

**MULTIPLE GHOST TANKS – HISTORICAL SERVICE STATION
UNDERGROUND STORAGE TANK (UST) REMOVAL AND CLOSURE-IN-PLACE
FIELD'S STATION, PAUL'S VALLEY, OKLAHOMA
OCC CASE No. 064-1049**

SITE HISTORY:

The site operated as a retail service station from the 1930's to the 1990's. The site encompasses approximately 1.10 acres, and the building is of historical significance to Paul's Valley and is currently under renovation to be an operating restaurant in 2022. This site is a classic historical gas station which contained multiple unknown USTs installed over decades prior to implementation of current UST regulations. OCC records indicated two underground storage tanks (UST's) were registered, and one UST had been removed. A dissolved phase release was delineated throughout the 1990's by Wright on the south portion of the site. The site was divided into north/south sections and air sparging and soil vapor extraction was successfully conducted on the south portion rendering that area closed and all monitoring wells were removed.



While preparing to install the air sparging and soil vapor extraction system on the North section, phase separated hydrocarbon (PSH) was discovered in several site wells near the last operational tank pit. Delineation continued and wells installed in the alley west of an adjacent property restaurant confirmed PSH existed under the building. Sub-slab air monitoring pins were installed in the restaurant and are annually sampled in conjunction with summa canisters to monitor for indoor air quality inside the restaurant. Minimal vapor intrusion or impact has been recorded.

SITE RESEARCH AND FIELD WORK:

Research of available OCC documentation concluded several other unregistered USTs existed around the canopy and store front that were "presumed" to be properly "closed-in-place" but may be a continuing source of PSH. A ground penetrating radar (GPR) study was conducted, and six additional tanks were identified. The decision was

made to remove four tanks and investigate the proper closure of the other two tanks to remove any potential continuing source.



Wright retained an Oklahoma licensed UST removal contractor to conduct field operations for UST removal and site restoration. Wright conducted release determination activities by removing/investigating UST's reported to have been properly "closed in place" at the subject site. The purpose of this OCC approved activity was to determine if abandoned/orphan UST's or the soils surrounding the various tank pits continue to contribute as the source of PSH identified in monitoring wells migrating toward the restaurant to the west. Soil samples were collected to evaluate potential impacts of petroleum hydrocarbons related to the former gasoline UST systems.

Between June 7 and July 13, 2021, two OCC registered UST's (Tanks 1 and 2) were excavated and properly closed-in-place with flowable concrete fill. Three, 1000-gallon orphan UST's (Tanks 4, 5 and 6) and one, 500-gallon orphan UST (Tank 11) were registered and removed from the ground for disposal. Six additional orphan UST's (Tanks 7, 8, 9, 10, 12 and 13) discovered during excavation activities were registered and properly closed in place with flowable concrete fill. To the greatest extent practicable, tank pit soils and available contaminated material around each tank was excavated and removed as a possible continuing contamination source.

UST INVESTIGATION RESULTS:

Field observation and laboratory data indicated it was evident a substantial release of hydrocarbon occurred impacting several UST locations. Backfilling and site restoration activities began immediately after tank removal/closure. Upon review of soil analytical data, it appears the contamination is highly degraded. Analytical results conclude concentrations of TPH-GRO and TPH-DRO existed at all sample points but, no concentration of BTEX constituents were observed during this event.

This site is a classic historical gas station which contained multiple unknown USTs installed over decades prior to implementation of current UST regulations. Following removal of three USTs and closure in place of eight additional USTs, additional monitoring will be conducted to determine what further corrective actions are necessary for the site to achieve closure with the OCC.

