air knife or hydrovac methods will be approximately 5 to 6 inches in diameter. The borehole will be excavated to approximately 5.5 feet below ground surface. A hand auger tool will be used carefully to collect a bulk soil sample from approximately 5.5 feet to 6 feet below ground surface from the borehole. Golder will then collect an undisturbed soil sample to meet TCEQ requirements at 6 feet below ground surface using a Terra Core or equivalent sampling device attached to a probe to allow soil sample collection from the borehole at the desired depth. UPRR will construct the soil gas probe within this borehole following the procedures specified in the approved Work Plan.

Finally, as agreed, UPRR will allow the soil gas probes to equilibrate for a minimum of five days after installation prior to conducting soil gas sampling in accordance with the procedures detailed in the Work Plan.

Please feel free to give us or Kevin Peterburs of UPRR at 414-267-4164 a call if you have any questions or comments.

Sincerely,

**Golder Associates Inc.**



Tim Nickels  
*Senior Consultant*



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

CC: Maureen Hatfield, TCEQ Corrective Action