

## MARATHON PIPE LINE LLC (MPL) EDWARDSVILLE RESPONSE

### PIPELINE CORRIDOR SOIL SAMPLING PLAN

This Soil Sampling Plan describes procedures for head space screening and the collection of confirmation samples of the subsurface soil from the pipeline corridor excavation near the pipeline release location, (referenced as Division I) in Edwardsville, Illinois. The purpose of the sampling is to provide an assessment of the horizontal and vertical extents of soil impacts by a crude release that occurred on March 11, 2022 from MPL's Wood River to Patoka 22" pipeline.

A soil sampling plan for assessment of the horizontal and vertical extents of soil impacts outside of the pipeline corridor will be prepared under separate cover.

### GENERAL SITE CONDITIONS

The release location is within a pipeline right-of-way (ROW), coordinates [REDACTED] The product surfaced along the pipeline ROW and creek bank. See **Attachment A** for general layout of the release location.

### SAMPLING EQUIPMENT

Soil samples will be temporarily containerized within one-gallon zip lock bags and screened using a photoionization detector (PID) to verify readings below 50 parts per million (ppm). The samples will then be placed into three, 40 milliliter (ml) vials with hydrochloric acid (HCl) preservative glass sample containers to be analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260 and one, 100 ml vial without preservative glass sample container to be analyzed for polyaromatic hydrocarbon (PAH) by USEPA Method 8270. The sampler will wear new latex/nitrile gloves and utilize new sample equipment after each sampling location. All samples will be placed on ice to preserve quality. Samples will be shipped via overnight delivery within 12 hours to Pace Analytical in Lenexa, Kansas to be analyzed. Alternatively, samples will be hand delivered if determined necessary.

### SOIL SCREENING METHOD

Grossly contaminated soil has been excavated along the pipeline corridor to the extent practical.

Excavation soil screening will be completed in the following manner:

- Samples will be inspected for visual and olfactory impacts and observations will be recorded in field notes.

- Soil samples will be initially collected from a depth of six inches and placed in one-gallon zip lock bags.
- PID head space readings shall be recorded after bagging soil into one-gallon zip lock bags and allowing appropriate time for volatilization (approximately 15 minutes). Soils shall be agitated by hand periodically to enhance volatilization. The PID instrument tubing shall be inserted into the one-gallon bag. Readings under 50 ppm will be considered appropriate for confirmation sampling.
- If visual and olfactory examination or PID screening results indicate that residual impacts are present, manual excavation will be extended approximately six inches and field screening will be completed. This process will be repeated until visual and olfactory impacts are not observed and PID readings are less than 50 ppm.
- To the extent readings exceed 50 ppm, but conditions do not allow for further over-excavation, we will document and take confirmation samples. Conditions that may prohibit over-excavation include soil conditions, proximity to creek, water saturated excavation or other safety concerns.
- The PID instrument will be calibrated according to manufacturer recommendations. The equipment calibration will be recorded in field notes.

## SOIL SAMPLE LOCATIONS

The soil sample locations have been determined based on prior discussions with Illinois Environmental Protection Agency (IEPA). The locations from the Division I pipeline corridor are described below. A map of soil screening and confirmation sampling locations will be developed as the work proceeds.

### Division I Pipeline Corridor Location

- Field screening of excavation side walls and the excavation bottom will occur by inspection for visual and olfactory examination. Additionally, a PID for VOCs will be utilized to determine locations for confirmation sampling (less than 50 ppm) and/or to continue to excavate (over-excavate).
- Confirmation samples will be taken from excavation side walls and bottom. The total pipe excavation area measures approximately 500 feet long and 12 feet wide. Confirmation samples will be collected in intervals of approximately 50 feet and alternating sides of the pipeline (for bottom samples). The side wall samples will be collected at the approximate elevation of the pipeline. An alternative spacing interval for confirmation samples along the section of pipeline which was replaced will be collected in intervals of 15 feet. See **Attachment B** for a depiction of the proposed sampling locations.
- Confirmation samples will be analyzed for BTEX by USEPA Method 8260 and PAH by USEPA Method 8270.

Backfilling of the pipeline corridor to the approximate elevation of the pipeline will occur following collection of the soil confirmation samples. Clean backfill sourced from unaffected areas of the site will be field screened and if less than 50 ppm will be used.

## SOIL SAMPLING METHOD

Excavation soil sampling will be completed in the following manner:

- Soil samples will be collected via hand shovel and/or trowel. The sample equipment will be decontaminated after each sample is collected with liquinox or similar followed by rinsing a minimum of three times with distilled water.

- Each soil sample will be collected in the following laboratory-provided containers:
  - Three, 40 ml vials with HCl preservative glass sample containers for BTEX analysis via USEPA Method 8260; and
  - One, 100 ml vial without preservative glass sample container for PAH analysis via USEPA Method 8270.
- Sample containers shall be marked with time, date, sample identification (ID), and requested analytes. Sample containers will be sealed in zip lock bags and placed in a cooler with ice. A chain of custody will be prepared and used.

## FIELD OBSERVATIONS AND MEASUREMENTS

At each soil sampling location, the following will be recorded:

- date and time;
- sample location (latitude and longitude coordinates);
- sample ID;
- sample depth interval
- visual and/or olfactory impacts; and
- headspace screening results.

Photos shall be collected to document the conditions at each sampling location.

## FIELD QUALITY CONTROL

Two blind duplicate samples will be collected from Division I (labelled as “DUP-”) followed by sampling date and a numerical identifier (e.g., “-1” and “-2”). The sampling location shall be indicated in the field notes and not transmitted to the analytical laboratory.

## LABORATORY ANALYSES

All soil samples will be analyzed for the following analytes by the indicated method in accordance with the 35 Illinois Administrative Code (IAC) 734.405(c):

- BTEX by USEPA Method 8260; and
- PAH by USEPA Method 8270.

## REGULATORY SCREENING – TIER 1

Analytical results will be compared to the 35 IAC Tiered Approach to Corrective Objectives (TACO) Tier 1 Residential Soil Remediation Objectives and Migration to Class 1 Groundwater Remediation Objectives for BTEX and PAH to assess potential further remedial actions.

## ATTACHMENT A: GENERAL LAYOUT OF RELEASE LOCATION



## ATTACHMENT B: DIVISION I PIPE CORRIDOR SAMPLING LOCATIONS

