

ANNUAL SUMMARY REPORT – 2023
FORMER SEARS FUEL SITE AND ADJACENT HOUNSFIELD HEIGHTS AREA
1620 – 14th AVENUE NW
CALGARY, ALBERTA
SUNCOR OUTLET NO. 9445
ALBERTA ENVIRONMENT AND PROTECTED AREAS (AEPA) FILE NO. 00141934

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THIS REPORT CONTAINS PROVISIONS LIMITING LIABILITY, THE SCOPE OF THE REPORT AND THIRD-PARTY RELIANCE.

March 28, 2024

SUMMARY

Site	1620 - 14th Avenue NW (former Sears fuel site); the Mall Property; 14th Avenue NW; Lions Park; and the adjacent Hounsfield Heights community
Type of Facility	Former Sears Fuel Site
Municipal Zoning	DC – Direct Control District S-SPR - Special Purpose - School, Park and Community Reserve R-C1 - Residential - Contextual One Dwelling
Applicable Groundwater Guidelines	Alberta Environment and Parks (AEP), 2022 Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines; fine-grained and coarse-grained soils; commercial land use, residential land use, and commercial land use with a residential buffer. The freshwater aquatic life pathway has been eliminated; the ecological soil contact pathway has been eliminated where the depth to groundwater is deeper than 3 metres below ground surface. Tier 2 guidelines for the vapour inhalation pathway have been calculated for selected areas.
Applicable Soil Vapour Guidelines	Calculated soil vapour quality guidelines protective of indoor air quality; fine-grained and coarse-grained soils; residential and commercial land use; for various depths.
Date(s) of Groundwater Monitoring and Sampling	January 9 to 20, 2023; July 4 to 27, 2023; August 9, 2023; August 23 to 25, 2023; and October 2 to 4, 2023
Date(s) of Soil Vapour Sampling	January 23 to 31, 2023; May 8 to 11, 2023; July 27, 2023; August 28, 2023, to September 8, 2023; December 4 to 7, 2023; and, December 18, 2023
Presence of Liquid-Phase Hydrocarbons (LPH) in 2023:	LPH was not detected in any of the groundwater monitoring wells or extraction wells monitored.
Monitoring wells with Groundwater Samples that Exceeded Guidelines in 2023	For one or more petroleum hydrocarbon constituents (BTEX, F1, F2) or 1,2-Dichloroethane: <ul style="list-style-type: none"> • 12 of 118 groundwater monitoring wells sampled exceeded guidelines for the vapour inhalation pathway (BH1704, BH1912, BH1915, BH1924, BH1979, BH4002, BH4003A, BH4006, BH4007, EX1, EX5 and EX7); • 46 of 118 wells sampled exceeded the drinking water guidelines
Soil Vapour wells with Soil Vapour Samples that Exceeded Guidelines in 2023	None of 36 vapour wells sampled exceed the calculated guidelines or 90% of the guidelines screening threshold.

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1.0 INTRODUCTION

Parsons Inc. (Parsons) was retained by Suncor Energy Products Partnership (Suncor) to provide an annual summary report for the Former Sears Fuel Site located at 1620 - 14th Avenue NW; also including the Mall Property; Lions Park; City of Calgary roadways; and the adjacent Hounsfield Heights community (collectively referred to as “the site”).

This report has been prepared in accordance with the Environmental Protection Order No. EPO – 2018/01-SSR and amendments (referred to as the “EPO”), issued by Alberta Environment and Parks (AEP), now referred to as Alberta Environment and Protected Areas (AEPA). In addition, the report abides by Ministerial Order 09/2020 (referred to as the “MO”), issued on February 5, 2020.

The purpose of the Annual Summary Report is to document the site activities completed by Parsons in 2023.

Suncor has also retained Millennium EMS Solutions Ltd. as an environmental consultant for the site.

