Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

ILLINOIS EPA RCRA CORRECTIVE ACTION CERTIFICATION

This certification must accompany any document submitted to Illinois EPA in accordance with the corrective action requirements set forth in a facility's RCRA permit. The original and two copies of all documents submitted must be provided.

1.0 Facility Identification

Name: Equilon Enterprises LLC d/b/a/ SOPUS
County: Madison
Street Address: 900 South Central Ave
Site No. (IEPA): 1191150002
City: Roxana
Site No. (USEPA): ILD080012305

2.0 Owner Information

Name:
Mail Address:
City:
State: Zip Code:
Contact Name:
Contact Title:
Phone:

3.0 Operator Information

Name: Equilon Enterprises LLC d/b/a/ SOPUS
Mail Address: 128 East Center Street
City: Nazareth
State: PA Zip Code: 18064
Contact Name: Leroy Bealer
Contact Title: Senior Program Manager
Phone: 484-632-7955

4.0 Type of Submission (check applicable item and provide requested information, as applicable)

☐ RFI Phase I Workplan/Report
☐ RFI Phase II Workplan/Report
☐ CMP Report;
☒ Other (describe): Response to IEPA comments in 5/5/23 SEE System Letter

IEPA Permit Log No. B-43R
Date of Last IEPA Letter on Project: August 22, 2022
Log No. of Last IEPA Letter on Project: B-43R-CA-109

Does this submittal include groundwater information: ☒ Yes ☐ No

Date of Submittal: August 3, 2023

5.0 Description of Submittal: (briefly describe what is being submitted and its purpose)

Response to IEPA comments provided in their 5/5/23 SEE System approval/comment letter.

6.0 Documents Submitted (identify all documents in submittal, including cover letter; give dates of all documents)

RCRA Corrective Action Certification, and FPWY SEE - Response to 5/5/2023 IEPA Letter with attachments. Copies of submittal electronically sent directly to Amy Butler, Visal Poornaka, Rob Watson and Ali Al-Janabi of IEPA.

7.0 Certification Statement

(This statement is part of the overall certification being provided by the owner/operator, professional and laboratory in Items 7.1, 7.2 and 7.3 below). The activities described in the subject submittals have been carried out in accordance with procedures approved by Illinois EPA. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

7.1 Owner/Operator Certification

(Must be completed for all submittals. Certification and signature requirements are set forth in 35 IAC 702.126.) All submittals pertaining to the corrective action requirements set forth in a RCRA Permit must be signed by the person designated below (or by a duly authorized representative of that person):

1. For a Corporation, by a principal executive officer of at least the level of vice president.
2. For a Partnership or Sole Proprietorship, by a general partner or the proprietor, respectively.
3. For a Governmental Entity, by either a principal executive officer or a ranking elected official.

A person is a duly authorized representative only if:

1. the authorization is made in writing by a person described above; and
2. the written authorization is provided with this submittal (a copy of a previously submitted authorization can be used).

Owner Signature: _____ Date: _____

Title: _____

Operator Signature: _____ Date: 8/3/2023

Title: **Senior Program Manager**

7.2 Professional Certification (if necessary)

Work carried out in this submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. No one is relieved from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44 (h))

Professional's Signature: Wendy Pennington Date: 8/3/2023

Professional's Name Wendy Pennington

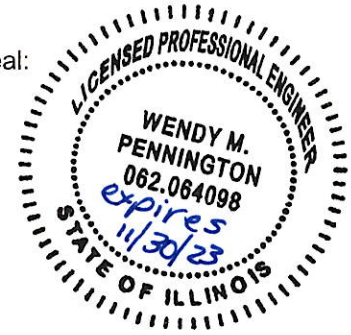
Address 100 N. Broadway, 20th Floor

City St. Louis

State MO Zip Code 63102

Phone 314-452-8929

Professional's Seal:



7.3 Laboratory Certification (if necessary)

The sample collection, handling, preservation, preparation and analysis efforts for which this laboratory was responsible were carried out in accordance with procedures approved by Illinois EPA.

Name of Laboratory *NOT APPLICABLE*

_____ Date: _____

Signature of Laboratory Responsible Officer

Mailing Address of Laboratory

Address _____

City _____

State _____ Zip Code _____

_____

Name and Title of Laboratory Responsible Officer

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August 3, 2023

Ms. Jacqueline M. Cooperider, PE
Manager, Permit Section
Illinois Environmental Protection Agency
Division of Land Pollution Control
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62702

Former Public Works Yard Steam Enhanced Extraction – Response to 5/5/2023 IEPA Letter
Roxana, Illinois
1191150002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US
Log No. B-43R-CA-109

Dear Ms. Cooperider:

AECOM Technical Services, Inc. (AECOM), on behalf of Equilon Enterprises LLC d/b/a Shell Oil Products US (Shell), is submitting this response to the Illinois Environmental Protection Agency's (IEPA) letter dated May 5, 2023. The May 5, 2023, letter was in response to the Final Design Report and Construction Work Plan (FDRCWP) dated December 16, 2023; as well as a smaller submittal with additional information supplementing the FDRCWP, dated January 30, 2023.

Each condition from the IEPA's May 5, 2023, letter is provided below in *italics*, followed by the corresponding Shell response in regular **blue font**. Conditions from the May 5, 2023, letter are reprinted in full.

A copy of this submittal is being sent separately directly to Visal Poornaka, Amy Butler, Rob Watson, and Ali Al-Janabi with the IEPA.

IEPA Condition 1

SOPUS must increase the number of post-SEE sampling locations to match the pre-SEE sampling. The post-SEE sampling locations have decreased to twelve (12) locations compared to the thirty-one (31) pre-SEE sampling locations. Collecting samples from a similar number of sampling locations both prior to and after SEE would provide more accurate information on the effectiveness of the SEE system as well as a better understanding of the extent of remaining contamination in the PWY.

Shell Response

The condition is acknowledged. Post-SEE sampling locations within the thermal treatment boundaries will match the Pre-SEE sampling locations as closely as is possible with field conditions. Soil and groundwater samples at SVP borings will not be collected after SEE operation because those locations are outside thermal treatment boundaries. Post-SEE soil vapor samples will be collected at SVPs per the Steam

Extraction Vapor Monitoring Plan (FDRCWP **Section 5.2**). Enclosed Figure 7 (rev. 1) illustrates the new Post-SEE sampling locations.

IEPA Condition 2

SOPUS must utilize a USEPA approved collection and sampling method to analyze kerosene, which is a primary contaminant on site since USEPA Method 8260B and USEPA Method 8015 are not able to detect kerosene.

Shell Response

The condition is acknowledged. Kerosene, analyzed via TPH-OA-2, was added to the analysis of all soil samples collected after May 5, 2023 (the date of the IEPA letter with this condition).

IEPA Condition 3

USEPA Method 8015 must be used for analyzing gasoline and diesel-range organics during post-SEE sampling as well, since the subject work plan limits the sampling to pre-SEE.

Shell Response

The condition is acknowledged. Analysis for diesel-range organics (DRO [C10-C21]) and gasoline-range organics (GRO [C6-C10]) was performed by Eurofins TestAmerica laboratories in Pensacola, Florida via method 8015 prior to SEE system construction drilling. DRO and GRO analyses were performed via method 8270C and method 8260B, respectively, by a local laboratory (Teklab, Inc.) in order to better work with 48-hour holding times and expedited turnaround time requests. Soil samples collected after May 5, 2023 (the date of the IEPA letter with this condition) have been and will be analyzed for GRO and DRO (both pre-SEE sampling and post-SEE sampling).

IEPA Condition 4

The attachment describing the Mann-Kendall analysis suggests a minimum five years of monthly data for a monotonic trend analysis. Considering that this SEE project is estimated only for about a six month period, SOPUS must provide a better understanding and information to the Agency on how the utilized Mann-Kendall analysis would be accurate enough to dictate shutdown of SEE.

Shell Response

The Mann-Kendall method of analysis is referenced in the Remedial Design Report Section 1.3. Contaminant Distribution and Remedial Goals within the detailed description of determining how the secondary goal of achieving asymptotic conditions is met. The following is described as one of the four secondary conditions:

> Achievement of asymptotic conditions. Typically, the cumulative contaminant mass recovery curve at an in-situ thermal remediation site follows a sigmoid shape, with maximum recovery rates (indicated by the steepest slope) towards the middle part of the project. Logistic functions are often used to model phenomena that exhibit a sigmoid curve. Because of the slope of the sigmoid shape, Gaussian functions can be used to approximate mass recovery rates (or concentrations, assuming vapor flow rates are constant).

An asymptotic trend in the cumulative mass removal curve indicates when continued thermal operations may be providing diminishing returns in mass removal and can be used to help schedule confirmation soil and/or groundwater sampling activities. This trend in cumulative mass recovery typically refers to the time period when contaminant mass recovery rates have diminished to the point that further mass recovery increases very slowly in comparison to the midpoint of the remediation. The value at which this occurs is typically observed as 10% of the peak performance when evaluating concentration data.

Once the temperature performance goals have been achieved and the cumulative mass curve appears to reach asymptotic conditions, the following steps will be used to determine if the total constituent of concern mass recovery rates (i.e., pounds per day (lbs/day)) are at asymptotic levels:

a. Verify that temperature performance goals have been achieved;
b. Verify that the system volumetric flow rate is not less than 70% of the average. If volumetric flow rate is unusually low, troubleshoot field operations. Correct any operational issues; and,
c. Determine the mass recovery rate for at least four consecutive sampling events over a period of 14 days. Treatment goals have been achieved when mass recovery rates remain below 10% of the peak recovery rate (i.e., from 1,000 lbs/day [peak] to 100 lbs/day [asymptotic]), or statistical trend analysis (Mann-Kendall test) of the data show a linear mass recovery curve (linear mass recovery indicates steady mass flux from the outside of the treatment volume; exponentially decaying mass recovery indicates continued volatilization of mass from inside of the treatment volume).

In the above description, a statistical analysis is recommended if the mass recovery rate over consecutive sampling events does not remain below 10% of the peak recovery rates. Figure 1 and Figure 2, shown below, provide examples of project mass removal curves for when a statistical analysis is not required and when a statistical analysis is required, respectively.

In the first example project, shown in Figure 1, the daily mass recovery rate at peak removal is approximately 68 kg/day and the final 14 days of operation show consistent mass recovery of less than 6.8 kg/day. From this analysis, it was determined that asymptotic conditions had been achieved and additional in-situ remediation would provide diminishing returns. The in-situ thermal remediation system was shut down.

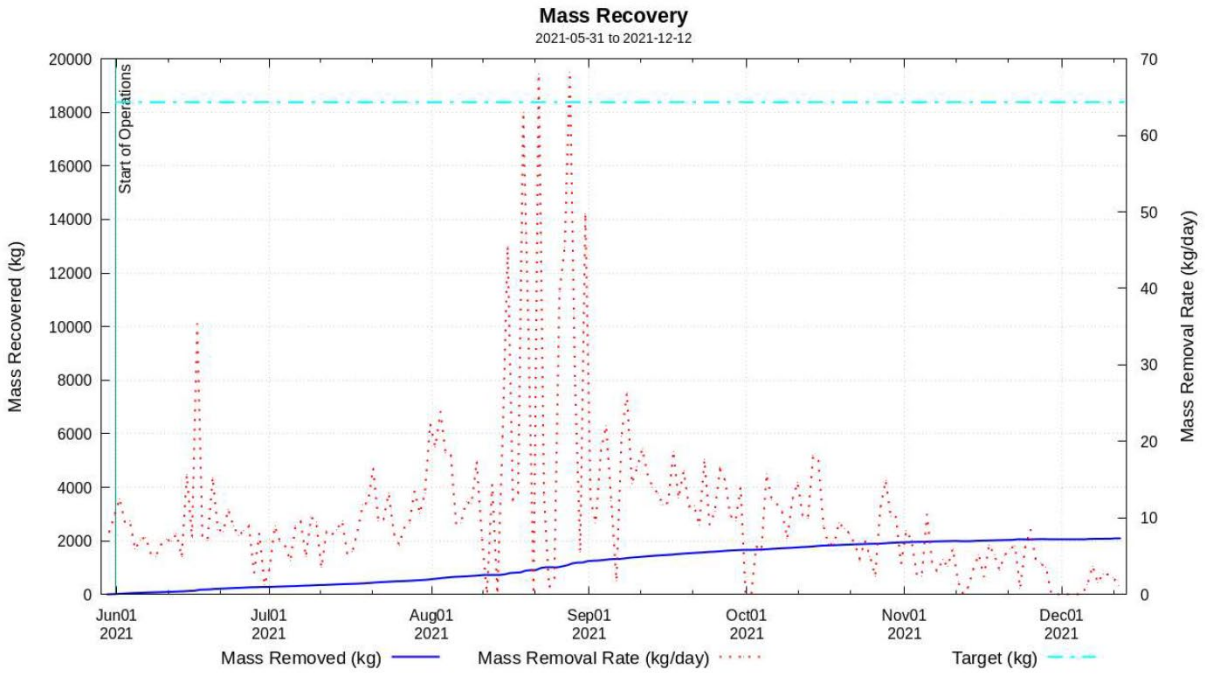


Figure 1: Example of a mass recovery curve not requiring statistical analysis

For the second example project, shown in Figure 2 below, the mass removal rate at the peak was approximately 200 kg/day. Project shut down was expected to be approximately October 31, 2021, therefore one would expect to see a removal rate of approximately 20 kg/day over the final two weeks of October 2021. However, the removal rate observed over these weeks is much higher. A Mann-Kendall analysis was performed on the data observed during the final 14 days of October 2021, which was used to determine that the removal rate was following a significant downward trend. Subsequently, trend analysis of the data was conducted for the month of October 2021, which was used to determine that the removal rate was continuing to decrease exponentially. This trend signified that mass continued to be removed from within the treatment interval and operations should continue. Following two additional months of operations, trend analysis was conducted again at the end of December 2021, which indicated a linear trend in removal rate, signifying that mass was no longer being removed from within the treatment interval. Rather, mass was being extracted from outside of the treatment interval. Upon client request, the system was operation for an additional two months. Throughout these additional months of operation, mass removal rates continued to follow a linear trend. Final soil sampling was used to confirm that the treatment interval was treated to the required concentration limits.

