



BrightFields, Inc.
Environmental Services

June 14, 2018

Mr. Rick Galloway
Department of Natural Resources and Environmental Control
Site Investigation and Restoration Section
391 Lukens Drive
New Castle, DE 19720

**RE: Soil Vapor Extraction System Evaluation Work Plan (Revised)
Former Wilmington Assembly Plant – Operable Unit 4
Wilmington, Delaware
BrightFields File: 2734.07.51**

Dear Mr. Galloway:

BrightFields, Inc. (BrightFields) has prepared this work plan on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER Trust) to outline the scope of work for the the Soil Vapor Extraction (SVE) System Evaluation at the Former Wilmington Assembly Plant (Assembly Plant) in Wilmington, Delaware (Figure 1). A brief description of the background and proposed scope of work is summarized below.

BACKGROUND

In 2014, BrightFields completed a Focused Feasibility Study (FFS) to address the potential vapor intrusion issues originating from the Assembly Plant and migrating into nearby residential structures along Dodson Avenue. The FFS was conducted using data collected during several vapor intrusion and groundwater investigations at the Site conducted throughout 2012, 2013, and 2014. A contaminated groundwater plume was identified extending from the Anchor Motor Freight Building towards the northeast across Dodson Avenue (Figure 1) and beneath the nearby residential structures. As a result of the FFS, the SVE System was installed at the Site as an interim vapor phase remediation measure. The installation of the system was completed in February 2015 and system start up was implemented on March 30, 2015. Since that time, BrightFields has been performing weekly monitoring and maintenance on the SVE system. BrightFields is proposing this evaluation to evaluate the performance of the system over the three year operational period and determine the applicability of expanding the SVE system to address site contamination.

The goals of the evaluation of the SVE system are as follows:

- Determine the radius of influence of the SVE system on MW-49;
- Determine if Light Non-Aqueous Phase Liquid (LNAPL) can be mobilized into MW-49;

- Evaluate the recovery rate of the SVE system to determine whether or not existing data can be used to estimate the time to asymptotic recovery of Site contaminants; and,
- Evaluate the opportunity for system optimization.

SCOPE OF WORK

• Soil and Vapor Investigation

- The SVE system will be shut down for one week prior to the start of the pilot test in an effort to allow the groundwater and soil vapor to equilibrate.
- Soil vapor samples will be collected from up to six soil gas points that were installed during the vapor intrusion investigations performed in 2013 and 2014. Soil gas samples will likely be collected from SG-9, SG-10, SG-13S (or SG-11), SG-14S, SG-28, and SG-29, depending on their accessibility. If these soil gas points are not accessible, samples may be collected from SG-27 or SG-30.
- BrightFields will construct temporary, aboveground connection piping from the SVE manifold to MW-49. The SVE manifold is the existing structure that sits outside of the SVE system shed and connects the SVE wells to the SVE system. In an effort to fully investigate MW-49, SVE wells SVE-01 through SVE-06 will be isolated from the SVE vacuum blower, which is responsible for extracting vapors from each of the SVE wells, and thus will allow only the vapors from MW-49 to enter the SVE system.
- Following the isolation of SVE wells SVE-01 through SVE-06, the SVE system will be started and a pilot test will be performed on MW-49 to assess the radius of influence (ROI) of the system in the subsurface surrounding MW-49. The test will use existing nearby wells to determine the ROI and is anticipated to take 1 to 2 days.
- BrightFields will operate and monitor the SVE system for 4 to 6 weeks, which will include the following:
 - BrightFields will collect influent and effluent samples twice per week for the first two weeks, and once per week for the remaining weeks of the pilot test;
 - BrightFields will gauge MW-49 weekly; and,
 - If necessary, BrightFields will install a passive bailer and/or bail in order to collect any LNAPL that is observed in MW-49 during gauging.
- Following the pilot test and SVE system shutdown, BrightFields will collect soil vapor samples from the soil gas points that were sampled prior to the pilot test. In addition, BrightFields will collect groundwater samples from the following wells: MW-49, MW-50, MW-36S, MW-42, SVE-01, SVE-03, and SVE-06.

- Once BrightFields completes the pilot test and acquires the lab results from the soil gas points and groundwater samples, BrightFields will evaluate the data and address the following components in an effort to identify any correlations that exist that will aid in improving system efficiency:
 - Energy usage of the SVE system;
 - Influent concentrations;
 - SVE system run time;
 - Recovery rate; and,
 - Groundwater elevations;

REPORT PREPARATION

BrightFields will prepare an SVE Evaluation Report that will summarize field work activities, as well as the delineated influence of the SVE system on MW-49 and BrightFields' recommendations for the system in the future based on the results of the field work.

SCHEDULE OF WORK

Field work is tentatively scheduled to begin during the week of June 18, 2018 pending DNREC's review and approval of this Work Plan. It is anticipated that the SVE Evaluation Report will be completed 4 weeks after the samples are received.

We appreciate your review of this Work Plan and look forward to DNREC's approval. Please call Jenna Harwanko or me at (302) 656-9600 if you have any additional questions or concerns.

Sincerely,
BrightFields, Inc.



Ken Hannon
Program Manager

Enclosures: Figure 1 – SVE System Layout with Proposed MW-49 Connection

cc: Pam Barnett, RACER Trust

FIGURE



- Monitoring Well
- Proposed Soil Gas Sample Locations
- SVE Extraction Well
- Proposed Aboveground Connection to MW-49
- SVE Conveyance Piping
- SVE Catalytic Oxidizer Unit (housed in shed)
- Fence
- Former Wilmington Assembly Plant Property (DE-1149)
- Tax Parcels

BrightFields, Inc.
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**SVE System Layout & Sample Locations
 Former General Motors Plant
 Wilmington, Delaware**

By	Date	Scale:	File Name:	
Drawn	KEP	6/4/2018	1:720	Fig1SVE_Sys.mxd
Checked	KLH	6/4/2018	Fig. No.	Figure 1
Project #	2734.07.51			

Source: Delaware FirstMAP - Aerial 2017;
 Delaware DataMIL - Tax Parcels.
 New Castle County Office of Administrative Services - GIS
 and Mapping Services.