2.0 COMMUNICATION

A communication strategy has previously been established by Suncor in accordance with the requirements of the Ministerial Order. The communication strategy and a summary of communications in 2023 are described below.

2.1 TWO-WAY COMMUNICATION STRATEGY

The key aims of the communication strategy are to provide landowners, stakeholders and the community a way to directly contact the Suncor management team; keep landowners and stakeholders up to date on the current remediation management and other activities occurring at the site; and, address concerns or questions in a meaningful and timely manner. To achieve this, Suncor has established communication channels via email, a website, and by phone.

Suncor continues to provide a dedicated email address for landowners (hounsfieldheights@suncor.com). This email address is routinely monitored by, and provides direct access to, the Suncor environmental management team for Hounsfield Heights. The email address serves as an effective two-way communication strategy to allow the community to work collaboratively with Suncor by submitting questions and inquiries, and for Suncor to receive and respond to questions or inquiries, mainly via a phone call, in a timely manner. As part of the strategy and in accordance with the Ministerial Order, the Suncor management team responds to all questions or inquiries received within 5 business days.

Suncor has published and maintains a dedicated website for the site (www.suncor.com/hounsfield-heights) to provide regular status updates through bulletins, open house summaries and copies of the Annual Reports. In addition, the website stores historical and recently finalized and stamped monitoring and sampling reports and other environmental reports completed on behalf of Suncor. Reports detailing the 2023 site activities can be found on the website under the Environmental Reports dropdown menu. The website also includes 2019 and 2020 updates that were issued by Sears Canada Inc. (Sears).

In addition, the website provides a link to the Alberta Environmental Site Assessment Repository (ESAR) which is the official repository of all historical communications and reporting to AEPA regarding the site.

2.2 KEY COMMUNICATIONS IN 2023

The following summarizes key communications conducted in 2023 by, or on behalf of, Suncor:

- Parsons, on behalf of Suncor, issued Hounsfield Heights Bulletins in the second, third and fourth quarters of 2023 to notify the community regarding:
 - the location and link to documents posted to the dedicated website;
 - environmental activities completed at the site;
 - upcoming plans for environmental activities; and,
 - how to contact the Suncor environmental management team for any questions and concerns, providing the dedicated email address.
- Newly issued environmental reports and letter responses were uploaded to the dedicated website and submitted to AEPA, The City of Calgary, Alberta Health Services, and various community stakeholder groups;
- For soil vapour monitoring wells sampled in 2023 (and located on private properties), update reports were submitted to respective owners; and,
- Responses were provided directly via email or phone call to individuals who submitted a question or concern via the Hounsfield Heights email address.

2.3 PROPOSED CHANGES TO COMMUNICATION STRATEGY

The current communication strategy appears to be effective, and no changes are recommended at this time.

3.0 SUMMARY OF 2023 SITE ACTIVITIES

The following field activities were conducted on behalf of Suncor in 2023:

- Groundwater monitoring wells and extraction wells were monitored for subsurface vapour concentrations, water levels, and the presence or absence of liquid-phase hydrocarbons (LPH) in January, July/August, and October 2023;
- Groundwater samples were collected during three sampling events conducted in January, July/August, and October 2023;
- Hydraulic conductivity testing was conducted in August 2023;
- Soil vapour samples were collected during four sampling events in January, May/July, August/September and December 2023, in accordance with the semi-annual soil vapour program and/or the Risk Management & Contingency (RM&C) Program; and,
- The dual-phase vapour extraction system continued to operate in 2023 and was monitored and maintained by Sequoia Environmental Remediation Inc. (Sequoia).