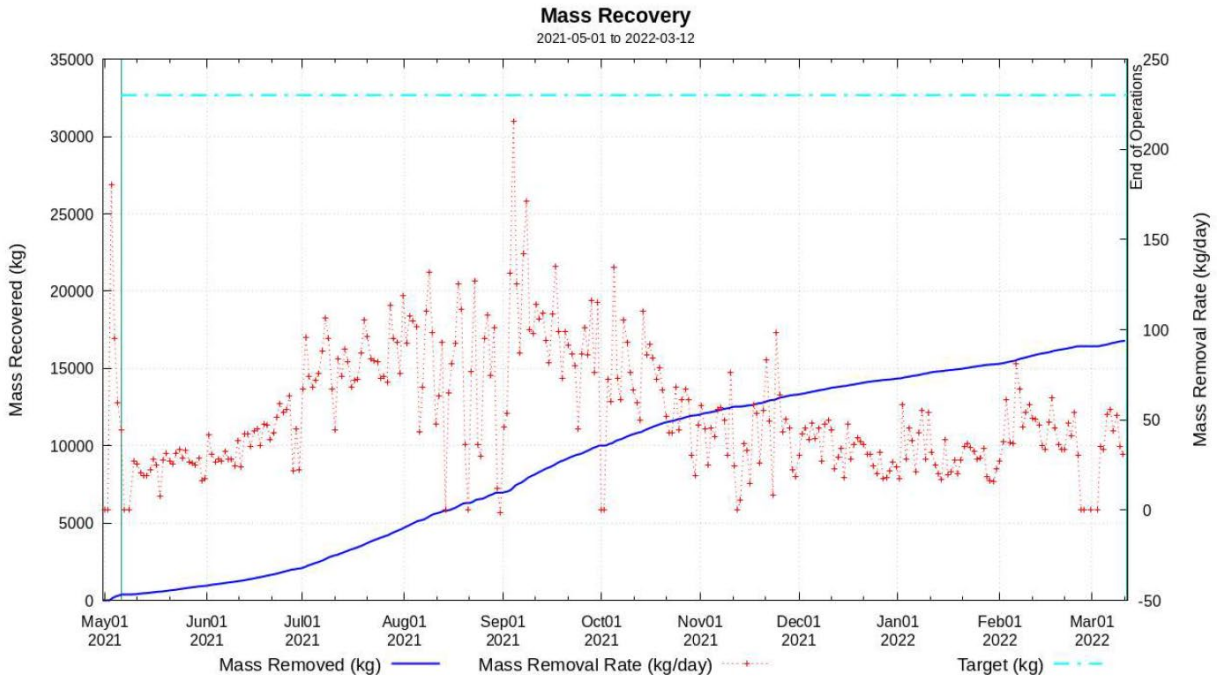


Figure 2: Example of a mass recovery curve requiring statistical analysis

While the example given in **Attachment I** of the FDRCWP mentioned five years of monthly data, that is not a requirement to perform adequate Mann-Kendall analysis. Five years of monthly data would equal approximately 60 data points. In comparison, per **Section 6.3** of FDRCWP, during SEE operation an analytical influent sample will be collected every two weeks, with a field-screened Tedlar© bag sample collected every day. If the SEE system operated for 6 months, that would equal approximately 143 data points with which to perform statistical analysis. Lastly, as described in Figure 1 above, it is possible that statistical analysis will not be needed, depending on the steepness of the mass recovery curve observed with SEE data.

IEPA Condition 5

Condition 4.g, of Illinois EPA's August 22, 2022 letter states that a visual representation must be provided presenting the diminishing returns. This condition was not satisfied since the requested diagrams were not included in the submittal. Therefore as agreed upon during the January 5, 2023, Technical Meeting between SOPUS and Illinois EPA, these requested diagrams must be provided in the monthly progress reports. In addition, SOPUS must still provide the mass removal plots and diminishing returns figures as stated in the response on the submittal.

Shell Response

The condition is acknowledged. Visual plots of mass removal data will be provided in monthly progress reports during SEE operation, and in the Post-SEE Shutdown and Completion Report.

IEPA Conditions 6, 6.a and 6.b

The Illinois EPA can approve the proposal for additional groundwater profiling near MW-25 to be conducted during installation of the SVPs along Eighth Street, and for this data to be used in determining whether additional profiling will be performed near MW-4 as a step-out location. However, the data evaluation and

determination must be presented for Illinois EPA review and approval for a final determination to be made. While the initial screened intervals for wells MW-25 and MW-4 were based on profiling data at those locations when they were installed, the purpose of requiring profiling to deeper extents is to ensure deeper contaminants are not present. This determination is based on the data collected as part of the SEE workplan at the former PWY, the proximity of those wells to the former PWY, and the residential setting of MW-25 and MW-4.

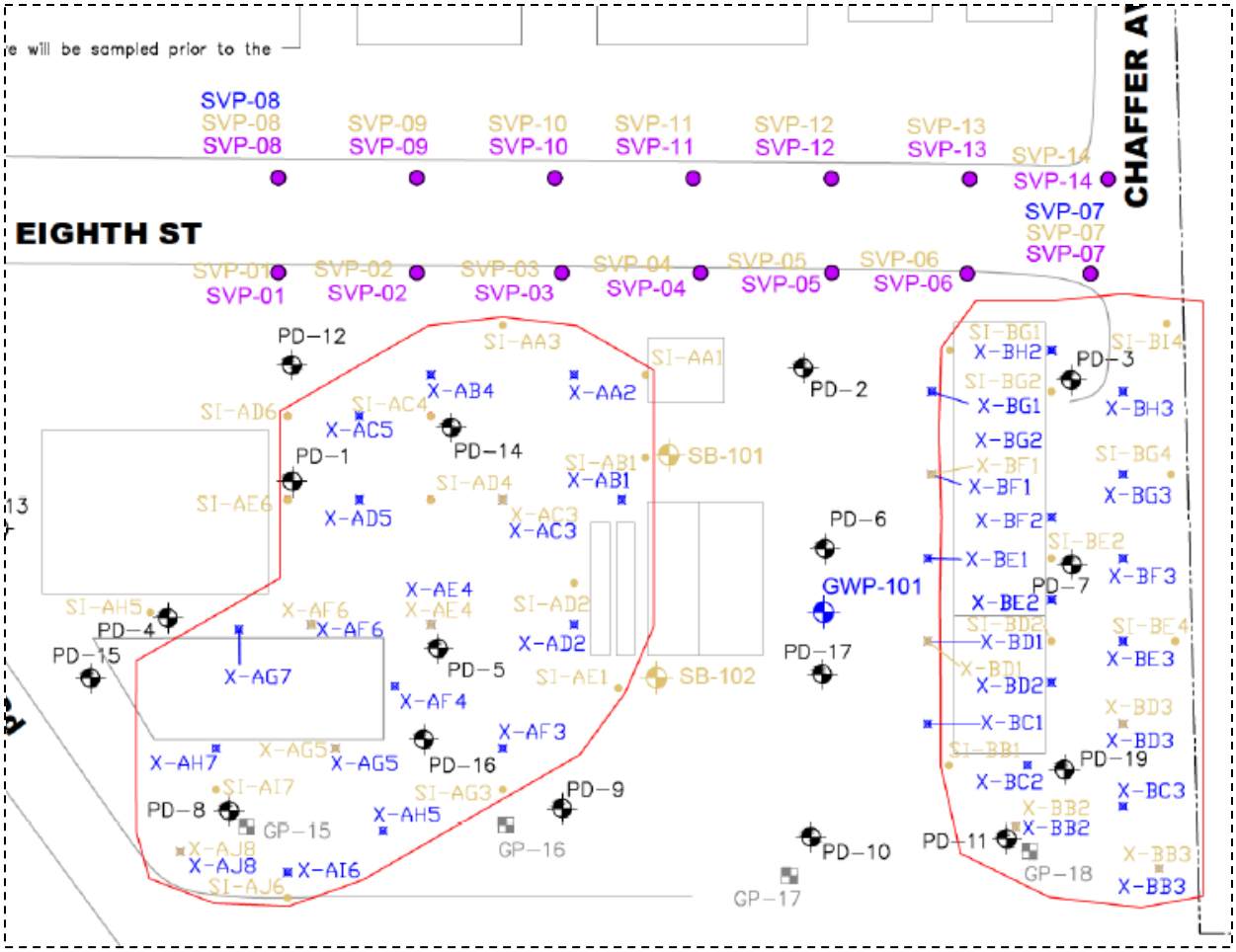
a. *The well screen intervals for MW-25, MW-4, and well P-93B are provided below for reference. Well P-93B has been included as this well has a deeper screened interval and has shown elevated concentrations for years at the western boundary of the refinery property.*
b. *The benzene contamination at PD-01, PD-12, PD-14, PD-02, and PD-03 was previously reported in the previously submitted document entitled, "Steam Enhanced Extraction System at the Roxana Public Works Yard" dated January 31, 2022. The benzene at these locations was observed at elevations below the screened interval of MW-25. The table below summarizes the screened intervals for MW-25 and the sampling locations mentioned above where benzene exceeded the Class I Groundwater Quality Standards (GQS).*

Sampling Location Intervals (in ft MSL) Exceeding Benzene Class I GQS (0.005 mg/L)					
MW-25	PD-01	PD-12	PD-14	PD-02	PD-03
Well Screen 402.76 - 392.76	394-379	391 -380	403 -381	400-391	394-373

Ft MSL - feet above mean sea level

Shell Response

The condition is acknowledged. Groundwater profiling was initially proposed at SVP-08 but was performed at SVP-09 based on conditions in the field at the time of drilling. Groundwater monitoring well MW-25 is located between SVP-08 and SVP-09. Groundwater profiling at SVP-09 was performed on January 6, 2023, with samples collected at 50 feet, 60 feet, 70 feet, 80 feet and 90 feet below ground surface (bgs). Below is a portion of Figure 6.a from the Additional Information to Log No. B-43R-CA-109 submittal dated January 30, 2023, for reference. The results from this groundwater profiling are currently being reviewed and evaluated in conjunction with surrounding groundwater data. A determination and/or proposal for additional step-out sampling near MW-25 will be submitted separately for IEPA review and approval. If step-out groundwater profiling activities are proposed, these will plan to be performed in conjunction with post-SEE sampling activities.



The purpose of the SEE system is to target residual material sorbed to saturated soils, including VOCs as NAPL. Sorbed residual material in the subsurface feeds dissolved phase impacts in groundwater. The SEE system is intended to remediate this sorbed residual material. After the sorbed residuals are remediated and SEE ceases, the existing refinery groundwater control system will continue to address dissolved phase impacts while maintaining hydraulic gradient eastward toward the refinery interior, in accordance with RCRA Part B Post-Closure Hazardous Waste Permit B-43R (Part B Permit), Section IV. Please note that the refinery groundwater control system will remain operating during and after SEE operations.

IEPA Condition 7

Based on the information provided in the subject submittal, additional SEE treatment is needed in the vicinity of GP-17 to address contamination identified at 45 ft and 57 ft bgs with benzene concentrations of 1,560 mg/kg and 178 mg/kg, respectively.

Shell Response

The condition is acknowledged. New exploratory location SB-103 was drilled adjacent to historical boring GP-17. Sampling was performed at depths of 38 feet, 43 feet, 58 feet and 68 feet below ground surface (bgs) on May 17, 2023. Analytical results from these samples were reviewed upon receipt and additional drilling at the same location was performed at a depth of 77 feet bgs on May 24, 2023. Additional step-out borings were performed June 17 through 20, 2023. These data will be used to determine potential changes to the SEE system scope (refer to Shell Response to IEPA Condition 14 for additional discussion). The

data collected are currently under review to determine potential additional delineation. See Shell Response to IEPA Condition 14 for more information.

IEPA Condition 8

SOPUS must evaluate site conditions following SEE treatment to determine whether additional remediation is needed for groundwater within the Village. This evaluation must be provided when reporting confirmation sampling and proposing next steps.

Shell Response

The condition is acknowledged.

IEPA Condition 9

Condition 6 of Illinois EPA's August 22, 2022 letter requested that additional data must be collected during the installation phase drilling. This information must be submitted to the Agency prior to or at the beginning of SEE commencement.

Shell Response

The condition is acknowledged. Results of additional sampling will be provided in advance of or contemporaneously with SEE system startup.

IEPA Condition 10

SOPUS must conduct sampling and analysis for Total Petroleum Hydrocarbon (TPH) content for all hydrocarbon ranges at all pre-SEE sampling locations for all soil sampling depths. TPH data must be included in the SEE Construction Completion Report as well as the post- SEE Shutdown and Completion Report.

Shell Response

The condition is acknowledged. All soil samples collected after May 5, 2023 (the date of the IEPA letter with this condition) will include analysis for GRO, DRO and kerosene (see response to Condition 2 above). These data will be included in the SEE Construction Completion Report as well as the Post-SEE Shutdown and Completion Report.

IEPA Conditions 11 and 11.a

The 5% trigger at the Steam Vapor Monitoring points (SVPs) must not exceed the residential indoor air inhalation limits as defined in 35 IAC 742, for any VOCs. During initial sampling to establish a baseline, if the baseline value or the 5% trigger will result in an exceedance of the indoor air inhalation limit, SOPUS must notify the Agency immediately, and provide an alternative plan and remediation action to avoid exposure of residents.

> *a. If baseline values exceed indoor air inhalation limits, SOPUS must notify Illinois EPA Permit Section and Field Operations Section in Collinsville, within 24 hours of discovery and necessary action must be taken accordingly.*

Shell Response

The condition is acknowledged. Baseline sampling of SVPs was conducted in February 2023. Eurofins Air Toxics, Inc. (Eurofins) of Folsom, California conducted the laboratory testing and the following test methods were utilized:

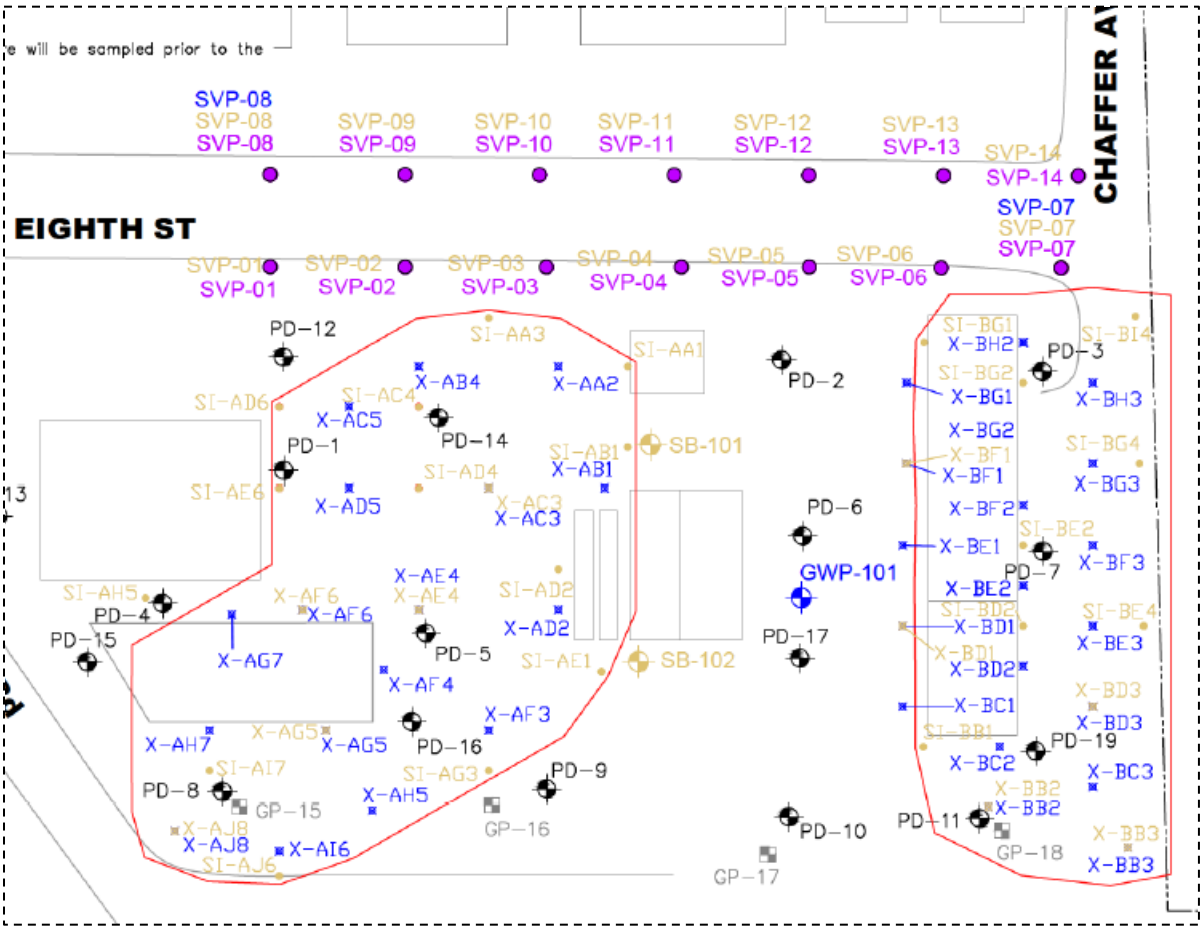
- Volatile Organic Compounds (VOCs) via Modified USEPA Total Organic-15 (TO-15) (including butane and isopentane) for soil vapor, and
- Natural gases (defined as oxygen, nitrogen, carbon monoxide, methane, carbon dioxide, ethane, and ethene) via Modified ASTM D-1946 + Helium for soil vapor.

