

August 9, 2013

Mr. Eugene Melnyk
Division of Environmental Remediation
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2899

Re: Brownfield Cleanup Program Site #C907027
Anderson Cleaners Site
Jamestown, New York

Dear Mr. Melnyk:

Day Environmental, Inc. (DAY) prepared this letter on behalf of Anderson Cleaners (Anderson) summarizing the work completed to date as part of the Plume Containment Remedy implemented at the above-referenced site (the Site). This work was done in accordance with the provisions outlined in a document titled *Remedial Action Work Plan: Anderson Cleaners Site 5 Hunt Road Jamestown, New York BCP #C907027* dated March 2013 prepared by DAY (the RAWP). The New York State Department of Environmental Conservation (NYSDEC) approved the work proposed in the RAWP for the Plume Containment Remedy in a letter dated March 28, 2013.

Background Testing

Prior to the implementation of the Plume Containment Remedy, background samples were collected from select overburden/top of till monitoring wells located in proximity of the treatment area and tested for in-situ parameters, and submitted to an analytical laboratory for testing of halogenated VOCs. Table 1 includes a summary of the in-situ measurements made as part of the Long Term Monitoring Program implemented at the Site for the parameters: groundwater elevation, pH, dissolved oxygen (DO), oxygen reduction potential (ORP), and specific conductance. A summary of the halogenated volatile organic compounds (VOCs) detected in groundwater samples collected from the overburden/top of till monitoring wells prior to the implementation of the Plume Containment Remedy is presented as Table 2.

In addition, groundwater samples were collected on June 26, 2013 from monitoring wells CW-2 and CW-4, and submitted to Spectrum Analytical Services, Inc. (Spectrum) for testing of the metals iron, calcium, magnesium and manganese; the anions chloride, sulfate, and nitrate; total organic carbon (TOC); dissolved organic carbon (DOC); and volatile fatty acids (VFA). A copy of the Spectrum Laboratory Report documenting the results of this testing is included as Attachment A.

Permeable Reactive Barrier Injections

On July 17, 2013 and July 24, 2013, a permeable reactive barrier (PRB) was constructed in the “Primary Treatment Area” designated in the RAWP. The Primary Treatment Area is in the location where the highest dissolved VOC concentrations have been detected to date in groundwater samples collected from monitoring wells positioned near the property line of the Site, and in downgradient locations relative to identified source areas, (i.e., generally between a 21-inch storm sewer and a 4-inch sanitary sewer).

The PRB was constructed by the injection of a slurry mixture containing a total of approximately 1,400 lbs. of EHC In-Situ Chemical Reduction Reagent (EHC) manufactured by FMC Corporation and water into the overburden/top of till zone through the injection points, designated Location #1 through Location #12 on Figure 1. A sub-contractor was retained to complete the injections using a direct push drill rig and grout pump. At each injection point, a 2.25-inch inside diameter flush-coupled drill rod fitted with a disposable tip was driven to a predetermined depth (i.e., typically the top of the glacial till layer as identified by previous test borings), and the rods were pulled up approximately one foot leaving the expendable tip in the bottom of the borehole. An EHC slurry mixture ranging between 24% and 34% by weight, with an average slurry mixture of 27.25%, was pumped into the boreholes as the drill rods were removed. Pertinent information recorded during the EHC injections, including quantities and concentrations of EHC injected, injection depth ranges, injection pressures, etc. are summarized on Table 3. [Note: Artesian groundwater conditions in the overburden at the Site caused some of the EHC/water slurry to be forced up and out of the injection point, in some locations, subsequent to removing the direct push rods from the injection point and prior to the sealing of the borehole with bentonite clay. To the extent possible, the ‘lost’ slurry was re-captured and injected into subsequent injection locations. However, approximately 2% of the total slurry injected could not be re-captured and injected. This material was placed in a shallow excavation within the treatment area.]

Effectiveness Monitoring

As described in the RAWP, samples will be collected from monitoring wells CW-1, CW-2, CW-4, CW-5, MW-200 and MW-201 approximately three months after the completion of the injection event (i.e., on or about October 24, 2013) and tested for the in-situ parameters of pH, ORP and DO, and submitted to an analytical laboratory for testing of halogenated VOCs via USEPA Method 8260. In addition, the samples collected from monitoring well CW-2 and CW-4 will be tested for TOC, DOC, iron and VFA. The results of the effectiveness testing will be used to determine whether additional injections are warranted.

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August 8, 2013
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Please contact the undersigned if you have questions regarding the information presented herein.

Very truly yours,
Day Environmental, Inc.



Raymond L. Kampff
Associate Principal

RLK/s

Figures

Figure 1 Site Plan Depicting Injection Locations July 2013

Tables

Table 1 Summary of In-Situ Water Quality Parameters

Table 2 Summary of Analytical Laboratory Results - Groundwater Samples;
Overburden/Top of Till Monitoring Wells

Table 3 Summary of EHC Injections

Attachments

Attachment A Analytical Laboratory Report: Background Testing CW-2 and CW-4

cc: M. Lyons

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FIGURE

TABLES

ATTACHMENT A

Analytical Laboratory Report: Background Testing CW-2 and CW-4