The following additional activities were completed during 2023:

- On March 31, 2023, a letter was provided by Parsons to Suncor and AEPA (Parsons, 2023a), detailing Parsons' commitment between April 2023 and March 2024 to follow remediation and risk management activities laid out in the Revised Remediation Plan (Version 4.0) issued in March 2022 by Clifton (Clifton, 2022a), until Parsons completed an independent review and Revised Remediation Plan (Version 5.0) in March 2024.
- On September 1, 2023, a letter was provided by Parsons to AEPA (Parsons, 2023b), in response to questions that were received from AEPA by email on July 28, 2023. Parsons' letter is available on ESAR. The non-administrative items included comments from AEPA on rounding of site-specific guidelines, request for information on subsurface utilities, inclusion of BH1948, SV500 and SV501 in monitoring programs, delineation in the area southeast of BH1979, and inclusion of action triggers in the risk management plan. Where possible these items have been addressed in the current submission.

A summary of the site activities can be found in the subsequent sections of this report. Field procedures are presented in Appendix A; field procedures were conducted in accordance with generally accepted industry practices.

The site location map is presented as Drawing No. 1. The area topography (grade elevations) and municipal land use districts are shown on Drawing No. 2 and 3, respectively.

A site plan showing the groundwater monitoring well, extraction well, and soil vapour well locations is presented as Drawing No. 4. It should be noted that soil vapour wells located on private property within the residential area are not shown on the drawings.

4.0 GUIDELINES REFERENCED

The soil and groundwater guidelines in effect in 2023 were the Alberta Tier 2 Soil and Groundwater Remediation Guidelines (AEP 2022a/b), with the freshwater aquatic life (FAL) pathway excluded. The ecological soil contact (ESC) pathway has been excluded in areas where the depth to groundwater is deeper than 3 metres below ground surface (mbgs). The guidelines reference fine-grained and coarse-grained soils, and commercial and residential/parkland land use. Tier 2 guidelines are referenced for the vapour inhalation pathway for selected areas, as described below. In the northern area of the site, within 30 m of properties zoned for residential or parkland land use, vapour inhalation pathway guidelines for residential land use have been applied, as shown on Drawing No. 4. For areas of the site north of the Tier 2 guideline area as described below, Tier 1 guidelines for coarse-grained soil have been conservatively applied.

Exclusion of the domestic use aquifer pathway may be re-evaluated in the future in accordance with the Alberta Tier 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) and/or the Guide to Excluding the Domestic Use Aquifer Based on Municipal Bylaws (AEP, 2022c).

Guidelines for soil vapour protective of indoor air quality were developed by Intrinsik (Intrinsik, 2022, 2024) in accordance with the Protocol for the Derivation of Soil Vapour Quality Guidelines (CCME, 2014) using parameter values consistent with AEP guidance (AEP, 2022a/b). The guidelines were developed for both commercial and residential/parkland land use for various depths. A summary of the soil vapour guidelines is presented in Appendix B. Additional details on the implementation of the soil vapour guidelines is provided below.

As part of the work conducted by Intrinsik (Intrinsik, 2022, 2024), Tier 2 groundwater guidelines for the vapour inhalation pathway were calculated for some areas of the site, as shown on Drawing No. 4. For risk management purposes, in accordance with the Revised Remediation Plans (Version 4.0 and Version 5.0) (Clifton, 2022a; Parsons, 2024) and, groundwater concentrations have been compared to the Tier 2 risk-based guidelines for the vapour inhalation pathway (Intrinsik, 2022, 2024). In the applicable areas (areas N1, N2, S1 and S2, as shown on Drawing No. 4), the calculated Tier 2 guidelines are used in place of the Tier 1 guidelines for the vapour inhalation pathway.

5.0 SOIL VAPOUR SAMPLING PROGRAMS

A site plan showing the locations of the soil vapour wells is presented as Drawing No. 4. The location of soil vapour wells located on private property are not shown on the site plan (SV101, SV321, SV321B, SV322, SV323, SV324, SV325, and SV326).

5.1 SOIL VAPOUR GUIDELINE APPLICATION AND TRIGGER THRESHOLDS

As previously described, soil vapour guidelines developed by Intrinsik have been referenced (Intrinsik, 2022) and are summarized in Appendix B.