The methods and analyte lists were the same as those used in the Roxana VMP Quarterly Sampling Program.

Analytical results indicate that residential indoor air inhalation limits were not exceeded in any baseline samples, except for chloroform (residential criterion = 0.11 mg/m^3) at SVP-14. SVP-14 is located at the east end of the secondary row of SVPs, at the corner of Eighth and Chaffer. Below is a portion of Figure 6.a from the Additional Information to Log No. B-43R-CA-109 submittal dated January 30, 2023, for reference. While clearing the SVP-14 location for utilities prior to installation, an old water line was found adjacent to the boring.

Baseline chloroform results at SVP-14 were as follows:

- 10 ft bgs = 1.4. mg/m^3
- 20 ft bgs = 1.1 mg/m^3
- 30 ft bgs = 0.16 mg/m^3



Chloroform concentrations at SVP-14 decreased as depth increased, suggesting a surficial source for the chloroform. Chloroform is a common disinfectant byproduct in municipal water and can be present in higher concentrations in chlorinated pool water[1,2]. When water containing chloroform enters the subsurface, the chloroform can volatilize in the vadose zone and become present in soil vapor. Potential sources for chloroform in the vadose zone include watering of lawns and plants, sprinklers, leaking municipal water lines, washing machines (chlorinated bleach), or cracks in sewer lines. Swimming pools in residents' yards are found throughout the Village of Roxana, and numerous residents apply water to their lawns and plants. Because chloroform is ubiquitous in municipal water and chlorinated pool water, and there are multiple pathways for municipal water to enter the vadose zone near the SVPs, Shell respectfully requests that chloroform results be excluded from triggering remedial actions at the SEE system.

Baseline SVP TO-15, ASTM D-1946, and field-screened Tedlar© bag results are included in **Attachments A, B, and C**, respectively.

IEPA Condition 12

SOPUS must propose an alternative to exceedance of TO-15 results as the trigger to make adjustments to the SEE system. Considering that the steel canister TO-15 method will have a turnaround time of 10 days from sample collection to data availability, this risks the residents to prolonged exposure to VOCs. This proposal must be submitted to the Agency as a Corrective Action Modification Request prior to commencement of SEE.

Shell Response

The condition is acknowledged. The Steam Extraction Vapor Monitoring Plan in **Section 5.3** of the FDRCWP currently states "Adjustments to SEE system may be made if TO-15 results in exceedance of the soil vapor values in 35 Illinois Administrative Code (IAC) Part 742, Appendix B, Table H, are observed in secondary row SVPs; not the primary row."

Shell proposes modifying the Steam Extraction Vapor Monitoring Plan so that if an analytical sample is triggered in the secondary row of SVPs, the SEE system may be adjusted, and/or existing SVE wells may be utilized, to address the area of increased concentrations while the analytical results are pending. If analytical results do not exceed the soil vapor values in 35 IAC 742, the SEE/SVE system adjustments may be discontinued. If analytical results exceed the soil vapor values in 35 IAC 742 (excluding chloroform), the SEE/SVE system adjustments may continue and/or be further adjusted.

The modified portion of the Steam Extraction Vapor Monitoring Plan that pertains to SEE system adjustments is included as **Attachment D**.

IEPA Condition 13

Illinois EPA acknowledges the complexity involved with hot sampling and therefore, would not require SOPUS to conduct hot sampling at this time.

[1] Kiefer, K., M. Jones, M, Shibata, H. Olsen, S. Steinmacher, and J. Case. Dealing with Confounding Background Indoor Air Concentrations. Presented at A&WMA Symposium on Air Quality Measurement Methods and Technology. April 19-21, 2005.
[2] McKone, T.E. Human Exposure to Volatile Organic Compounds in Household Tap Water: The indoor Inhalation Pathway. Environ. Sci. Technol., Vol 21, pp1194-1201. 1987.

Shell Response

The condition is acknowledged.

IEPA Conditions 14, 14.a and 14.b

Additional sampling must be conducted to at least 50 feet bgs and within 5ft of GP-17. This sampling will serve as a confirmatory sample to ensure, there is no contamination in this area since historical numbers from GP-17 shows significant contamination compared to the 2019 sampling results from PD-10. Once sampling results have been obtained;

> *a. If the results are below the Csat value for benzene (580 mg/kg) and TPH value (2,000 mg/kg), no other action is required.*
>
> *b. If the results are higher than the Csat value for benzene (580 mg/kg) or TPH value (2,000 mg/kg), SOPUS must designate the area surrounding the sampling zone as the third treatment area, and necessary steps must be taken to install the steam injection wells, multi-phase extraction (MPE) wells, Sensors etc., and this area must be treated along with Areas A and B. The additional information for this area must be submitted as an addendum to the original submittal including the updated maps, confirmatory samples, updated system specifications etc.*

Shell Response

The condition is acknowledged. New exploratory location SB-103 was drilled adjacent to historical boring GP-17. Sampling was performed at depths of 38 feet, 43 feet, 58 feet and 68 feet below ground surface (bgs) on May 17, 2023. Analytical results from this were reviewed upon receipt and additional drilling at the same location was performed at a depth of 77 feet bgs on May 24, 2023. Additional step-out borings were performed June 17 through 20, 2023. These data will be used to determine potential changes to the SEE system scope (refer to Shell Response to IEPA Condition 7 for additional discussion). The data collected are currently under review and design of a third SEE treatment area (Area C) is currently underway based on IEPA Condition 14.b above. The additional information for this area will be submitted as an addendum to the original submittal as soon as possible.

IEPA Conditions 15, 15.a and 15.b

SOPUS must explore adding two additional MPE wells to the northern parts of Area A and Area B. These additional MPE wells are required to ensure the capture of all VOCs volatilized and mobilized during SEE in the area closest to the adjacent residential area, provided that it would not interfere in the performance of SEE.

> *a. This condition must be satisfied prior to commencement of SEE, with the installation of the additional MPE wells and a map depicting the updated MPE well locations submitted as an addendum to this submittal.*
>
> *b. If MPE well construction is not ideal, a technical explanation must be provided for such determination.*

Shell Response

Upon review, Shell believes the MPE well construction described in IEPA Condition 15 could increase the risk of contaminant exposure to residents in the northern residential area. An essential function of the MPE system is to create an inward hydraulic and pneumatic gradient, preventing contamination from mobilizing

outside of the treatment area. If MPE wells were to be placed north of the treatment area, there is significant risk that vaporized contamination would be pulled outside of the heated area before condensing and becoming difficult to extract, effectively pulling contaminant mass towards the residences.

Shell proposes a design strategy to surround the contaminant plume with steam injector wells and place MPE wells such that the radii of influences fully encapsulate the plume, which is how the SEE system is currently designed per the FDRCWP. Shell believes this approach may better achieve the mutual goal of protecting resident health and safety. Additionally, steam vapor monitoring points are included in the design to monitor for potential migration towards the residences. If migration is observed, a targeted increase in vacuum pressure can be applied to the northern-most MPE wells to draw contamination away from the residential properties. Existing SVE wells may also be utilized to target soil vapor in the vicinity of residences.

IEPA Condition 16

Information required in Conditions 14 and 15 of this letter must be submitted, at a minimum 30 days prior to the commencement of SEE operations.

Shell Response

The condition is acknowledged. The technical explanation required by IEPA Condition 15.b above is provided in this submittal as the Shell Response to that condition. The information required in IEPA Condition 14 will be provided as an addendum to the original submittal as soon as possible. The addendum will also include a discussion regarding winterization of the system given the current anticipated schedule for system operation and will be submitted at least 30 days before the SEE system begins operating.

IEPA Condition 17

All necessary permits must be obtained from the appropriate local, state, and/or federal agencies, as appropriate for the proposed activities.

Shell Response

The condition is acknowledged. The following permits have been obtained.

- Construction Permit 22020023 for Steam Enhanced Extraction System (ID No. 119090AAO) issued May 3, 2022
- Federally Enforceable State Operating Permit (FESOP) 12040025 was revised to include SVE/SEE System with RTO Control (ID No. 119090AAO) issued May 3, 2022
- Class V Injection Well Inventory Form submitted February 23, 2023
- Water Pollution Control Permit 2003-EE-68012 issued April 4, 2023 for discharge of treated system water to the Roxana POTW

Shell requests the IEPA advise if it believes any additional permits are necessary.

IEPA Condition 18

All soil samples shall be analyzed individually (i.e., no compositing). Analytical procedures shall be conducted in accordance with Test Methods for Evaluating Solid Wastes (SW-846), Third Edition and Finalized Updates. When a SW-846 analytical method is specified, all the chemicals listed in the Quantitation Limits Table for that method shall be reported unless specifically exempted in writing by Illinois EPA.

Shell Response

The condition is acknowledged.

IEPA Condition 19

Quality assurance/quality control procedures which meet the requirements of SW-846 must be implemented during all required sampling/analysis efforts.

Shell Response

The condition is acknowledged.

IEPA Condition 20

Corrective action efforts at this facility must eventually adequately address all contamination at this site as required in Section V of the facility's permit.

Shell Response

The condition is acknowledged.

IEPA Condition 21

All wastes generated as part of this project must be managed in accordance with the requirements of 35 Ill. Adm. Code 721, 722, 723, 728, 808 and 809.

Shell Response

The condition is acknowledged.

IEPA Condition 22

Except as modified herein, RCRA corrective action activities at this facility must be carried out in accordance with: (1) 35 Ill. Adm. Code 724 and 742; (2) the facility's RCRA Permit; and (3) Illinois EPA letters regarding such activities.

Shell Response

The condition is acknowledged.

IEPA Condition 22

Under the provisions of 29 CFR 1910, cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination, and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor.

Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations.

Shell Response

The condition is acknowledged.

If you have any questions please contact Buddy Bealer, Shell Senior Program Manager, at leroy.bealer@shell.com (484-632-7956), or Wendy Pennington at wendy.pennington@aecom.com (314-452-8929).

Sincerely,

Brett Howell, PG
Geologist

Wendy Pennington, PE
Project Manager

Samuel Fisher, CHMM
Environmental Scientist

Enclosures: RCRA Corrective Action Certification Form (original plus 1 copy)
Figure 7 (rev. 1) Soil Gas, Soil, and Groundwater Sampling Locations – Post SEE
Attachment A – Baseline SVP Analytical Detections and Screening Results: VOCs
Attachment B – Baseline SVP Analytical Detections and Screening Results: Natural Gases
Attachment C – Baseline SVP Field-Screened Tedlar© Bag Results
Attachment D – Modified Steam Extraction Vapor Monitoring Plan

cc: Buddy Bealer, Shell
Amy Butler, IEPA, Springfield
Rob Watson, IEPA, Springfield
Visal Poornaka, IEPA, Springfield
Ali Al-Janabi, IEPA, Collinsville
Gregg Mollett, Greensfelder, Hemker & Gale P.C.
Repositories – Roxana Public Library, website
Project File

LEGEND

NORFOLK SOUTHERN RAILROAD

GROUNDWATER SAMPLING LOCATIONS

SOIL SAMPLING LOCATIONS

SOIL GAS SAMPLING LOCATIONS

NOTES:

1.) X-### locations will be sampled for GW within their respective screened interval.
2.) The SVP locations will be vapor sampled before, during, and after SEE.
3.) MW-08A(B) and MW-29A(B) locations will be sampled for both groundwater and soil.
4.) Locations depicted here will be sampled after SEE system is shutdown

CHAFFER AVE

EIGHTH ST

S. Old Edwardsville Rd

SVP-01 SVP-02 SVP-03 SVP-04 SVP-05 SVP-06 SVP-07 SVP-08 SVP-09 SVP-10 SVP-11 SVP-12 SVP-13 SVP-14

SCS-01 SCS-02 SCS-03 SCS-04 SCS-05 SCS-06 SCS-07 SCS-08 SCS-09 SCS-10 SCS-11 SCS-12 SCS-13 SCS-14 SCS-15 SCS-16 SCS-17 SCS-18 SCS-19 SCS-20 SCS-21 SCS-22 SCS-23 SCS-24 SCS-25 SCS-26 SCS-27 SCS-28 SCS-29 SCS-30 SCS-31 SCS-32 SCS-33

X-AA2 X-AB1 X-AB4 X-AC3 X-AC5 X-AD2 X-AD5 X-AE4 X-AF3 X-AF4 X-AF6 X-AG5 X-AG7 X-AH5 X-AH7 X-AJ8

X-BB2 X-BB3 X-BC1 X-BC2 X-BC3 X-BD1 X-BD2 X-BD3 X-BE1 X-BE2 X-BE3 X-BF1 X-BF2 X-BF3 X-BG1 X-BG2 X-BG3 X-BH2 X-BH3

MW-8A MW-8B MW-29A MW-29B

0 50

SCALE FEET

N

PUBLIC WORKS YARD STEAM ENHANCED EXTRACTION FINAL DESIGN REPORT ROXANA, ILLINOIS		PROJECT NO. 60697537
AECOM		
DRN. BY: bdh July 2023 DSGN. BY: djd CHKD. BY: wmp	SOIL GAS, SOIL, AND GROUNDWATER SAMPLING LOCATIONS – POST SEE	FIG. NO. 7 (rev.1)

