



August 6, 2015

Ms. Nancy Ryan
Ms. Pamela Mylotta
Wisconsin Department of Natural Resources
2300 North Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212

RE: Interim Report of Soil Remediation Pilot Test
Former Express Cleaners
Racine, Wisconsin
BRRTS Number 02-52-547631

Dear Ms. Ryan and Ms. Mylotta:

Huntoon Environmental Consulting, LLC (HEC) is pleased to provide this Interim Report of Soil Remediation Pilot Test summarizing the activities conducted to date for the Cool-Ox™ Pilot Test which was completed at the Former Express Cleaners site in Racine, Wisconsin on July 24, 2015.

Pilot Test Set-Up

The Pilot Test was conducted in the location shown on Figure 1 (attached), which is just outside the back door to the former dry cleaning operation. This location is in the proximity of sample B-4, which had the highest tetrachloroethene (PCE) concentration discovered above the water table during the former site investigation. The placement of the Pilot Test treatment area was moved several feet north of the proposed location due to the presence of external utility pipes outside the building, the gas main directly east, and the location of monitoring well MW-3.

Remediation activities associated with the Pilot Test were conducted by Deep Earth Technologies (DET) on July 24, 2015. Upon completion of a Tailgate Safety Meeting, DET placed plastic sheeting south of the designated lay-down area within the area of contamination. Asphalt pavement was removed with a backhoe from a 5-foot by 5-foot area adjacent to the eastern wall of the building and placed alongside the excavation within the designated containment area. The upper 2.5 feet of soil was removed from the designated Pilot Test area using a backhoe and placed on the plastic sheeting.

Pre-Remedial Soil Sampling

Samples were promptly collected from the excavated soil removed at a depth of 2.5 feet below land surface (bls). Utilizing a Terracore™ sampler, two plungers of soil were removed from the soil pile and placed directly into tared vials containing a methanol (MeOH) preservative for analysis of chlorinated volatile organic compounds (CVOCs). An additional glass bottle was packed with soil for a percent solids calculation.

Samples were also promptly collected from the accessible soil when the excavation reached 4.5 feet bls. A bucket of soil was removed from this depth at the southwestern corner of the excavation with the backhoe. Utilizing a Terracore sampler, two plungers of soil were removed and placed directly into tared vials containing a MeOH preservative for analysis of CVOCs. An additional glass bottle was packed with soil for a percent solids calculation.

Soil samples were properly packaged and shipped on ice to the Test America Laboratory in College Park, Illinois, for analysis of CVOCs.

Groundwater was not observed during excavation activities and soil sampling. The soil samples were dry/moist and not saturated.

Cool-Ox™ Application

The Cool-Ox™ reagent (treatment solution) was mixed by DET in the pump rig in a preparation area located south of the excavation. The treatment solution was pumped into the excavation with a hose. The Cool-Ox™ reagent was blended into the soil using the bucket of the backhoe to achieve a good blend and ensure contact with the soil. The reagent was blended into soils from the depth of 2.5 feet bls to approximately 5 feet bls, which was above the water table. After the lower section of soils was thoroughly mixed, the upper soils that were previously piled on plastic were returned to the excavation and thoroughly mixed with additional applications of Cool-Ox™ solution.

The final excavation was measured to be six feet wide, five feet long, and five feet deep, for an estimated total of 6 cubic yards. As estimated, Cool-Ox™ was applied at the approximate rate of 10 gallons per cubic yard of soil, which is the same application rate proposed for the full-scale remediation. A total of 60 gallons of Cool-Ox™ were applied during the in-situ treatment.

After the soil was placed back into the excavated area and treated, the backhoe bucket was brushed off and washed with water which was allowed to settle into the excavation. The Pilot Test area was covered and secured with plastic. Snow fencing was placed around the perimeter of the excavation to secure the area.

All field activities were observed and recorded in a field log book by HEC. Photo documentation of the activities conducted during the Pilot Test is attached.