Soil vapour concentrations were also compared to 90% of the calculated soil vapour guidelines, which was used as a trigger threshold to increase the sample frequency (Clifton, 2016). This increased sampling frequency (four times per year) was to continue until five consecutive sampling events indicated concentrations less than 90% of the guidelines, or unless otherwise stipulated by the regulator.

The depth-specific soil vapour guidelines (Intrinsik, 2022) have been referenced to depths below the residential default basement depth of 2.44 mbgs for soil vapour wells located in the residential-zoned area (including residential properties as well as the roadways in the residential-zoned area), or depths below the commercial slab-on-grade default depth of 0.1125 mbgs in the commercial-zoned area (default depths as provided by AEP, 2022a).

For wells that were installed at depths potentially shallower than the default basement depths, for example those installed within the roadways' utility trenches, concentrations have been compared to the most stringent calculated soil vapour guidelines (those calculated for 0 – 100 cm depth below foundation).

Soil vapour well total depths were obtained from information provided by Clifton; 0.3 m screen intervals have been assumed based on the information provided by Clifton.

5.2 2023 SOIL VAPOUR SAMPLING PROGRAM DESCRIPTION

Soil vapour samples were collected during 2023 as a part of the semi-annual soil vapour program and/or the Risk Management & Contingency Plan (RM&C) Plan. The RM&C program is detailed in the report entitled *Sears Canada Inc. Revised Soil Vapour Monitoring Program (Update Fall 2016), Hounsfeld Heights and North Hill Mall, Calgary, Alberta* dated October 20, 2016 (Clifton, 2016). The RM&C plan was in effect in 2023 due to previous exceedances in soil vapour monitoring wells SV32 and/or SV402 (last occurrence June 2022), located in the laneway between 14th Street NW and 15th Street NW (MEMS, 2024).

Soil vapour samples were collected and analyzed for one or more of: benzene, toluene, ethylbenzene, and xylenes (BTEX); aliphatic fractions; aromatic fractions; naphthalene; and, 1,2-dichloroethane (1,2-DCA). Select samples were also analyzed for matrix gases - Oxygen (O₂), Nitrogen (N₂), Carbon Dioxide (CO₂), and Methane (CH₄).

Soil vapour samples were collected during 2023 on the following dates:

- January 23 to 31, 2023 (RM&C plan and semi-annual program);
- May 8 to 11, 2023 and July 27, 2023 (RM&C plan and semi-annual program);
- August 28, 2023 to September 8, 2023 (RM&C plan and semi-annual program); and,
- December 4 to 7, 2023 and December 18, 2023 (RM&C plan).

Soil vapour wells that were part of the RM&C program during 2023 were SV32, SV321B, SV322, SV323, SV401, SV402, SV403, SV404, SV500, and SV501. The remainder of the wells were sampled as part of the semi-annual monitoring program.

5.3 SUMMARY OF SOIL VAPOUR ANALYTICAL RESULTS - 2023

The soil vapour analytical results for samples collected in 2023 for BTEX, aliphatic and aromatic fractions, 1,2-DCA, and naphthalene are presented in Table 1a/b/c. A spatial summary of the soil vapour analytical results is presented as Drawing No. 5.

As presented in Table 1a/b/c and Drawing No. 5, none of the soil vapour samples collected and analyzed during the 2023 sampling events exceeded the applicable guidelines or the 90% of the guideline screening threshold.

Based on a review of the soil vapour analytical results in the RM&C designated area in 2023, the condition requiring five consecutive sampling events with concentrations less than 90% of the guidelines has been met.