SEE LAST PAGE OF TABLE FOR NOTES

ATTACHMENT A
BASELINE SVP ANALYTICAL DETECTIONS AND SCREENING RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Benzene			Bromodichloromethane			Bromoform			Bromomethane			1,3-Butadiene			Butane			Carbon Tetrachloride			Chlorobenzene		
				0.37			450000			11			6.9									0.21			69		
				Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals
SVP-01	10	SVP-01-10-020623	2/6/2023	**0.0021**	**J**		< 0.0075	**U**		< 0.012	**U**		< 0.043	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0070	**U**		< 0.0052	**U**	
SVP-01	20	SVP-01-20-020623	2/6/2023	**0.00083**	**J**		< 0.0075	**U**		< 0.012	**U**		< 0.043	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0070	**U**		< 0.0052	**U**	
SVP-01	30	SVP-01-30-020623	2/6/2023	< 0.0039	**U**		< 0.0082	**U**		< 0.013	**U**		< 0.048	**U**		< 0.0027	**U**		< 0.012	**U**		< 0.0077	**U**		< 0.0057	**U**	
SVP-02	10	SVP-02-10-020623	2/6/2023	< 0.0037	**U**		< 0.0078	**U**		< 0.012	**U**		< 0.045	**U**		< 0.0026	**U**		< 0.011	**U**		< 0.0074	**U**		< 0.0054	**U**	
SVP-02	20	SVP-02-20-020623	2/6/2023	< 0.0038	**U**		< 0.0080	**U**		< 0.012	**U**		< 0.047	**U**		< 0.0026	**U**		< 0.011	**U**		< 0.0076	**U**		< 0.0055	**U**	
SVP-02	30	SVP-02-30-020623	2/6/2023	< 0.0036	**U**		< 0.0077	**U**		< 0.012	**U**		< 0.044	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0072	**U**		< 0.0053	**U**	
SVP-03	10	SVP-03-10-020323	2/3/2023	< 0.0032	**U**		< 0.0068	**U**		< 0.01	**U**		< 0.039	**U**		< 0.0022	**U**		< 0.0096	**U**		< 0.0064	**U**		< 0.0046	**U**	
SVP-03	20	SVP-03-20-020323	2/3/2023	< 0.0032	**U**		< 0.0068	**U**		< 0.01	**U**		< 0.039	**U**		< 0.0022	**U**		< 0.0096	**U**		< 0.0064	**U**		< 0.0046	**U**	
SVP-03	30	SVP-03-30-020323	2/3/2023	< 0.0035	**U**		< 0.0073	**U**		< 0.011	**U**		< 0.042	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0069	**U**		< 0.0050	**U**	
SVP-03	30	SVP-03-30-020323-DUP	2/3/2023	< 0.0036	**U**		< 0.0075	**U**		< 0.012	**U**		< 0.043	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0070	**U**		< 0.0052	**U**	
SVP-04	10	SVP-04-10-020223	2/2/2023	< 0.0033	**U**		< 0.0069	**U**		< 0.01	**U**		< 0.04	**U**		< 0.0023	**U**		< 0.0097	**U**		< 0.0064	**U**		< 0.0047	**U**	
SVP-04	20	SVP-04-20-020223	2/2/2023	< 0.0032	**U**		< 0.0067	**U**		< 0.01	**U**		< 0.039	**U**		< 0.0022	**U**		< 0.0095	**U**		< 0.0063	**U**		< 0.0046	**U**	
SVP-04	30	SVP-04-30-020223	2/2/2023	< 0.0032	**U**		< 0.0066	**U**		< 0.01	**U**		< 0.038	**U**		< 0.0022	**U**		< 0.0094	**U**		< 0.0062	**U**		< 0.0046	**U**	
SVP-05	10	SVP-05-10-020223	2/2/2023	< 0.0037	**U**		< 0.0078	**U**		< 0.012	**U**		< 0.045	**U**		< 0.0026	**U**		< 0.011	**U**		< 0.0073	**U**		< 0.0053	**U**	
SVP-05	20	SVP-05-20-020223	2/2/2023	< 0.0034	**U**		< 0.0071	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0067	**U**		< 0.0049	**U**	
SVP-05	30	SVP-05-30-020223	2/2/2023	< 0.0034	**U**		< 0.0071	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		< 0.01	**U**		< 0.0066	**U**		< 0.0048	**U**	
SVP-05	30	SVP-05-30-020223-DUP	2/2/2023	< 0.0034	**U**		< 0.0071	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		< 0.01	**U**		< 0.0066	**U**		< 0.0048	**U**	
SVP-06	10	SVP-06-10-020223	2/2/2023	< 0.0033	**U**		< 0.0070	**U**		< 0.011	**U**		< 0.04	**U**		< 0.0023	**U**		< 0.0099	**U**		< 0.0065	**U**		< 0.0048	**U**	
SVP-06	20	SVP-06-20-020223	2/2/2023	< 0.0033	**U**		< 0.0069	**U**		< 0.01	**U**		< 0.04	**U**		< 0.0023	**U**		< 0.0097	**U**		< 0.0064	**U**		< 0.0047	**U**	
SVP-06	30	SVP-06-30-020223	2/2/2023	< 0.0034	**U**		< 0.0072	**U**		< 0.011	**U**		< 0.042	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0067	**U**		< 0.0049	**U**	
SVP-07	10	SVP-07-10-020223	2/2/2023	< 0.0031	**U**		< 0.0065	**U**		< 0.01	**U**		< 0.037	**U**		< 0.0021	**U**		< 0.0092	**U**		< 0.0061	**U**		< 0.0044	**U**	
SVP-07	20	SVP-07-20-020223	2/2/2023	< 0.0036	**U**		< 0.0075	**U**		< 0.012	**U**		< 0.044	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0071	**U**		< 0.0052	**U**	
SVP-07	20	SVP-07-20-020223-DUP	2/2/2023	< 0.0036	**U**		< 0.0076	**U**		< 0.012	**U**		< 0.044	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0071	**U**		< 0.0052	**U**	
SVP-07	30	SVP-07-30-020223	2/2/2023	< 0.0034	**U**		**0.0015**	**J**		< 0.011	**U**		< 0.041	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0067	**U**		< 0.0049	**U**	
SVP-08	10	SVP-08-10-020623	2/6/2023	< 0.0034	**U**		< 0.0070	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		< 0.01	**U**		< 0.0066	**U**		< 0.0048	**U**	
SVP-08	20	SVP-08-20-020623	2/6/2023	< 0.0034	**U**		< 0.0070	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		< 0.01	**U**		< 0.0066	**U**		< 0.0048	**U**	
SVP-08	30	SVP-08-30-020623	2/6/2023	**0.0014**	**J**		< 0.0077	**U**		< 0.012	**U**		< 0.044	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0072	**U**		< 0.0053	**U**	
SVP-09	10	SVP-09-10-020623	2/6/2023	< 0.0034	**U**		< 0.0072	**U**		< 0.011	**U**		< 0.042	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0067	**U**		< 0.0049	**U**	
SVP-09	20	SVP-09-20-020623	2/6/2023	< 0.0036	**U**		< 0.0075	**U**		< 0.012	**U**		< 0.043	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0070	**U**		< 0.0052	**U**	
SVP-09	30	SVP-09-30-020623	2/6/2023	< 0.0035	**U**		< 0.0073	**U**		< 0.011	**U**		< 0.042	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0069	**U**		< 0.0050	**U**	
SVP-10	10	SVP-10-10-020323	2/3/2023	< 0.0031	**U**		< 0.0065	**U**		< 0.01	**U**		< 0.038	**U**		< 0.0021	**U**		< 0.0092	**U**		< 0.0061	**U**		< 0.0045	**U**	
SVP-10	10	SVP-10-10-020323-DUP	2/3/2023	< 0.0030	**U**		< 0.0064	**U**		< 0.0098	**U**		< 0.037	**U**		< 0.0021	**U**		< 0.0090	**U**		< 0.0060	**U**		< 0.0044	**U**	
SVP-10	20	SVP-10-20-020323	2/3/2023	< 0.0034	**U**		< 0.0070	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		< 0.01	**U**		< 0.0066	**U**		< 0.0048	**U**	
SVP-10	30	SVP-10-30-020323	2/3/2023	**0.0038**			< 0.0068	**U**		< 0.01	**U**		< 0.039	**U**		< 0.0022	**U**		< 0.0096	**U**		< 0.0064	**U**		< 0.0046	**U**	
SVP-11	10	SVP-11-10-020323	2/3/2023	< 0.0034	**U**		< 0.0070	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		< 0.01	**U**		< 0.0066	**U**		< 0.0048	**U**	
SVP-11	20	SVP-11-20-020323	2/3/2023	< 0.0033	**U**		< 0.0069	**U**		< 0.011	**U**		< 0.04	**U**		< 0.0023	**U**		< 0.0098	**U**		< 0.0065	**U**		< 0.0047	**U**	
SVP-11	30	SVP-11-30-020323	2/3/2023	**0.0091**			< 0.0070	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		< 0.01	**U**		< 0.0066	**U**		< 0.0048	**U**	
SVP-12	10	SVP-12-10-020223	2/2/2023	< 0.0036	**U**		< 0.0076	**U**		< 0.012	**U**		< 0.044	**U**		< 0.0025	**U**		< 0.011	**U**		< 0.0072	**U**		< 0.0052	**U**	
SVP-12	20	SVP-12-20-020223	2/2/2023	**0.0028**	**J**		< 0.0073	**U**		< 0.011	**U**		< 0.042	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0068	**U**		< 0.0050	**U**	
SVP-12	30	SVP-12-30-020223	2/2/2023	< 0.0035	**U**		< 0.0074	**U**		< 0.011	**U**		< 0.043	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0070	**U**		< 0.0051	**U**	
SVP-13	10	SVP-13-10-020223	2/2/2023	**0.0024**	**J**		< 0.0070	**U**		< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		**0.015**			< 0.0066	**U**		< 0.0048	**U**	
SVP-13	20	SVP-13-20-020223	2/2/2023	**0.0025**	**J**		**0.013**			< 0.011	**U**		< 0.043	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0070	**U**		< 0.0051	**U**	
SVP-13	30	SVP-13-30-020223	2/2/2023	< 0.0034	**U**		**0.0089**			< 0.011	**U**		< 0.041	**U**		< 0.0024	**U**		< 0.01	**U**		< 0.0067	**U**		< 0.0049	**U**	
SVP-14	10	SVP-14-10-020223	2/2/2023	< 0.0030	**U**		**0.3**			< 0.0097	**U**		< 0.036	**U**		< 0.0021	**U**		< 0.0089	**U**		**0.0084**			< 0.0043	**U**	
SVP-14	20	SVP-14-20-020223	2/2/2023	< 0.0031	**U**		**0.24**			< 0.01	**U**		< 0.037	**U**		< 0.0021	**U**		< 0.0092	**U**		**0.0037**	**J**		< 0.0044	**U**	
SVP-14	30	SVP-14-30-020223	2/2/2023	< 0.0034	**U**		**0.029**			< 0.011	**U**		< 0.041	**U**		< 0.0023	**U**		< 0.01	**U**		< 0.0067	**U**		< 0.0049	**U**	

