

### Part 3: Reduction Achievement for the Report Year

Waste minimization typically applies to operating facilities. The only wastes generated at this Union Pacific Railroad Houston Wood Preserving Works Facility are environmental media as a result of the specific investigation, remediation, or post-closure care activities (investigative-derived wastes (IDW)) directed by the Texas Commission on Environmental Quality (TCEQ) under the Permit and Compliance Plan. These IDW are related to the scope of the RCRA Facility Investigation (RFI) activities, as approved and required by the TCEQ under the Permit and Compliance Plan.

However, UPRR has implemented procedures at the Facility to reduce the amount of IDW generated during these activities. Investigative techniques such as low-flow ground water sampling and direct-push or sonic drilling technologies are utilized when possible during installation and sampling of soil borings, monitor wells and piezometers in order to reduce the volume of soil cuttings and purge water generated for off-site disposal. Since the waste is generated on an intermittent basis depending on required actions dictated by the RFI activities and the TCEQ, specific measurable reduction goals are difficult to quantify and year-to-year reductions are not applicable given the uncertainty in IDW generated one year compared to another.

As previously stated, the only hazardous waste generated at the Facility is from IDW associated with periodic groundwater monitoring, site investigations as required to complete the RFIs, and interim remedial activities. There are no wastes generated as part of any industrial processes at the Facility. Based on a review of the Notice of Registration (NOR) for the Facility and waste generation activities for the facility, the following hazardous waste codes and quantities were generated as part of the RFI/Affected Property Assessment at the Facility during 2016 compared to 2015:

<i>TCEQ Waste Code</i>	<i>NOR Waste Description</i>	<i>Annual Quantity Generated in 2015 (pounds)</i>	<i>Annual Quantity Generated in 2016 (pounds)</i>
0501203H	Spent solvent – generated on-site from a product process or service activity.	0	45
0909101H	Aqueous waste with low solvents, includes groundwater generated from drilling activities for investigative purposes.	250	0
0912489H	Creosote sludge, soil mixture generated as part of corrective action work performed on site. Generated on intermittent basis.	0	25,600

<i>TCEQ Waste Code</i>	<i>NOR Waste Description</i>	<i>Annual Quantity Generated in 2015 (pounds)</i>	<i>Annual Quantity Generated in 2016 (pounds)</i>
0914101H	Aqueous waste with low solvents, includes groundwater generated from purging of various monitor wells for investigative purposes. Produced on an intermittent basis.	330	495
0915301H	Soil contaminated with organics, includes soil derived from the boring of monitoring wells for investigative purposes, produced on an intermittent basis	900	0
0917406H	Empty fiber or plastic containers, includes plastic and used Personal Protective Equipment generated as a result of monitor well and/or soil sampling.	0	380
0918219H	Recovered creosote non-aqueous phase liquids from groundwater monitoring/recovery wells, may be mixed/emulsion with groundwater, generated as part of corrective action work performed at the site. Generated on intermittent basis.	550	3,840

The amount of waste generated in 2015 and 2016 was approximately 2,030 pounds and 30,360 pounds, respectively.

The environmental media wastes listed above for 2016 were generated either on an intermittent basis or as a result of the remedial activities conducted at the Site as part of the corrective actions to address the soil Protective Concentration Level Exceedance Zones (PCLE Zones). The hazardous wastes generated during the remediation at the Site included recovered creosote and water, petroleum contaminated solids, F034 soil cuttings, steel pipe with creosote residue, empty poly tote, soiled personal protective equipment (PPE), and PVC pipe. The volumes of the hazardous wastes removed consisted of the following:

- Two drums (55-gallons each) of PPE and PVC Pipe pieces impacted with creosote (F034);
- Seven drums (55-gallons each) of creosote liquid waste recovered during remediation activities (F034);
- One empty poly tote that was used to temporary store creosote sludge during remediation activities (F034);
- Approximately 10 cubic yards of impacted soils as a solid waste (F034);
- One drum (55-gallons) of soil and creosote; and
- Approximately 3 cubic yards of steel pipe with creosote residue.

Since these wastes were generated as a one-time remedial action, the volumes of wastes generated at the Site will be significantly lower in 2017 and subsequent years.

Currently, the only wastes generated on a regular basis are “*Aqueous waste with low solvents*” (TCEQ Waste Code 0914101H) associated with groundwater monitoring activities at the RCRA Unit No. 1

(SWMU No. 1) and site-wide groundwater monitoring activities, and “*Recovered creosote non-aqueous phase liquids from groundwater monitoring/recovery wells, may be mixed/emulsion with groundwater, generated as part of corrective action work performed at the site*” (TCEQ Waste Code 0918219H) where creosote NAPL is pumped from groundwater wells on a monthly basis.