

Narrative of Analytical Results for GSA Auburn UST Removal

Because the fuel tanks held No. 2 Diesel and No. 5 fuel oil, the appropriate test for total petroleum hydrocarbons (TPH) is method NWTPH-Dx. The results that are returned from the lab are classified by “diesel range” and “lube oil range” to capture the two general categories of hydrocarbons.

The naming of samples used by MCS is as follows:

Sample “W-2 1500 bottom” denotes **Warehouse 2, 1500-gallon tank, bottom**-of-excavation sample.

We have W-1, W-2, and 815 to denote locations
1500 or 8000 to denote tank size (because we only had one tank at Bldg 815 I didn’t add a size)
Bottom, Sides (a composite of several sides), E/N/S/W (compass direction of a particular side wall sample), Comp (a composite of the excavation spoils)

We collected our initial samples December 13 – 15, 2005.

The cleanup criteria used is the limit of 2000 milligrams per kilogram (mg/kg) or equivalently parts-per-million (ppm) adopted by the Washington Department of Ecology

If we detect high levels of TPH, we then look for Polynuclear Aromatic Hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). PAHs are associated with heavier fuels or heated fuel. PCBs usually come from transformers. In a simplistic fashion, cleanup criteria for PAHs are about 1 to 5 ppm. There are some equivalency calculations I could discuss if you are interested.

The 1500 gallon tank and the 8000 gallon tank at Warehouse 2 had no detectable TPH in the surrounding soil. Reference Lab sheets 1 and 2. Recall we abandoned the 8000-gallon tank in place.

The 10,000 –gallon tank at Bldg 815 had between non-detectable and less than about 200 ppm total TPH in the excavation spoils, side wall samples, and bottom samples. Reference lab sheets 1, 6, and 7. The soils were therefore left in place.

The 1500-gallon tank at Warehouse 1 had no detectable TPH on the side walls, about 209 ppm in the bottom. Again, well below cleanup criteria of 2000 ppm. Reference Lab sheet 3.

The 8000-gallon tank at Warehouse 2 had a total TPH of over 2000 ppm in the excavated soil; technically, this is below the cleanup criteria of 2000 ppm for each of the fractions (diesel range and lube oil range) because each is less than 2000. Side wall samples of TPH were non-detectable or low. However, the PAHs were high, so excavation was required. No PCBs were found. Reference Lab sheets 3, 4, and 5.

Following excavation, which was driven by the presence of the PAHs, we re-sampled (December 22) and found PAHs well below the cleanup criteria both at the bottom and the side walls. Backfilling proceeded. Reference Lab sheets 9, 10, 11, 12.

Thank you for the opportunity to explain the analytical results. Please contact me if you have any questions.

Matt Schultz
MCS Environmental