

Preliminary Phase II Passive Soil Gas TCE Results

TCE was detected in more than 80 percent of the Phase II passive soil gas samples. Results for TCE are presented in the accompanying spreadsheet. Sample locations are shown on the accompanying Google Earth base-map. Rows highlighted in yellow represent samples that had TCE concentrations in excess of the calibration range for the analysis. These results are flagged with an “E” qualifier. TCE desorption from the passive samplers is a one-shot analytical process, so dilution analyses were not performed. Results for the “out of calibration range analyses” are estimated based on relative peak heights. TCE detections with “J” flags were reported at concentrations below the 5.0 nanogram (ng) standard reporting limit.

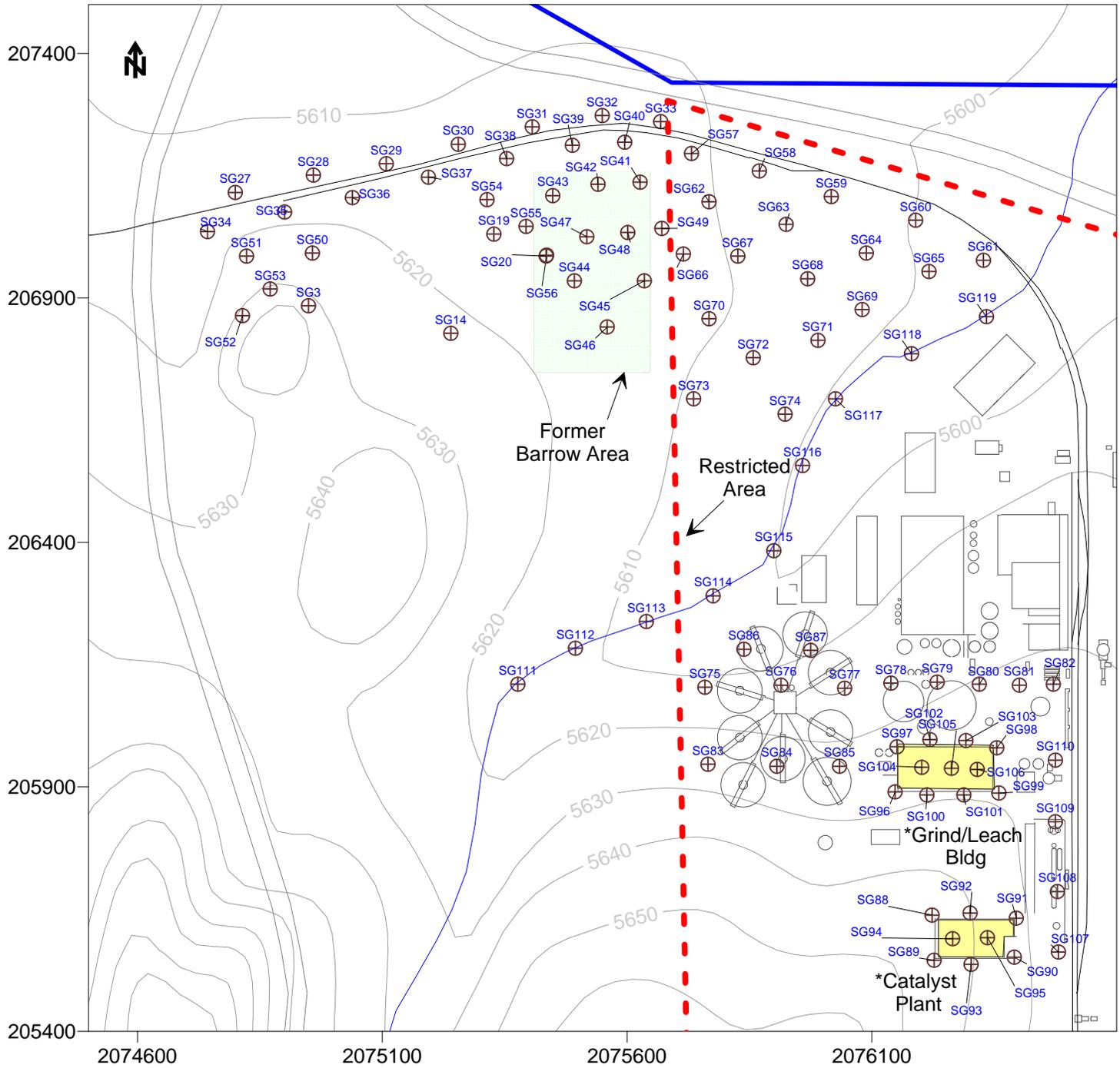
The following are basic observations, based on preliminary review of the data:

- The highest TCE concentrations reported come from the samples collected at the footprint of the former catalyst plant. The highest TCE concentration for the investigation at SG-95 represents the center of the catalyst plant.
- Four samples from the Grind Leach plant footprint also have elevated TCE concentrations, with the highest concentration at SG-105, located at the center of the grind leach plant.
- During sampling, a chemical odor was often notable coming from the soils around the two former plants.
- The three samples collected from the downgradient extent of the creek bottom sampling (SG-117, SG-118, and SG-119) have elevated TCE concentrations. This may represent downgradient conditions from the plant, or proximity to groundwater, or both.
- Samples collected along both sides of the railroad tracks had generally very low TCE detections.
- Samples collected in the northwest corner of the restricted area have elevated TCE concentrations (SG-62, SG-63, SG-65, and SG-66; and sample SG-49 along the fence). This could be associated with the equipment that has been moved to this area for storage, or a signature from groundwater.
- Phase I results indicated that soil gas may not be indicative of groundwater contamination. The bigger picture provided with the addition of the Phase II results may indicate the potential soil source areas are highly evident. TCE detections in soil gas from locations farther from potential source areas could be emanating from groundwater.
- Field duplicate samples showed that the sample vial located close to the bottom of the hole had the higher TCE concentration (always the primary sample). The

lower bottle may have blocked some vapors from entering the upper sample bottle (always the duplicate). Better precision was shown by the results of the four Phase I samples that were re-sampled during Phase II. A co-located sample approach (two holes next to each other with one sampler each) appears to be a better technique to assess field duplicate precision than two bottles in one hole (see photos from Phase I report for duplicate sample setup).

- Field conditions between the Phase I and Phase II sampling events were quite different (dry versus wet), and the phase II samples were in the ground three weeks compared to two weeks for the Phase I samples. Based on the results of the four re-samples, the two events appear to be comparable.

Soil sampling in the areas with the highest TCE soil gas concentrations may be a logical next step. Samples could be collected using the same basic grid that has already been established at the two former plant footprints. Any soils excavated from these areas should be handled and stored in a manner to minimize the potential for them to become a source to further contamination.



-  * Buildings where TCE use occurred but have since been demolished
-  Surface Topography (ft amsl)

Note: Figure shows former location of Plant Site buildings and storage tanks. Most have been demolished and removed.