ATTACHMENT A
BASELINE SVP ANALYTICAL DETECTIONS AND SCREENING RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Chloroform			Chloromethane			alpha-Chlorotoluene			1,2-Dibromoethane (EDB)			1,3-Dichlorobenzene			1,4-Dichlorobenzene			Dichlorodifluoromethane			1,2-Dichloroethane		
				0.11									0.0078						1200			270			0.099		
				Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals
SVP-01	10	SVP-01-10-020623	2/6/2023	< 0.0055	U		< 0.023	U		< 0.0058	U		< 0.0086	U		< 0.0067	U		< 0.0067	U		0.0030	J		< 0.0045	U	
SVP-01	20	SVP-01-20-020623	2/6/2023	< 0.0055	U		< 0.023	U		< 0.0058	U		< 0.0086	U		< 0.0067	U		< 0.0067	U		0.0029	J		< 0.0045	U	
SVP-01	30	SVP-01-30-020623	2/6/2023	< 0.0060	U		< 0.025	U		< 0.0064	U		< 0.0094	U		< 0.0074	U		< 0.0074	U		0.0028	J		< 0.0050	U	
SVP-02	10	SVP-02-10-020623	2/6/2023	< 0.0057	U		< 0.024	U		< 0.0060	U		< 0.0090	U		< 0.0070	U		< 0.0070	U		0.0028	J		< 0.0047	U	
SVP-02	20	SVP-02-20-020623	2/6/2023	< 0.0058	U		< 0.025	U		< 0.0062	U		< 0.0092	U		< 0.0072	U		< 0.0072	U		0.0031	J		< 0.0048	U	
SVP-02	30	SVP-02-30-020623	2/6/2023	< 0.0056	U		< 0.024	U		< 0.0059	U		< 0.0088	U		< 0.0069	U		< 0.0069	U		0.0029	J		< 0.0046	U	
SVP-03	10	SVP-03-10-020323	2/3/2023	< 0.0049	U		< 0.021	U		< 0.0052	U		< 0.0078	U		< 0.0061	U		< 0.0061	U		0.0028	J		< 0.0041	U	
SVP-03	20	SVP-03-20-020323	2/3/2023	< 0.0049	U		< 0.021	U		< 0.0052	U		< 0.0078	U		< 0.0061	U		< 0.0061	U		0.0031	J		< 0.0041	U	
SVP-03	30	SVP-03-30-020323	2/3/2023	< 0.0053	U		< 0.023	U		< 0.0057	U		< 0.0084	U		< 0.0066	U		< 0.0066	U		0.0029	J		< 0.0044	U	
SVP-03	30	SVP-03-30-020323-DUP	2/3/2023	< 0.0055	U		< 0.023	U		< 0.0058	U		< 0.0086	U		< 0.0067	U		< 0.0067	U		0.0029	J		< 0.0045	U	
SVP-04	10	SVP-04-10-020223	2/2/2023	< 0.0050	U		< 0.021	U		< 0.0053	U		< 0.0079	U		< 0.0062	U		< 0.0062	U		0.0027	J		< 0.0041	U	
SVP-04	20	SVP-04-20-020223	2/2/2023	< 0.0048	U		< 0.02	U		< 0.0052	U		< 0.0076	U		< 0.0060	U		< 0.0060	U		0.0032	J		< 0.0040	U	
SVP-04	30	SVP-04-30-020223	2/2/2023	< 0.0048	U		< 0.02	U		< 0.0051	U		< 0.0076	U		< 0.0060	U		< 0.0060	U		0.0031	J		< 0.0040	U	
SVP-05	10	SVP-05-10-020223	2/2/2023	< 0.0057	U		< 0.024	U		< 0.0060	U		< 0.0089	U		< 0.0070	U		< 0.0070	U		< 0.0057	U		< 0.0047	U	
SVP-05	20	SVP-05-20-020223	2/2/2023	< 0.0052	U		< 0.022	U		< 0.0055	U		< 0.0082	U		< 0.0064	U		< 0.0064	U		0.0028	J		< 0.0043	U	
SVP-05	30	SVP-05-30-020223	2/2/2023	< 0.0052	U		< 0.022	U		< 0.0055	U		< 0.0081	U		< 0.0063	U		< 0.0063	U		0.0024	J		< 0.0043	U	
SVP-05	30	SVP-05-30-020223-DUP	2/2/2023	< 0.0052	U		< 0.022	U		< 0.0055	U		< 0.0081	U		< 0.0063	U		< 0.0063	U		0.0029	J		< 0.0043	U	
SVP-06	10	SVP-06-10-020223	2/2/2023	< 0.0051	U		< 0.021	U		< 0.0054	U		< 0.0080	U		< 0.0062	U		< 0.0062	U		0.0029	J		< 0.0042	U	
SVP-06	20	SVP-06-20-020223	2/2/2023	0.0092			< 0.021	U		< 0.0053	U		< 0.0079	U		< 0.0062	U		< 0.0062	U		< 0.0051	U		< 0.0041	U	
SVP-06	30	SVP-06-30-020223	2/2/2023	0.0028	J		< 0.022	U		< 0.0055	U		< 0.0082	U		< 0.0064	U		< 0.0064	U		< 0.0053	U		< 0.0043	U	
SVP-07	10	SVP-07-10-020223	2/2/2023	0.0012	J		< 0.02	U		< 0.0050	U		< 0.0074	U		< 0.0058	U		< 0.0058	U		0.0021	J		< 0.0039	U	
SVP-07	20	SVP-07-20-020223	2/2/2023	0.014			< 0.023	U		< 0.0058	U		< 0.0086	U		< 0.0068	U		< 0.0068	U		0.0030	J		< 0.0046	U	
SVP-07	20	SVP-07-20-020223-DUP	2/2/2023	0.013			< 0.023	U		< 0.0058	U		< 0.0087	U		< 0.0068	U		< 0.0068	U		0.0026	J		< 0.0046	U	
SVP-07	30	SVP-07-30-020223	2/2/2023	0.014			< 0.022	U		< 0.0055	U		< 0.0082	U		< 0.0064	U		< 0.0064	U		0.0031	J		< 0.0043	U	
SVP-08	10	SVP-08-10-020623	2/6/2023	< 0.0051	U		< 0.022	U		< 0.0054	U		< 0.0081	U		< 0.0063	U		< 0.0063	U		0.0027	J		< 0.0042	U	
SVP-08	20	SVP-08-20-020623	2/6/2023	< 0.0051	U		< 0.022	U		< 0.0054	U		< 0.0081	U		< 0.0063	U		< 0.0063	U		0.0030	J		< 0.0042	U	
SVP-08	30	SVP-08-30-020623	2/6/2023	< 0.0056	U		< 0.024	U		< 0.0059	U		< 0.0088	U		< 0.0069	U		< 0.0069	U		0.0025	J		< 0.0046	U	
SVP-09	10	SVP-09-10-020623	2/6/2023	< 0.0052	U		< 0.022	U		< 0.0055	U		< 0.0082	U		< 0.0064	U		< 0.0064	U		0.0033	J		< 0.0043	U	
SVP-09	20	SVP-09-20-020623	2/6/2023	< 0.0055	U		< 0.023	U		< 0.0058	U		< 0.0086	U		< 0.0067	U		< 0.0067	U		0.0029	J		< 0.0045	U	
SVP-09	30	SVP-09-30-020623	2/6/2023	< 0.0053	U		< 0.023	U		< 0.0057	U		< 0.0084	U		< 0.0066	U		< 0.0066	U		0.0030	J		< 0.0044	U	
SVP-10	10	SVP-10-10-020323	2/3/2023	< 0.0047	U		< 0.02	U		< 0.0050	U		< 0.0074	U		< 0.0058	U		< 0.0058	U		0.0024	J		< 0.0039	U	
SVP-10	10	SVP-10-10-020323-DUP	2/3/2023	< 0.0046	U		< 0.02	U		< 0.0049	U		< 0.0073	U		< 0.0057	U		< 0.0057	U		0.0021	J		< 0.0038	U	
SVP-10	20	SVP-10-20-020323	2/3/2023	< 0.0051	U		< 0.022	U		< 0.0054	U		< 0.0081	U		< 0.0063	U		< 0.0063	U		< 0.0052	U		< 0.0042	U	
SVP-10	30	SVP-10-30-020323	2/3/2023	< 0.0049	U		< 0.021	U		< 0.0052	U		< 0.0078	U		< 0.0061	U		< 0.0061	U		< 0.0050	U		< 0.0041	U	
SVP-11	10	SVP-11-10-020323	2/3/2023	< 0.0051	U		< 0.022	U		< 0.0054	U		< 0.0081	U		< 0.0063	U		< 0.0063	U		0.0023	J		< 0.0042	U	
SVP-11	20	SVP-11-20-020323	2/3/2023	< 0.0050	U		< 0.021	U		< 0.0053	U		< 0.0079	U		< 0.0062	U		< 0.0062	U		0.0022	J		< 0.0042	U	
SVP-11	30	SVP-11-30-020323	2/3/2023	< 0.0051	U		< 0.022	U		< 0.0054	U		< 0.0081	U		< 0.0063	U		< 0.0063	U		0.0023	J		< 0.0042	U	
SVP-12	10	SVP-12-10-020223	2/2/2023	< 0.0056	U		< 0.024	U		< 0.0059	U		< 0.0088	U		< 0.0068	U		< 0.0068	U		0.0023	J		< 0.0046	U	
SVP-12	20	SVP-12-20-020223	2/2/2023	< 0.0053	U		< 0.022	U		< 0.0056	U		< 0.0084	U		< 0.0066	U		< 0.0066	U		0.0026	J		< 0.0044	U	
SVP-12	30	SVP-12-30-020223	2/2/2023	< 0.0054	U		< 0.023	U		< 0.0057	U		< 0.0085	U		< 0.0067	U		< 0.0067	U		0.0024	J		< 0.0045	U	
SVP-13	10	SVP-13-10-020223	2/2/2023	0.0030	J		< 0.022	U		< 0.0054	U		< 0.0081	U		< 0.0063	U		< 0.0063	U		0.0021	J		< 0.0042	U	
SVP-13	20	SVP-13-20-020223	2/2/2023	0.092			< 0.023	U		< 0.0057	U		< 0.0085	U		< 0.0067	U		< 0.0067	U		0.0024	J		< 0.0045	U	
SVP-13	30	SVP-13-30-020223	2/2/2023	0.044			< 0.022	U		< 0.0055	U		< 0.0082	U		< 0.0064	U		< 0.0064	U		0.0022	J		< 0.0043	U	
SVP-14	10	SVP-14-10-020223	2/2/2023	1.4			< 0.019	U		< 0.0049	U		< 0.0072	U		< 0.0056	U		< 0.0056	U		0.0025	J		< 0.0038	U	
SVP-14	20	SVP-14-20-020223	2/2/2023	1.1			< 0.02	U		< 0.0050	U		< 0.0074	U		< 0.0058	U		< 0.0058	U		< 0.0048	U		< 0.0039	U	
SVP-14	30	SVP-14-30-020223	2/2/2023	0.16			< 0.022	U		< 0.0055	U		< 0.0081	U		< 0.0064	U		< 0.0064	U		0.0021	J		< 0.0043	U	

SEE LAST PAGE OF TABLE FOR NOTES

ATTACHMENT A
BASELINE SVP ANALYTICAL DETECTIONS AND SCREENING RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Dichloromethane (Methylene Chloride)			1,2-Dichloropropane			cis-1,3-Dichloropropene			trans-1,3-Dichloropropene			1,4-Dioxane			Ethanol			Ethylbenzene			4-Ethyltoluene		
				5.6			0.31									0.22						1.3					
				Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals
SVP-01	10	SVP-01-10-020623	2/6/2023	< 0.039	U		< 0.0052	U		< 0.0051	U		< 0.0051	U		< 0.016	U		< 0.021	U		0.0059			< 0.0055	U	
SVP-01	20	SVP-01-20-020623	2/6/2023	< 0.039	U		< 0.0052	U		< 0.0051	U		< 0.0051	U		< 0.016	U		< 0.021	U		0.0011	J		< 0.0055	U	
SVP-01	30	SVP-01-30-020623	2/6/2023	< 0.043	U		< 0.0057	U		< 0.0056	U		< 0.0056	U		< 0.018	U		< 0.023	U		< 0.0053	U		< 0.0060	U	
SVP-02	10	SVP-02-10-020623	2/6/2023	< 0.041	U		< 0.0054	U		< 0.0053	U		< 0.0053	U		< 0.017	U		< 0.022	U		< 0.0051	U		< 0.0058	U	
SVP-02	20	SVP-02-20-020623	2/6/2023	< 0.042	U		< 0.0055	U		< 0.0054	U		< 0.0054	U		< 0.017	U		< 0.023	U		< 0.0052	U		< 0.0059	U	
SVP-02	30	SVP-02-30-020623	2/6/2023	< 0.04	U		< 0.0053	U		< 0.0052	U		< 0.0052	U		< 0.016	U		< 0.022	U		< 0.0050	U		< 0.0056	U	
SVP-03	10	SVP-03-10-020323	2/3/2023	< 0.035	U		< 0.0047	U		< 0.0046	U		< 0.0046	U		< 0.014	U		< 0.019	U		< 0.0044	U		< 0.0050	U	
SVP-03	20	SVP-03-20-020323	2/3/2023	< 0.035	U		< 0.0047	U		< 0.0046	U		< 0.0046	U		< 0.014	U		< 0.019	U		< 0.0044	U		< 0.0050	U	
SVP-03	30	SVP-03-30-020323	2/3/2023	< 0.038	U		< 0.0051	U		< 0.0050	U		< 0.0050	U		< 0.016	U		< 0.021	U		< 0.0048	U		< 0.0054	U	
SVP-03	30	SVP-03-30-020323-DUP	2/3/2023	< 0.039	U		< 0.0052	U		< 0.0051	U		< 0.0051	U		< 0.016	U		< 0.021	U		< 0.0049	U		< 0.0055	U	
SVP-04	10	SVP-04-10-020223	2/2/2023	< 0.036	U		< 0.0047	U		< 0.0046	U		< 0.0046	U		< 0.015	U		< 0.019	U		< 0.0044	U		< 0.0050	U	
SVP-04	20	SVP-04-20-020223	2/2/2023	< 0.034	U		< 0.0046	U		< 0.0045	U		< 0.0045	U		< 0.014	U		< 0.019	U		< 0.0043	U		< 0.0049	U	
SVP-04	30	SVP-04-30-020223	2/2/2023	< 0.034	U		< 0.0046	U		< 0.0045	U		< 0.0045	U		< 0.014	U		< 0.019	U		< 0.0043	U		< 0.0049	U	
SVP-05	10	SVP-05-10-020223	2/2/2023	< 0.04	U		< 0.0054	U		< 0.0053	U		< 0.0053	U		< 0.017	U		< 0.022	U		< 0.0050	U		< 0.0057	U	
SVP-05	20	SVP-05-20-020223	2/2/2023	< 0.037	U		< 0.0049	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0052	U	
SVP-05	30	SVP-05-30-020223	2/2/2023	< 0.037	U		< 0.0049	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0052	U	
SVP-05	30	SVP-05-30-020223-DUP	2/2/2023	< 0.037	U		< 0.0049	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0052	U	
SVP-06	10	SVP-06-10-020223	2/2/2023	< 0.036	U		< 0.0048	U		< 0.0047	U		< 0.0047	U		< 0.015	U		< 0.02	U		< 0.0045	U		< 0.0051	U	
SVP-06	20	SVP-06-20-020223	2/2/2023	< 0.036	U		< 0.0047	U		< 0.0046	U		< 0.0046	U		< 0.015	U		< 0.019	U		< 0.0044	U		< 0.0050	U	
SVP-06	30	SVP-06-30-020223	2/2/2023	< 0.037	U		< 0.0049	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0053	U	
SVP-07	10	SVP-07-10-020223	2/2/2023	< 0.034	U		< 0.0044	U		< 0.0044	U		< 0.0044	U		< 0.014	U		< 0.018	U		< 0.0042	U		< 0.0047	U	
SVP-07	20	SVP-07-20-020223	2/2/2023	< 0.039	U		< 0.0052	U		< 0.0051	U		< 0.0051	U		< 0.016	U		< 0.021	U		< 0.0049	U		< 0.0055	U	
SVP-07	20	SVP-07-20-020223-DUP	2/2/2023	< 0.039	U		< 0.0052	U		< 0.0051	U		< 0.0051	U		< 0.016	U		< 0.021	U		< 0.0049	U		< 0.0056	U	
SVP-07	30	SVP-07-30-020223	2/2/2023	< 0.037	U		< 0.0049	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0052	U	
SVP-08	10	SVP-08-10-020623	2/6/2023	< 0.036	U		< 0.0048	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0052	U	
SVP-08	20	SVP-08-20-020623	2/6/2023	< 0.036	U		< 0.0048	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		0.0012	J		< 0.0052	U	
SVP-08	30	SVP-08-30-020623	2/6/2023	< 0.04	U		< 0.0053	U		< 0.0052	U		< 0.0052	U		< 0.016	U		< 0.022	U		0.0019	J		< 0.0056	U	
SVP-09	10	SVP-09-10-020623	2/6/2023	< 0.037	U		< 0.0049	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0053	U	
SVP-09	20	SVP-09-20-020623	2/6/2023	< 0.039	U		< 0.0052	U		< 0.0051	U		< 0.0051	U		< 0.016	U		< 0.021	U		< 0.0049	U		< 0.0055	U	
SVP-09	30	SVP-09-30-020623	2/6/2023	< 0.038	U		< 0.0051	U		< 0.0050	U		< 0.0050	U		< 0.016	U		< 0.021	U		< 0.0048	U		< 0.0054	U	
SVP-10	10	SVP-10-10-020323	2/3/2023	< 0.034	U		< 0.0045	U		< 0.0044	U		< 0.0044	U		< 0.014	U		< 0.018	U		< 0.0042	U		< 0.0048	U	
SVP-10	10	SVP-10-10-020323-DUP	2/3/2023	< 0.033	U		< 0.0044	U		< 0.0043	U		< 0.0043	U		< 0.014	U		< 0.018	U		< 0.0041	U		< 0.0047	U	
SVP-10	20	SVP-10-20-020323	2/3/2023	< 0.036	U		< 0.0048	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0052	U	
SVP-10	30	SVP-10-30-020323	2/3/2023	< 0.035	U		< 0.0047	U		< 0.0046	U		< 0.0046	U		< 0.014	U		< 0.019	U		0.012			< 0.0050	U	
SVP-11	10	SVP-11-10-020323	2/3/2023	< 0.036	U		< 0.0048	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0052	U	
SVP-11	20	SVP-11-20-020323	2/3/2023	< 0.036	U		< 0.0048	U		< 0.0047	U		< 0.0047	U		< 0.015	U		< 0.019	U		< 0.0045	U		< 0.0051	U	
SVP-11	30	SVP-11-30-020323	2/3/2023	< 0.036	U		< 0.0048	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		0.033			0.011		
SVP-12	10	SVP-12-10-020223	2/2/2023	< 0.04	U		< 0.0053	U		< 0.0052	U		< 0.0052	U		< 0.016	U		< 0.021	U		< 0.0049	U		< 0.0056	U	
SVP-12	20	SVP-12-20-020223	2/2/2023	< 0.038	U		< 0.0050	U		< 0.0049	U		< 0.0049	U		< 0.016	U		< 0.02	U		0.0077			< 0.0054	U	
SVP-12	30	SVP-12-30-020223	2/2/2023	< 0.038	U		< 0.0051	U		< 0.0050	U		< 0.0050	U		< 0.016	U		< 0.021	U		0.0013	J		< 0.0054	U	
SVP-13	10	SVP-13-10-020223	2/2/2023	< 0.036	U		< 0.0048	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		0.0064			< 0.0052	U	
SVP-13	20	SVP-13-20-020223	2/2/2023	< 0.038	U		< 0.0051	U		< 0.0050	U		< 0.0050	U		< 0.016	U		< 0.021	U		0.0031	J		< 0.0054	U	
SVP-13	30	SVP-13-30-020223	2/2/2023	< 0.037	U		< 0.0049	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		0.0017	J		< 0.0052	U	
SVP-14	10	SVP-14-10-020223	2/2/2023	0.0028	J		< 0.0043	U		< 0.0043	U		< 0.0043	U		< 0.014	U		< 0.018	U		< 0.0041	U		< 0.0046	U	
SVP-14	20	SVP-14-20-020223	2/2/2023	0.0040	J		< 0.0044	U		< 0.0044	U		< 0.0044	U		< 0.014	U		< 0.018	U		< 0.0042	U		< 0.0047	U	
SVP-14	30	SVP-14-30-020223	2/2/2023	< 0.037	U		< 0.0049	U		< 0.0048	U		< 0.0048	U		< 0.015	U		< 0.02	U		< 0.0046	U		< 0.0052	U	