Confirmation Sampling

Confirmation soil sampling will be conducted on Friday, August 7, which will be exactly two weeks after the application of treatment solution to the soils. If deemed necessary, a second confirmation sampling will be conducted Friday, August 21, which will be four weeks after the application. Using a hand auger, two soil samples will be collected: one from a depth of 2.5 feet bgs and one from a depth of 5 feet bgs (or immediately above the water table, whichever is encountered first). As with the earlier samples, these samples will be placed in laboratory-supplied containers and shipped on ice to Test America for analyses of CVOCs.

Pilot Test Evaluation and Final Reporting

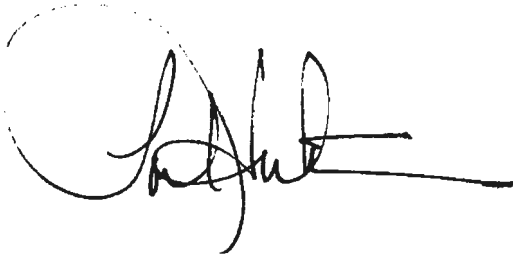
The non-residential direct contact residual contaminant level (RCL) for PCE is 30.7 mg/kg. For this site, our proposed RCL is an order of magnitude lower, at 3 mg/kg. Consequently, we propose that a successful Pilot Test be indicated by post-test contaminant concentrations of 3 mg/kg or less.

Upon receipt of the confirmation sample results, a Final Pilot Test Report will be prepared and submitted. Analytical data will be evaluated and the report will include a summary of the analytical results provided in both tabular and graph form, as well as the laboratory analytical report.

If you have any questions or require additional information, please contact us.

Sincerely,

HUNTOON ENVIRONMENTAL CONSULTING, LLC

A handwritten signature in black ink, appearing to read 'Lori Huntoon', with a large circular flourish on the left side.

Lori Huntoon, P.G.
Principal Hydrogeologist

Attachments: Figure 1 – Actual Treatment Area of Pilot Test
Photo Documentation of Pilot Test

PHOTO DOCUMENTATION

COOL-OX™ Pilot Test, Former Express Cleaners, Racine WI - July 24, 2015



Photo 1. A view of the site prior to pilot test activities. The excavation was moved north several feet from the proposed location to accommodate the outside piping and monitoring well.

[Photo taken looking northwest]



Photo 2. The pilot test location was located immediately outside the back door at the northeast corner of the former dry cleaning establishment.

[Photo taken looking west]



Photo 3. Deep Earth Technologies, Inc. was set up on the driveway south of the excavation and treatment area. Cool-Ox™ treatment solution was mixed in the pump truck.

[Photo taken looking southwest]



Photo 4. The patented Cool-Ox™ in-situ remediation technology utilized during the pilot test included chemical oxidation and accelerated biodegradation to eliminate volatile organic compounds in soils.

[Photo taken looking southwest]

PHOTO DOCUMENTATION

COOL-OX™ Pilot Test, Former Express Cleaners, Racine WI - July 24, 2015



Photo 5. Plastic sheeting was placed near the area for piling excavated soil prior to remedial treatment.
[Photo taken looking south]



Photo 6. The treatment area was marked out to be approximately 5 feet wide by 5 feet long.
[Photo taken looking southeast]



