

Maintenance Facility Remedial Action

Mineral County, Colorado - May 2014

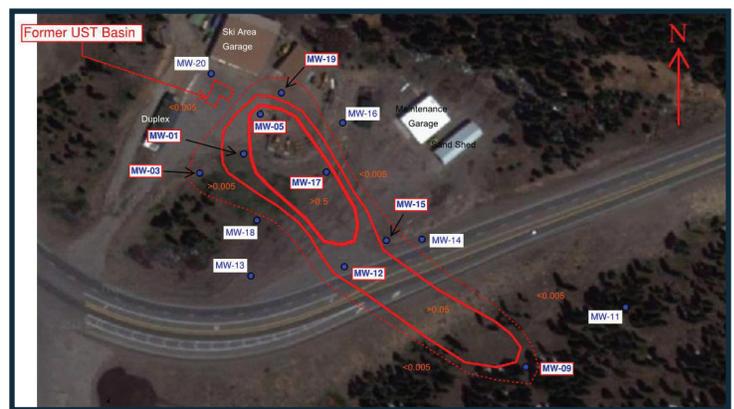
Seneca Companies was contracted by the Colorado Department of Transportation (CDOT) to remediate benzene contamination as a result of a release from former underground storage tanks (USTs).

Before Seneca arrived, several other contractors attempted to remediate the site without success. A Corrective Action Plan Modification (CAP-Mod) was approved by the Colorado Division of Oil and Public Safety (OPS) for this site with the injection of the BOS-200® compound into two areas of the dissolved plume (source and barrier). The BOS-200® compound is a specifically formulated blend of activated carbon, sulfate, micronutrients and microbes designed to help dissolve chemical plumes.

Seneca applied for an Underground Injection Control (UIC) permit from the Environmental Protection Agency (EPA) as required by federal law and an "authorization by rule" was granted. Utilities were then marked by public and private locating services, and a comprehensive Health and Safety Plan was developed prior to implementation. Seneca then partnered with an injection contractor to implement the state-approved remediation activities.

Over 21,000 pounds of BOS-200®, forty (40) gallons of engineered Trap & Treat® Bacteria and 5,000 pounds of gypsum were installed throughout a total of 168 injection points at depths ranging from eight (8) – twenty-five (25) feet below ground surface (bgs) throughout both the source and barrier areas. The project took a total of forty-five (45) days to complete the injection of all the materials. Seneca has continued with semi-annual groundwater monitoring events.

Contour maps provided below illustrate the benzene plume before and after the injection event took place. The implementation of the BOS® remedial injections greatly reduced the benzene plume in area and magnitude following the May 2014 groundwater monitoring event. The most down-gradient and off-site well (MW-9), resulted non-detectable for benzene concentrations for the first time since it was initially sampled in October 2000.



ABOVE: Contour map showing the plume on May 2013 before the injection event took place.



ABOVE: Contour map showing plume as of May 2014, after Seneca performed remediation efforts.



The Complete Solution

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