SEE LAST PAGE OF TABLE FOR NOTES

ATTACHMENT A
BASELINE SVP ANALYTICAL DETECTIONS AND SCREENING RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Freon 114 (Dichlorotetrafluoroethane)			Heptane			Hexachlorobutadiene			Hexane			2-Hexanone (Methyl N-Butyl Ketone)			Isopentane			2-Propanol			1,1,2,2-Tetrachloroethane		
				Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals
SVP-01	10	SVP-01-10-020623	2/6/2023	< 0.0078	U		0.014			< 0.048	U		0.029			< 0.018	U		0.02			0.0047	J	J	< 0.0077	U	
SVP-01	20	SVP-01-20-020623	2/6/2023	< 0.0078	U		0.0015	J		< 0.048	U		0.0034	J		< 0.018	U		< 0.013	U		0.0049	J	J	< 0.0077	U	
SVP-01	30	SVP-01-30-020623	2/6/2023	< 0.0086	U		< 0.0050	U		< 0.052	U		< 0.0043	U		< 0.02	U		< 0.014	U		0.0063	J	J	< 0.0084	U	
SVP-02	10	SVP-02-10-020623	2/6/2023	< 0.0082	U		< 0.0048	U		< 0.05	U		< 0.0041	U		< 0.019	U		< 0.014	U		0.0052	J	J	< 0.0080	U	
SVP-02	20	SVP-02-20-020623	2/6/2023	< 0.0084	U		< 0.0049	U		< 0.051	U		< 0.0042	U		< 0.02	U		< 0.014	U		0.0047	J	J	< 0.0082	U	
SVP-02	30	SVP-02-30-020623	2/6/2023	< 0.0080	U		< 0.0047	U		< 0.049	U		< 0.0040	U		< 0.019	U		< 0.014	U		0.0045	J	J	< 0.0079	U	
SVP-03	10	SVP-03-10-020323	2/3/2023	< 0.0071	U		< 0.0041	U		< 0.043	U		< 0.0036	U		< 0.016	U		< 0.012	U		< 0.0099	U		< 0.0069	U	
SVP-03	20	SVP-03-20-020323	2/3/2023	< 0.0071	U		< 0.0041	U		< 0.043	U		< 0.0036	U		< 0.016	U		< 0.012	U		< 0.0099	U		< 0.0069	U	
SVP-03	30	SVP-03-30-020323	2/3/2023	< 0.0076	U		< 0.0045	U		< 0.047	U		< 0.0038	U		< 0.018	U		< 0.013	U		< 0.011	U		< 0.0075	U	
SVP-03	30	SVP-03-30-020323-DUP	2/3/2023	< 0.0078	U		< 0.0046	U		< 0.048	U		< 0.0039	U		< 0.018	U		< 0.013	U		< 0.011	U		< 0.0077	U	
SVP-04	10	SVP-04-10-020223	2/2/2023	< 0.0072	U		< 0.0042	U		< 0.044	U		< 0.0036	U		< 0.017	U		< 0.012	U		< 0.01	U		< 0.0070	U	
SVP-04	20	SVP-04-20-020223	2/2/2023	< 0.0070	U		< 0.0041	U		< 0.042	U		< 0.0035	U		< 0.016	U		< 0.012	U		< 0.0098	U		< 0.0068	U	
SVP-04	30	SVP-04-30-020223	2/2/2023	< 0.0069	U		< 0.0040	U		< 0.042	U		< 0.0035	U		< 0.016	U		< 0.012	U		< 0.0097	U		< 0.0068	U	
SVP-05	10	SVP-05-10-020223	2/2/2023	< 0.0081	U		< 0.0048	U		< 0.049	U		< 0.0041	U		< 0.019	U		< 0.014	U		< 0.011	U		< 0.0080	U	
SVP-05	20	SVP-05-20-020223	2/2/2023	< 0.0074	U		< 0.0044	U		< 0.045	U		< 0.0038	U		< 0.017	U		< 0.012	U		< 0.01	U		< 0.0073	U	
SVP-05	30	SVP-05-30-020223	2/2/2023	< 0.0074	U		< 0.0043	U		< 0.045	U		< 0.0037	U		< 0.017	U		< 0.012	U		< 0.01	U		< 0.0072	U	
SVP-05	30	SVP-05-30-020223-DUP	2/2/2023	< 0.0074	U		< 0.0043	U		< 0.045	U		< 0.0037	U		< 0.017	U		< 0.012	U		< 0.01	U		< 0.0072	U	
SVP-06	10	SVP-06-10-020223	2/2/2023	< 0.0073	U		< 0.0043	U		< 0.044	U		< 0.0037	U		< 0.017	U		< 0.012	U		0.0060	J		< 0.0071	U	
SVP-06	20	SVP-06-20-020223	2/2/2023	< 0.0072	U		< 0.0042	U		< 0.044	U		< 0.0036	U		< 0.017	U		< 0.012	U		0.0046	J		< 0.0070	U	
SVP-06	30	SVP-06-30-020223	2/2/2023	< 0.0075	U		< 0.0044	U		< 0.046	U		< 0.0038	U		< 0.018	U		< 0.013	U		< 0.01	U		< 0.0073	U	
SVP-07	10	SVP-07-10-020223	2/2/2023	< 0.0067	U		< 0.0040	U		< 0.041	U		< 0.0034	U		< 0.016	U		< 0.011	U		< 0.0095	U		< 0.0066	U	
SVP-07	20	SVP-07-20-020223	2/2/2023	< 0.0079	U		< 0.0046	U		< 0.048	U		< 0.0040	U		< 0.018	U		< 0.013	U		< 0.011	U		< 0.0077	U	
SVP-07	20	SVP-07-20-020223-DUP	2/2/2023	< 0.0079	U		< 0.0046	U		< 0.048	U		< 0.0040	U		< 0.018	U		< 0.013	U		< 0.011	U		< 0.0078	U	
SVP-07	30	SVP-07-30-020223	2/2/2023	< 0.0074	U		< 0.0044	U		< 0.045	U		< 0.0038	U		< 0.017	U		< 0.012	U		< 0.01	U		< 0.0073	U	
SVP-08	10	SVP-08-10-020623	2/6/2023	< 0.0073	U		< 0.0043	U		< 0.045	U		< 0.0037	U		< 0.017	U		< 0.012	U		0.0039	J	J	< 0.0072	U	
SVP-08	20	SVP-08-20-020623	2/6/2023	< 0.0073	U		< 0.0043	U		< 0.045	U		< 0.0037	U		< 0.017	U		< 0.012	U		0.0046	J	J	< 0.0072	U	
SVP-08	30	SVP-08-30-020623	2/6/2023	< 0.0080	U		0.0035	J		< 0.049	U		0.0074			< 0.019	U		< 0.014	U		0.0095	J	J	< 0.0079	U	
SVP-09	10	SVP-09-10-020623	2/6/2023	< 0.0075	U		< 0.0044	U		< 0.046	U		< 0.0038	U		< 0.018	U		< 0.013	U		0.0074	J	J	< 0.0073	U	
SVP-09	20	SVP-09-20-020623	2/6/2023	< 0.0078	U		< 0.0046	U		< 0.048	U		< 0.0039	U		< 0.018	U		0.016			0.0077	J	J	< 0.0077	U	
SVP-09	30	SVP-09-30-020623	2/6/2023	< 0.0076	U		< 0.0045	U		< 0.047	U		< 0.0038	U		< 0.018	U		< 0.013	U		0.0048	J	J	< 0.0075	U	
SVP-10	10	SVP-10-10-020323	2/3/2023	< 0.0068	U		< 0.0040	U		< 0.041	U		< 0.0034	U		< 0.016	U		< 0.011	U		< 0.0095	U		< 0.0066	U	
SVP-10	10	SVP-10-10-020323-DUP	2/3/2023	< 0.0066	U		< 0.0039	U		< 0.04	U		< 0.0033	U		< 0.016	U		< 0.011	U		< 0.0093	U		< 0.0065	U	
SVP-10	20	SVP-10-20-020323	2/3/2023	< 0.0073	U		< 0.0043	U		< 0.045	U		< 0.0037	U		< 0.017	U		< 0.012	U		< 0.01	U		< 0.0072	U	
SVP-10	30	SVP-10-30-020323	2/3/2023	< 0.0071	U		0.013			< 0.043	U		0.018			< 0.016	U		0.022			< 0.0099	U		< 0.0069	U	
SVP-11	10	SVP-11-10-020323	2/3/2023	< 0.0073	U		0.0016	J		< 0.045	U		0.0053			< 0.017	U		< 0.012	U		0.0034	J		< 0.0072	U	
SVP-11	20	SVP-11-20-020323	2/3/2023	< 0.0072	U		< 0.0042	U		< 0.044	U		0.0013	J		< 0.017	U		0.028			< 0.01	U		< 0.0071	U	
SVP-11	30	SVP-11-30-020323	2/3/2023	< 0.0073	U		0.0025	J		< 0.045	U		0.0050			< 0.017	U		< 0.012	U		0.0035	J		< 0.0072	U	
SVP-12	10	SVP-12-10-020223	2/2/2023	< 0.0080	U		< 0.0047	U		< 0.049	U		< 0.0040	U		< 0.019	U		< 0.013	U		0.0036	J		< 0.0078	U	
SVP-12	20	SVP-12-20-020223	2/2/2023	< 0.0076	U		0.016			< 0.046	U		0.038			< 0.018	U		0.056			0.0066	J		< 0.0075	U	
SVP-12	30	SVP-12-30-020223	2/2/2023	< 0.0078	U		< 0.0045	U		< 0.047	U		< 0.0039	U		< 0.018	U		< 0.013	U		0.0042	J		< 0.0076	U	
SVP-13	10	SVP-13-10-020223	2/2/2023	< 0.0073	U		0.016			< 0.045	U		0.041			< 0.017	U		0.082			< 0.01	U		< 0.0072	U	
SVP-13	20	SVP-13-20-020223	2/2/2023	< 0.0078	U		0.0071			< 0.047	U		0.015			< 0.018	U		0.027			0.0047	J		< 0.0076	U	
SVP-13	30	SVP-13-30-020223	2/2/2023	< 0.0074	U		< 0.0044	U		< 0.045	U		0.0012	J		< 0.017	U		< 0.012	U		< 0.01	U		< 0.0073	U	
SVP-14	10	SVP-14-10-020223	2/2/2023	< 0.0066	U		< 0.0038	U		< 0.04	U		< 0.0033	U		< 0.015	U		< 0.011	U		0.0049	J		< 0.0064	U	
SVP-14	20	SVP-14-20-020223	2/2/2023	< 0.0067	U		< 0.0040	U		< 0.041	U		< 0.0034	U		< 0.016	U		< 0.011	U		< 0.0095	U		< 0.0066	U	
SVP-14	30	SVP-14-30-020223	2/2/2023	< 0.0074	U		< 0.0043	U		< 0.045	U		< 0.0037	U		< 0.017	U		< 0.012	U		0.0036	J		< 0.0073	U	