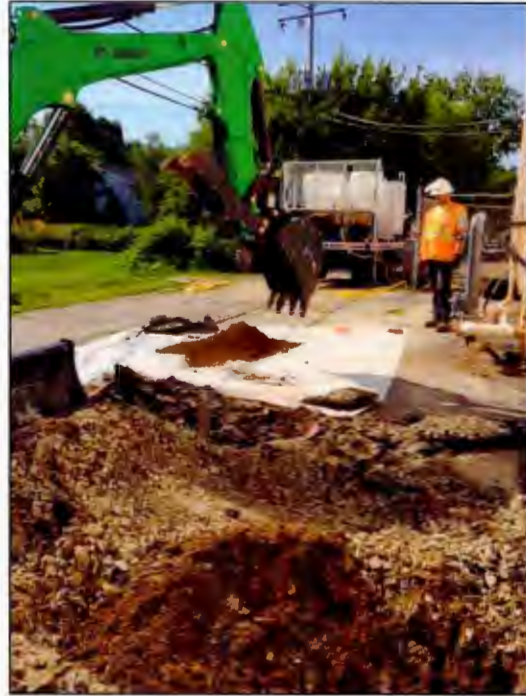
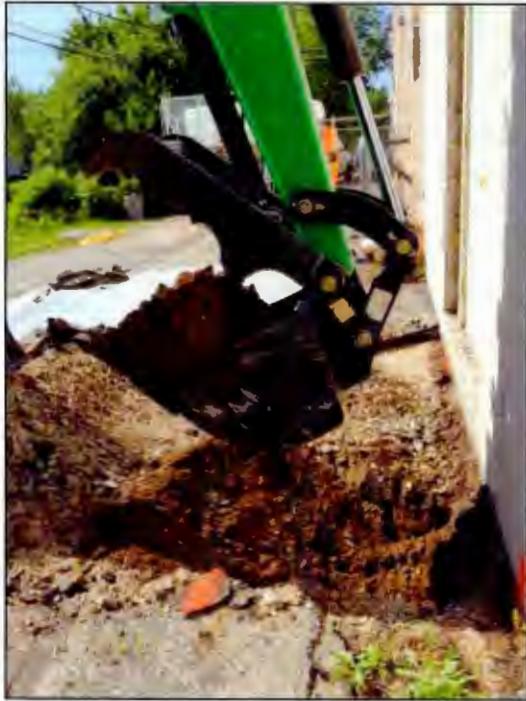
Photo 7. The top asphalt layer was removed by backhoe to expose the contaminated soils below.
[Photo taken looking northwest]



Photo 8. Excavated soil was maintained on plastic within the containment area until replaced and treated.
[Photo taken looking northwest]

PHOTO DOCUMENTATION

COOL-OX™ Pilot Test, Former Express Cleaners, Racine WI - July 24, 2015



Photos 9 and 10. Materials beneath the site consisted of gravel fill in the upper one foot, underlain by silty brown sand and silty sand to depth. The excavated soil was placed on plastic sheeting.
[Photo taken looking south]



Photo 11. The upper 2.5 feet of soil was removed and placed on plastic to allow for treatment of the lower portion of soil. Extensive soil staining was present throughout the excavation. No odors were observed.
[Photo taken looking south]



Photo 12. Upon removal of the upper section of soil, a soil sample was collected from the soil pile utilizing a Terracore™ sampler for analysis of CVOCs. Soil was estimated to be from approximately 2.5 feet below surface.
[Photo taken looking south]

PHOTO DOCUMENTATION

COOL-OX™ Pilot Test, Former Express Cleaners, Racine WI - July 24, 2015



Photo 13. The remedial excavation was completed to 2.5 feet. Soil was piled on plastic south of the treatment area. [Photo taken looking west]



Photo 14. Full view of the pilot test set-up, and the pump truck located south of the treatment area. The pilot test was located immediately outside the back door of the former drycleaning facility at the north end of the building. [Photo taken looking west]



Photo 15. Soils were accessed to 5 feet (just above saturated soils). Using a Terracore™ sampler, a sample was collected from soils from the 4.5-ft depth from the backhoe bucket prior to applying the Cool-Ox™ treatment solution. [Photo taken looking northwest]



Photo 16. Cool-Ox™ was applied to the area of excavation and thoroughly blended with the lower three feet of soil using the bucket of the backhoe. The application rate of the solution was approximately ten gallons of solution per cubic yard. [Photo taken looking west]

PHOTO DOCUMENTATION

COOL-OX™ Pilot Test, Former Express Cleaners, Racine WI - July 24, 2015



Photo 17. The chemical reaction occurring upon treatment with Cool-Ox™ included bubbling and foaming as the solution was blended with soils.
[Photo taken looking northwest]



Photo 18. Excavated soils from the upper 2.5 feet were placed back into the excavation and blended with the treatment solution in the same manner as the in-situ soil. The size of the final treatment area was six feet wide (west to east) by five feet long (north to south) by 5 feet deep.
[Photo taken looking north]



Photo 19. All soils were returned to the excavation and the asphalt placed on top.
[Photo taken looking west]



Photo 20. The area was secured by plastic sheeting over treated soils and fencing around the perimeter.
[Photo taken looking northwest]