SEE LAST PAGE OF TABLE FOR NOTES

ATTACHMENT A
BASELINE SVP ANALYTICAL DETECTIONS AND SCREENING RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Tetrachloroethene			1,2,4-Trichlorobenzene			1,1,2-Trichloroethane			Trichloroethene			1,2,4-Trimethylbenzene			1,3,5-Trimethylbenzene			2,2,4-Trimethylpentane			Vinyl Chloride		
				0.55			5.4			170000			1.5												0.29		
				Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals
SVP-01	10	SVP-01-10-020623	2/6/2023	< 0.0076	U		< 0.033	U		< 0.0061	U		< 0.0060	U		< 0.0055	U		< 0.0055	U		0.039			< 0.0029	U	
SVP-01	20	SVP-01-20-020623	2/6/2023	< 0.0076	U		< 0.033	U		< 0.0061	U		< 0.0060	U		< 0.0055	U		< 0.0055	U		0.0089			< 0.0029	U	
SVP-01	30	SVP-01-30-020623	2/6/2023	< 0.0083	U		< 0.036	U		< 0.0067	U		< 0.0066	U		< 0.0060	U		< 0.0060	U		< 0.0057	U		< 0.0031	U	
SVP-02	10	SVP-02-10-020623	2/6/2023	< 0.0079	U		< 0.035	U		< 0.0064	U		< 0.0063	U		< 0.0058	U		< 0.0058	U		< 0.0055	U		< 0.0030	U	
SVP-02	20	SVP-02-20-020623	2/6/2023	< 0.0081	U		< 0.036	U		< 0.0065	U		< 0.0064	U		< 0.0059	U		< 0.0059	U		< 0.0056	U		< 0.0031	U	
SVP-02	30	SVP-02-30-020623	2/6/2023	< 0.0078	U		< 0.034	U		< 0.0062	U		< 0.0062	U		< 0.0056	U		< 0.0056	U		< 0.0053	U		< 0.0029	U	
SVP-03	10	SVP-03-10-020323	2/3/2023	< 0.0068	U		< 0.03	U		< 0.0055	U		< 0.0054	U		< 0.0050	U		< 0.0050	U		< 0.0047	U		< 0.0026	U	
SVP-03	20	SVP-03-20-020323	2/3/2023	< 0.0068	U		< 0.03	U		< 0.0055	U		< 0.0054	U		< 0.0050	U		< 0.0050	U		< 0.0047	U		< 0.0026	U	
SVP-03	30	SVP-03-30-020323	2/3/2023	< 0.0074	U		< 0.032	U		< 0.0060	U		0.0014	J		< 0.0054	U		< 0.0054	U		< 0.0051	U		< 0.0028	U	
SVP-03	30	SVP-03-30-020323-DUP	2/3/2023	< 0.0076	U		< 0.033	U		< 0.0061	U		< 0.0060	U		< 0.0055	U		< 0.0055	U		< 0.0052	U		< 0.0029	U	
SVP-04	10	SVP-04-10-020223	2/2/2023	< 0.0070	U		< 0.03	U		< 0.0056	U		< 0.0055	U		< 0.0050	U		< 0.0050	U		< 0.0048	U		< 0.0026	U	
SVP-04	20	SVP-04-20-020223	2/2/2023	< 0.0067	U		< 0.03	U		< 0.0054	U		< 0.0053	U		< 0.0049	U		< 0.0049	U		< 0.0046	U		< 0.0025	U	
SVP-04	30	SVP-04-30-020223	2/2/2023	< 0.0067	U		< 0.029	U		< 0.0054	U		< 0.0053	U		< 0.0049	U		< 0.0049	U		< 0.0046	U		< 0.0025	U	
SVP-05	10	SVP-05-10-020223	2/2/2023	< 0.0079	U		< 0.034	U		< 0.0063	U		< 0.0062	U		< 0.0057	U		< 0.0057	U		< 0.0054	U		< 0.0030	U	
SVP-05	20	SVP-05-20-020223	2/2/2023	< 0.0072	U		< 0.032	U		< 0.0058	U		< 0.0057	U		< 0.0052	U		< 0.0052	U		< 0.0050	U		< 0.0027	U	
SVP-05	30	SVP-05-30-020223	2/2/2023	< 0.0072	U		< 0.031	U		< 0.0058	U		< 0.0057	U		< 0.0052	U		< 0.0052	U		< 0.0049	U		< 0.0027	U	
SVP-05	30	SVP-05-30-020223-DUP	2/2/2023	< 0.0072	U		< 0.031	U		< 0.0058	U		< 0.0057	U		< 0.0052	U		< 0.0052	U		< 0.0049	U		< 0.0027	U	
SVP-06	10	SVP-06-10-020223	2/2/2023	< 0.0070	U		< 0.031	U		< 0.0057	U		< 0.0056	U		< 0.0051	U		< 0.0051	U		0.0015	J		< 0.0026	U	
SVP-06	20	SVP-06-20-020223	2/2/2023	< 0.0070	U		< 0.03	U		< 0.0056	U		< 0.0055	U		< 0.0050	U		< 0.0050	U		0.0027	J		< 0.0026	U	
SVP-06	30	SVP-06-30-020223	2/2/2023	< 0.0072	U		< 0.032	U		< 0.0058	U		< 0.0058	U		< 0.0052	U		< 0.0053	U		< 0.0050	U		< 0.0027	U	
SVP-07	10	SVP-07-10-020223	2/2/2023	< 0.0065	U		< 0.029	U		< 0.0053	U		< 0.0052	U		< 0.0047	U		< 0.0047	U		< 0.0045	U		< 0.0025	U	
SVP-07	20	SVP-07-20-020223	2/2/2023	< 0.0076	U		< 0.033	U		< 0.0061	U		< 0.0060	U		< 0.0055	U		< 0.0055	U		< 0.0052	U		< 0.0029	U	
SVP-07	20	SVP-07-20-020223-DUP	2/2/2023	< 0.0077	U		< 0.034	U		< 0.0062	U		< 0.0061	U		< 0.0056	U		< 0.0056	U		< 0.0053	U		< 0.0029	U	
SVP-07	30	SVP-07-30-020223	2/2/2023	< 0.0072	U		< 0.032	U		< 0.0058	U		< 0.0057	U		< 0.0052	U		< 0.0052	U		< 0.0050	U		< 0.0027	U	
SVP-08	10	SVP-08-10-020623	2/6/2023	< 0.0071	U		< 0.031	U		< 0.0057	U		< 0.0056	U		< 0.0052	U		< 0.0052	U		< 0.0049	U		< 0.0027	U	
SVP-08	20	SVP-08-20-020623	2/6/2023	< 0.0071	U		< 0.031	U		< 0.0057	U		< 0.0056	U		< 0.0052	U		< 0.0052	U		0.0014	J		< 0.0027	U	
SVP-08	30	SVP-08-30-020623	2/6/2023	< 0.0078	U		< 0.034	U		< 0.0062	U		< 0.0062	U		< 0.0056	U		< 0.0056	U		0.024			< 0.0029	U	
SVP-09	10	SVP-09-10-020623	2/6/2023	< 0.0072	U		< 0.032	U		< 0.0058	U		< 0.0058	U		< 0.0052	U		< 0.0053	U		< 0.0050	U		< 0.0027	U	
SVP-09	20	SVP-09-20-020623	2/6/2023	< 0.0076	U		< 0.033	U		< 0.0061	U		< 0.0060	U		< 0.0055	U		< 0.0055	U		0.021			< 0.0029	U	
SVP-09	30	SVP-09-30-020623	2/6/2023	< 0.0074	U		< 0.032	U		< 0.0060	U		< 0.0059	U		< 0.0054	U		< 0.0054	U		< 0.0051	U		< 0.0028	U	
SVP-10	10	SVP-10-10-020323	2/3/2023	< 0.0066	U		< 0.029	U		< 0.0053	U		< 0.0052	U		< 0.0048	U		< 0.0048	U		< 0.0045	U		< 0.0025	U	
SVP-10	10	SVP-10-10-020323-DUP	2/3/2023	0.01			< 0.028	U		< 0.0052	U		< 0.0051	U		< 0.0047	U		< 0.0047	U		< 0.0044	U		< 0.0024	U	
SVP-10	20	SVP-10-20-020323	2/3/2023	< 0.0071	U		< 0.031	U		< 0.0057	U		< 0.0056	U		< 0.0052	U		< 0.0052	U		< 0.0049	U		< 0.0027	U	
SVP-10	30	SVP-10-30-020323	2/3/2023	< 0.0068	U		< 0.03	U		< 0.0055	U		< 0.0054	U		< 0.0050	U		< 0.0050	U		0.026			< 0.0026	U	
SVP-11	10	SVP-11-10-020323	2/3/2023	< 0.0071	U		< 0.031	U		< 0.0057	U		< 0.0056	U		< 0.0052	U		< 0.0052	U		0.0021	J		< 0.0027	U	
SVP-11	20	SVP-11-20-020323	2/3/2023	< 0.0070	U		< 0.03	U		< 0.0056	U		< 0.0055	U		< 0.0051	U		< 0.0051	U		0.0036	J		< 0.0026	U	
SVP-11	30	SVP-11-30-020323	2/3/2023	< 0.0071	U		< 0.031	U		< 0.0057	U		< 0.0056	U		0.0055			< 0.0052	U		0.0055			< 0.0027	U	
SVP-12	10	SVP-12-10-020223	2/2/2023	< 0.0077	U		< 0.034	U		< 0.0062	U		< 0.0061	U		< 0.0056	U		< 0.0056	U		< 0.0053	U		< 0.0029	U	
SVP-12	20	SVP-12-20-020223	2/2/2023	< 0.0074	U		< 0.032	U		< 0.0059	U		< 0.0058	U		< 0.0054	U		< 0.0054	U		0.039			< 0.0028	U	
SVP-12	30	SVP-12-30-020223	2/2/2023	< 0.0075	U		< 0.033	U		< 0.0060	U		< 0.0060	U		< 0.0054	U		< 0.0054	U		< 0.0052	U		< 0.0028	U	
SVP-13	10	SVP-13-10-020223	2/2/2023	< 0.0071	U		< 0.031	U		< 0.0057	U		< 0.0056	U		< 0.0052	U		< 0.0052	U		0.042			< 0.0027	U	
SVP-13	20	SVP-13-20-020223	2/2/2023	< 0.0075	U		< 0.033	U		< 0.0060	U		< 0.0060	U		< 0.0054	U		< 0.0054	U		0.042			< 0.0028	U	
SVP-13	30	SVP-13-30-020223	2/2/2023	< 0.0072	U		< 0.032	U		< 0.0058	U		< 0.0057	U		< 0.0052	U		< 0.0052	U		0.0068			< 0.0027	U	
SVP-14	10	SVP-14-10-020223	2/2/2023	< 0.0064	U		< 0.028	U		< 0.0051	U		< 0.0050	U		< 0.0046	U		< 0.0046	U		< 0.0044	U		< 0.0024	U	
SVP-14	20	SVP-14-20-020223	2/2/2023	< 0.0065	U		< 0.029	U		< 0.0053	U		< 0.0052	U		< 0.0047	U		< 0.0047	U		0.0018	J		< 0.0025	U	
SVP-14	30	SVP-14-30-020223	2/2/2023	< 0.0072	U		< 0.031	U		< 0.0058	U		< 0.0057	U		< 0.0052	U		< 0.0052	U		< 0.0050	U		< 0.0027	U	

SEE LAST PAGE OF TABLE FOR NOTES

ATTACHMENT A
BASELINE SVP ANALYTICAL DETECTIONS AND SCREENING RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	m,p-Xylene			o-Xylene		
				130			120		
				Result (mg/m3)	Lab Quals	AECOM Quals	Result (mg/m3)	Lab Quals	AECOM Quals
SVP-01	10	SVP-01-10-020623	2/6/2023	**0.019**			**0.0054**		
SVP-01	20	SVP-01-20-020623	2/6/2023	**0.0035**	**J**		**0.0012**	**J**	
SVP-01	30	SVP-01-30-020623	2/6/2023	< 0.0053	**U**		< 0.0053	**U**	
SVP-02	10	SVP-02-10-020623	2/6/2023	< 0.0051	**U**		< 0.0051	**U**	
SVP-02	20	SVP-02-20-020623	2/6/2023	< 0.0052	**U**		< 0.0052	**U**	
SVP-02	30	SVP-02-30-020623	2/6/2023	< 0.0050	**U**		< 0.0050	**U**	
SVP-03	10	SVP-03-10-020323	2/3/2023	< 0.0044	**U**		< 0.0044	**U**	
SVP-03	20	SVP-03-20-020323	2/3/2023	< 0.0044	**U**		< 0.0044	**U**	
SVP-03	30	SVP-03-30-020323	2/3/2023	< 0.0048	**U**		< 0.0048	**U**	
SVP-03	30	SVP-03-30-020323-DUP	2/3/2023	< 0.0049	**U**		< 0.0049	**U**	
SVP-04	10	SVP-04-10-020223	2/2/2023	< 0.0044	**U**		< 0.0044	**U**	
SVP-04	20	SVP-04-20-020223	2/2/2023	< 0.0043	**U**		< 0.0043	**U**	
SVP-04	30	SVP-04-30-020223	2/2/2023	< 0.0043	**U**		< 0.0043	**U**	
SVP-05	10	SVP-05-10-020223	2/2/2023	< 0.0050	**U**		< 0.0050	**U**	
SVP-05	20	SVP-05-20-020223	2/2/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-05	30	SVP-05-30-020223	2/2/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-05	30	SVP-05-30-020223-DUP	2/2/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-06	10	SVP-06-10-020223	2/2/2023	< 0.0045	**U**		< 0.0045	**U**	
SVP-06	20	SVP-06-20-020223	2/2/2023	< 0.0044	**U**		< 0.0044	**U**	
SVP-06	30	SVP-06-30-020223	2/2/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-07	10	SVP-07-10-020223	2/2/2023	< 0.0042	**U**		< 0.0042	**U**	
SVP-07	20	SVP-07-20-020223	2/2/2023	< 0.0049	**U**		< 0.0049	**U**	
SVP-07	20	SVP-07-20-020223-DUP	2/2/2023	< 0.0049	**U**		< 0.0049	**U**	
SVP-07	30	SVP-07-30-020223	2/2/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-08	10	SVP-08-10-020623	2/6/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-08	20	SVP-08-20-020623	2/6/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-08	30	SVP-08-30-020623	2/6/2023	**0.0035**	**J**		< 0.0050	**U**	
SVP-09	10	SVP-09-10-020623	2/6/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-09	20	SVP-09-20-020623	2/6/2023	< 0.0049	**U**		< 0.0049	**U**	
SVP-09	30	SVP-09-30-020623	2/6/2023	< 0.0048	**U**		< 0.0048	**U**	
SVP-10	10	SVP-10-10-020323	2/3/2023	< 0.0042	**U**		< 0.0042	**U**	
SVP-10	10	SVP-10-10-020323-DUP	2/3/2023	< 0.0041	**U**		< 0.0041	**U**	
SVP-10	20	SVP-10-20-020323	2/3/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-10	30	SVP-10-30-020323	2/3/2023	**0.042**			**0.014**		
SVP-11	10	SVP-11-10-020323	2/3/2023	< 0.0046	**U**		< 0.0046	**U**	
SVP-11	20	SVP-11-20-020323	2/3/2023	< 0.0045	**U**		< 0.0045	**U**	
SVP-11	30	SVP-11-30-020323	2/3/2023	**0.12**			**0.047**		
SVP-12	10	SVP-12-10-020223	2/2/2023	< 0.0050	**U**		< 0.0050	**U**	
SVP-12	20	SVP-12-20-020223	2/2/2023	**0.024**			**0.0069**		
SVP-12	30	SVP-12-30-020223	2/2/2023	< 0.0048	**U**		< 0.0048	**U**	
SVP-13	10	SVP-13-10-020223	2/2/2023	**0.02**			**0.0057**		
SVP-13	20	SVP-13-20-020223	2/2/2023	< 0.0048	**U**		< 0.0048	**U**	
SVP-13	30	SVP-13-30-020223	2/2/2023	**0.0029**	**J**		< 0.0046	**U**	
SVP-14	10	SVP-14-10-020223	2/2/2023	< 0.0041	**U**		< 0.0041	**U**	
SVP-14	20	SVP-14-20-020223	2/2/2023	< 0.0042	**U**		< 0.0042	**U**	
SVP-14	30	SVP-14-30-020223	2/2/2023	< 0.0046	**U**		< 0.0046	**U**	

Notes:
Bold results are detections above the reporting limit (RL), or estimated detections between the method detection limit (MDL) and RL.
Yellow highlighted cells indicate detections that exceed residential screening criteria.

Lab Qualifiers
J = Estimated value; results between the MDL and RL
U = Compound analyzed for but not detected above the RL

AECOM Qualifiers
J = Estimated detection

SEE LAST PAGE OF TABLE FOR NOTES

ATTACHMENT B
BASELINE SVP ANALYTICAL DETECTIONS AND SCREENING RESULTS: NATURAL GASES

Location	Depth	Sample ID	Sample Date	Carbon Dioxide			Carbon Monoxide			Ethane			Ethene			Helium			Methane			Nitrogen			Oxygen		
				Result (%)	Lab Quals	AECOM Quals	Result (%)	Lab Quals	AECOM Quals	Result (%)	Lab Quals	AECOM Quals	Result (%)	Lab Quals	AECOM Quals	Result (%)	Lab Quals	AECOM Quals	Result (%)	Lab Quals	AECOM Quals	Result (%)	Lab Quals	AECOM Quals	Result (%)	Lab Quals	AECOM Quals
SVP-01	10	SVP-01-10-020623	2/6/2023	**0.55**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.0073**	J		< 0.00022	U		**78**			**21**		
SVP-01	20	SVP-01-20-020623	2/6/2023	**0.95**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.013**	J		< 0.00022	U		**79**			**20**		
SVP-01	30	SVP-01-30-020623	2/6/2023	**1.5**			< 0.025	U		< 0.0025	U		< 0.0025	U		**0.029**	J		< 0.00025	U		**80**			**19**		
SVP-02	10	SVP-02-10-020623	2/6/2023	**1.0**			< 0.023	U		< 0.0023	U		< 0.0023	U		**0.053**	J		< 0.00023	U		**79**			**20**		
SVP-02	20	SVP-02-20-020623	2/6/2023	**0.50**			< 0.024	U		< 0.0024	U		< 0.0024	U		**1.3**			**0.00016**	J		**77**			**21**		
SVP-02	30	SVP-02-30-020623	2/6/2023	**1.8**			< 0.023	U		< 0.0023	U		< 0.0023	U		**0.018**	J		< 0.00023	U		**80**			**18**		
SVP-03	10	SVP-03-10-020323	2/3/2023	**0.78**			< 0.020	U		< 0.0020	U		< 0.0020	U		**0.010**	J		< 0.00020	U		**78**			**21**		
SVP-03	20	SVP-03-20-020323	2/3/2023	**1.3**			< 0.020	U		< 0.0020	U		< 0.0020	U		< 0.10	U		< 0.00020	U		**80**			**19**		
SVP-03	30	SVP-03-30-020323	2/3/2023	**1.6**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.0055**	J		< 0.00022	U		**80**			**18**		
SVP-03	30	SVP-03-30-020323-DUP	2/3/2023	**1.7**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.0074**	J		< 0.00022	U		**80**			**18**		
SVP-04	10	SVP-04-10-020223	2/2/2023	**1.2**			< 0.020	U		< 0.0020	U		< 0.0020	U		< 0.10	U		< 0.00020	U		**79**			**20**		
SVP-04	20	SVP-04-20-020223	2/2/2023	**1.4**			< 0.020	U		< 0.0020	U		< 0.0020	U		< 0.10	U		< 0.00020	U		**80**			**19**		
SVP-04	30	SVP-04-30-020223	2/2/2023	**1.6**			< 0.020	U		< 0.0020	U		< 0.0020	U		**0.0068**	J		< 0.00020	U		**80**			**18**		
SVP-05	10	SVP-05-10-020223	2/2/2023	**0.79**			< 0.023	U		< 0.0023	U		< 0.0023	U		**0.30**			< 0.00023	U		**78**			**21**		
SVP-05	20	SVP-05-20-020223	2/2/2023	**1.1**			< 0.021	U		< 0.0021	U		< 0.0021	U		**0.28**			< 0.00021	U		**79**			**20**		
SVP-05	30	SVP-05-30-020223	2/2/2023	**1.5**			< 0.021	U		< 0.0021	U		< 0.0021	U		< 0.10	U		< 0.00021	U		**78**			**20**		
SVP-05	30	SVP-05-30-020223-DUP	2/2/2023	**1.5**			< 0.021	U		< 0.0021	U		< 0.0021	U		< 0.10	U		< 0.00021	U		**78**			**20**		
SVP-06	10	SVP-06-10-020223	2/2/2023	**0.33**			< 0.021	U		< 0.0021	U		< 0.0021	U		**0.0093**	J		< 0.00021	U		**78**			**22**		
SVP-06	20	SVP-06-20-020223	2/2/2023	**1.5**			< 0.020	U		< 0.0020	U		< 0.0020	U		**0.021**	J		< 0.00020	U		**78**			**20**		
SVP-06	30	SVP-06-30-020223	2/2/2023	**1.7**			< 0.021	U		< 0.0021	U		< 0.0021	U		**0.0070**	J		< 0.00021	U		**78**			**20**		
SVP-07	10	SVP-07-10-020223	2/2/2023	**0.47**			< 0.019	U		< 0.0019	U		< 0.0019	U		**0.22**			< 0.00019	U		**77**			**22**		
SVP-07	20	SVP-07-20-020223	2/2/2023	**0.61**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.022**	J		< 0.00022	U		**78**			**21**		
SVP-07	20	SVP-07-20-020223-DUP	2/2/2023	**0.61**			< 0.023	U		< 0.0023	U		< 0.0023	U		**0.0095**	J		< 0.00023	U		**78**			**21**		
SVP-07	30	SVP-07-30-020223	2/2/2023	**2.1**			< 0.021	U		< 0.0021	U		< 0.0021	U		**0.0058**	J		< 0.00021	U		**78**			**20**		
SVP-08	10	SVP-08-10-020623	2/6/2023	**1.9**			< 0.021	U		< 0.0021	U		< 0.0021	U		**0.046**	J		< 0.00021	U		**80**			**18**		
SVP-08	20	SVP-08-20-020623	2/6/2023	**2.4**			< 0.021	U		< 0.0021	U		< 0.0021	U		**0.0092**	J		< 0.00021	U		**80**			**18**		
SVP-08	30	SVP-08-30-020623	2/6/2023	**2.9**			< 0.023	U		< 0.0023	U		< 0.0023	U		**0.0044**	J		< 0.00023	U		**80**			**17**		
SVP-09	10	SVP-09-10-020623	2/6/2023	**2.0**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.047**	J		< 0.00022	U		**80**			**18**		
SVP-09	20	SVP-09-20-020623	2/6/2023	**2.2**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.039**	J		< 0.00022	U		**81**			**17**		
SVP-09	30	SVP-09-30-020623	2/6/2023	**2.7**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.019**	J		< 0.00022	U		**81**			**16**		
SVP-10	10	SVP-10-10-020323	2/3/2023	**1.6**			< 0.019	U		< 0.0019	U		< 0.0019	U		< 0.097	U		< 0.00019	U		**79**			**19**		
SVP-10	10	SVP-10-10-020323-DUP	2/3/2023	**1.6**			< 0.019	U		< 0.0019	U		< 0.0019	U		< 0.095	U		< 0.00019	U		**79**			**19**		
SVP-10	20	SVP-10-20-020323	2/3/2023	**1.9**			< 0.021	U		< 0.0021	U		< 0.0021	U		**0.084**	J		< 0.00021	U		**80**			**18**		
SVP-10	30	SVP-10-30-020323	2/3/2023	**2.1**			< 0.020	U		< 0.0020	U		< 0.0020	U		< 0.10	U		< 0.00020	U		**81**			**17**		
SVP-11	10	SVP-11-10-020323	2/3/2023	**1.6**			< 0.021	U		< 0.0021	U		< 0.0021	U		< 0.10	U		< 0.00021	U		**79**			**19**		
SVP-11	20	SVP-11-20-020323	2/3/2023	**1.7**			< 0.021	U		< 0.0021	U		< 0.0021	U		< 0.10	U		< 0.00021	U		**80**			**18**		
SVP-11	30	SVP-11-30-020323	2/3/2023	**1.8**			< 0.021	U		< 0.0021	U		< 0.0021	U		< 0.10	U		< 0.00021	U		**80**			**18**		
SVP-12	10	SVP-12-10-020223	2/2/2023	**0.78**			< 0.023	U		< 0.0023	U		< 0.0023	U		**0.0038**	J		< 0.00023	U		**77**			**22**		
SVP-12	20	SVP-12-20-020223	2/2/2023	**1.7**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.0037**	J		< 0.00022	U		**78**			**20**		
SVP-12	30	SVP-12-30-020223	2/2/2023	**2.0**			< 0.022	U		< 0.0022	U		< 0.0022	U		< 0.11	U		< 0.00022	U		**78**			**20**		
SVP-13	10	SVP-13-10-020223	2/2/2023	**0.63**			< 0.021	U		< 0.0021	U		< 0.0021	U		**0.0051**	J		< 0.00021	U		**77**			**22**		
SVP-13	20	SVP-13-20-020223	2/2/2023	**1.6**			< 0.022	U		< 0.0022	U		< 0.0022	U		**0.014**	J		< 0.00022	U		**78**			**20**		
SVP-13	30	SVP-13-30-020223	2/2/2023	**2.1**			< 0.021	U		< 0.0021	U		< 0.0021	U		< 0.11	U		**0.00012**	J		**78**			**20**		
SVP-14	10	SVP-14-10-020223	2/2/2023	**0.91**			< 0.019	U		< 0.0019	U		< 0.0019	U		**0.020**	J		< 0.00019	U		**78**			**21**		
SVP-14	20	SVP-14-20-020223	2/2/2023	**1.4**			< 0.019	U		< 0.0019	U		< 0.0019	U		**0.33**			< 0.00019	U		**78**			**20**		
SVP-14	30	SVP-14-30-020223	2/2/2023	**2.5**			< 0.021	U		< 0.0021	U		< 0.0021	U		< 0.11	U		< 0.00021	U		**78**			**20**		

Notes:

Bold results are detections above the reporting limit (RL), or estimated detections between the method detection limit (MDL) and RL.

Lab Qualifiers

J = Estimated value; results between the MDL and RL

U = Compound analyzed for but not detected above the RL

SEE LAST PAGE OF TABLE FOR NOTES

ATTACHMENT C
BASELINE SVP FIELD-SCREENED TEDLAR© BAG RESULTS

Location	Sample Date	Initial Reading Time (24-Hour)	Fixed Gases				Soil Vapor Concentrations				Comments
			CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	PID (ppmv)	THC (ppmv)	CH_4 (ppmv)	PHC (ppmv)	
SVP-01-10	02/06/2023	12:21	0.0	0	0.6	20.0	0.0	0.0	0.0	0.0	
SVP-01-20	02/06/2023	12:56	0.0	0	0.9	19.3	0.0	0.0	0.0	0.0	
SVP-01-30	02/06/2023	13:12	0.0	0	1.5	18.2	0.0	0.0	0.0	0.0	
SVP-02-10	02/06/2023	13:41	0.0	0	0.9	19.1	0.0	0.0	0.0	0.0	
SVP-02-20	02/06/2023	14:06	0.0	0	0.5	19.9	0.0	0.0	0.0	0.0	
SVP-02-30	02/06/2023	14:29	0.0	0	1.5	17.9	0.0	0.0	0.0	0.0	
SVP-03-10	02/03/2023	11:48	0.0	0	0.7	19.6	0.0	0.0	0.0	0.0	
SVP-03-20	02/03/2023	12:15	0.0	0	1.3	17.9	0.0	0.0	0.0	0.0	
SVP-03-30	02/03/2023	12:39	0.0	0	1.6	17.9	0.0	0.0	0.0	0.0	
SVP-04-10	02/02/2023	13:28	0.0	0	1.2	18.1	0.0	0.0	0.0	0.0	
SVP-04-20	02/02/2023	13:47	0.0	0	1.4	17.1	0.0	0.0	0.0	0.0	
SVP-04-30	02/02/2023	14:03	0.0	0	1.6	16.6	0.0	0.0	0.0	0.0	
SVP-05-10	02/02/2023	12:14	0.0	0	0.7	20.1	0.0	0.0	0.0	0.0	
SVP-05-20	02/02/2023	12:39	0.0	0	1.1	19.5	0.0	0.0	0.0	0.0	
SVP-05-30	02/02/2023	12:52	0.0	0	1.5	18.7	0.0	0.0	0.0	0.0	
SVP-06-10	02/02/2023	11:27	0.0	0	0.2	20.6	0.0	0.0	0.0	0.0	
SVP-06-20	02/02/2023	11:41	0.0	0	1.5	19.2	0.0	0.0	0.0	0.0	
SVP-06-30	02/02/2023	11:57	0.0	0	1.8	18.8	0.0	0.0	0.0	0.0	
SVP-07-10	02/02/2023	10:12	0.0	0	0.3	20.7	0.0	0.0	0.0	0.0	
SVP-07-20	02/02/2023	10:37	0.0	0	0.5	20.6	0.0	0.0	0.0	0.0	
SVP-07-30	02/02/2023	10:56	0.0	0	2.1	18.1	0.0	0.0	0.0	0.0	
SVP-08-10	02/06/2023	10:45	0.0	0	2.1	17.3	0.0	0.0	0.0	0.0	
SVP-08-20	02/06/2023	10:58	0.0	0	2.6	16.1	0.0	0.0	0.0	0.0	
SVP-08-30	02/06/2023	11:20	0.0	0	3.1	15.8	0.0	0.0	0.0	0.0	
SVP-09-10	02/06/2023	09:33	0.0	0	2.6	16.8	0.0	0.0	0.0	0.0	
SVP-09-20	02/06/2023	09:47	0.0	0	2.8	16.1	0.0	0.0	0.0	0.0	
SVP-09-30	02/06/2023	10:05	0.0	0	3.1	15.5	0.0	0.0	0.0	0.0	
SVP-10-10	02/03/2023	12:29	0.0	0	1.9	18.5	0.0	0.0	0.0	0.0	
SVP-10-20	02/03/2023	12:56	0.0	0	2.4	16.5	0.0	0.0	0.0	0.0	
SVP-10-30	02/03/2023	13:18	0.0	0	2.6	15.9	0.0	0.0	0.0	0.0	
SVP-11-10	02/03/2023	10:13	0.0	0	2.2	19.4	0.0	0.0	0.0	0.0	
SVP-11-20	02/03/2023	11:21	0.0	0	2.2	17.2	0.0	0.0	0.0	0.0	
SVP-11-30	02/03/2023	11:40	0.0	0	2.3	17.2	0.0	0.0	0.0	0.0	
SVP-12-10	02/02/2023	13:55	0.0	0	0.7	20.3	0.0	0.0	0.0	0.0	
SVP-12-20	02/02/2023	14:18	0.0	0	1.5	18.9	0.0	0.0	0.0	0.0	
SVP-12-30	02/02/2023	14:40	0.0	0	1.9	18.1	0.0	0.0	0.0	0.0	

SEE LAST PAGE OF TABLE FOR NOTES

ATTACHMENT C
BASELINE SVP FIELD-SCREENED TEDLAR© BAG RESULTS

Location	Sample Date	Initial Reading Time (24-Hour)	Fixed Gases				Soil Vapor Concentrations				Comments
			CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	PID (ppmv)	THC (ppmv)	CH_4 (ppmv)	PHC (ppmv)	
SVP-13-10	02/02/2023	12:42	0.0	0	0.6	20.4	0.0	0.0	0.0	0.0	
SVP-13-20	02/02/2023	13:03	0.0	0	1.5	18.9	0.0	0.0	0.0	0.0	
SVP-13-30	02/02/2023	13:21	0.0	0	1.9	18.6	0.0	0.0	0.0	0.0	
SVP-14-10	02/02/2023	10:39	0.0	0	1.1	20.2	0.0	0.0	0.0	0.0	
SVP-14-20	02/02/2023	11:03	0.0	0	1.3	19.5	0.0	0.0	0.0	0.0	
SVP-14-30	02/02/2023	11:46	0.0	0	2.4	18.5	0.0	0.0	0.0	0.0	

Notes:

1) PID = Photo Ionization Detector; THC = Total Hydrocarbon Concentration; PHC = Petroleum Hydrocarbon Concentration; ppmv = Parts Per Million By Volume.

ATTACHMENT D
MODIFIED STEAM EXTRACTION VAPOR MONITORING PLAN

Note: Added text is indicated in **blue**.

Below is modified text from Section 5.3 Laboratory Analytical Samples of the FDRCWP to address IEPA Condition 12 of their May 5, 2023, approval and conditions letter.

Triggered Samples

In addition to milestone samples, stainless steel canister TO-15 samples may be triggered according to the following logic:

- At primary row SVPs, if routine field screened Tedlar© bag PHC results exceed baseline field screening results by 5% or greater (as measured using FID), a confirmation Tedlar© bag sample will be collected. An increase of 10 ppmv PHC will be the minimum increase required to trigger a confirmation sample in the primary row.
    - If PHC results of the primary row confirmation sample exceed baseline field screening results by 5% or greater (as measured using FID), a stainless-steel canister TO-15 sample(s) will be collected at that SVP. An increase of 10 ppmv PHC will be the minimum increase required to trigger a TO-15 sample in the primary row.
- At secondary row SVPs, if routine field screened Tedlar© bag PHC results exceed baseline field screening results by 5% or greater (as measured using FID), a confirmation Tedlar© bag sample will be collected. An increase of 1 ppmv PHC will be the minimum increase required to trigger a confirmation sample in the secondary row.
    - If PHC results of the secondary row confirmation sample exceed baseline field screening results by 5% or greater (as measured using FID), a stainless-steel canister TO-15 sample(s) will be collected at that SVP. An increase of 1 ppmv PHC will be the minimum increase required to trigger a TO-15 sample in the secondary row.
    - **If an analytical sample is triggered in the secondary row of SVPs, the SEE system may be adjusted, and/or existing SVE wells may be utilized, to address the area of increased concentrations while the analytical results are pending. If analytical results do not exceed the soil vapor values in 35 IAC Part 742, Appendix B, Table H, the SEE/SVE system adjustments may be discontinued. If analytical results exceed the soil vapor values in 35 IAC 742 (excluding chloroform), the SEE/SVE system adjustments may continue and/or be further adjusted.**
- Triggered TO-15 samples will be limited to one per week per SVP.
- **Adjustments to SEE system may be made based on results observed in secondary row SVPs; not the primary row.**
- TO-15 canister samples will not be collected from SVPs after steam injection ceases. At that point Tedlar© bag sample collection will continue in accordance with **Section 5.2** above.