5.4 2023 SOIL VAPOUR REPORTS ISSUED

Semi-annual or RM&C soil vapour sampling reports prepared for the 2023 sampling events are summarized as follows:

Sampling Event	Report Title	Report Date	Program
January 23 to 31, 2023	January 2023 Soil Vapour Sampling Program	April 26, 2023	Semi-annual, RM&C Plan
May 8 to 11, 2023 and July 27, 2023	Soil Vapour Sampling Program – May 2023	September 7, 2023	Semi-annual, RM&C Plan
August 28, 2023 to September 8, 2023	Soil Vapour Sampling Program – August 2023	November 14, 2023	Semi-annual, RM&C Plan
December 4 to 7, 2023 and December 18, 2023	Soil Vapour Sampling Program – December 2023	February 22, 2024	RM&C Plan

The laboratory certificates of analyses as well as a discussion of quality assurance and quality control (QA/QC) for the soil vapour analytical results are presented in the above-referenced reports.

6.0 GROUNDWATER MONITORING AND SAMPLING

A site plan showing the locations of the groundwater monitoring wells, including the areas of Tier 2 guideline application for the vapour inhalation pathway, is presented as Drawing No. 5.

The interpreted geological units (Units 1 to 5) previously established by others have been retained herein for the purpose of continuity.

6.1 2023 GROUNDWATER MONITORING AND SAMPLING PROGRAM DESCRIPTION

Groundwater monitoring wells and extraction wells were monitored and sampled as a part of the semi-annual groundwater monitoring and sampling (GWMS) program and/or for the purposes of monitored natural attenuation (MNA) and biological assessment.

Groundwater monitoring wells were monitored for subsurface vapour concentrations, water levels, and the apparent thickness of liquid phase petroleum hydrocarbons (LPH). Groundwater samples were collected and analyzed for one or more of: BTEX; PHC fractions F1 and F2; and 1,2-DCA. Select samples were also analyzed for additional volatile organic compounds, routine chemistry (select inorganic and salinity parameters), select dissolved metals, microbial analysis, and other select parameters for the purpose of MNA and biological assessment.

Groundwater monitoring wells and extraction wells were monitored and sampled, and hydraulic conductivity testing was completed, during 2023 on the following dates:

- January 9 to 20, 2023 (semi-annual GWMS program);
- July 4 to 13, 2023 and August 9, 2023 (MNA and biological assessment)

- July 17 to 27, 2023 (semi-annual GWMS program);
- August 23 to 25, 2023 (hydraulic conductivity testing); and,
- October 2 to 4, 2023 (additional sampling for trend analysis and/or anomalous results).

Groundwater samples were collected by either a disposable bailer or disposable HydraSleeve during the semi-annual GWMS events. During the July 2023 sampling event for MNA/biological assessment, groundwater samples were collected by low flow methodology using a bladder pump; additional field-measured parameters were measured with flow through cell equipped with a YSI multimeter probe to measure pH, temperature, electrical conductivity, turbidity, dissolved oxygen (DO), and oxygen-reduction potential (ORP) prior to sampling. A summary of the groundwater purging and sampling method for each well and sampling event is presented in Appendix A.

6.2 2023 GROUNDWATER REPORTS ISSUED

The semi-annual groundwater monitoring and sampling reports prepared for the 2023 sampling events, by Parsons, is summarized as follows:

Sampling Event	Report Title	Report Date	Program
January 9 to 20, 2023	Groundwater Monitoring and Sampling Program – January 2023	June 23, 2023	Semi-annual
July 4 to 27, 2023; August 9, 2023; August 23 to 25, 2023; and October 2 to 4, 2023	Groundwater Monitoring and Sampling Program – July 2023	October 31, 2023	Semi-annual

The laboratory certificates of analysis as well as a discussion of QA/QC of the groundwater analytical results are presented in the above-referenced report.

6.3 GROUNDWATER MONITORING AND THICKNESSES OF LIQUID PHASE PETROLEUM HYDROCARBONS (LPH)

As presented in Table 2, groundwater elevations were measured in the monitoring wells between January 9 to 19, 2023; July 4 to 23, 2023; August 23 to 25, 2023; and October 2 to 3, 2023. Historical groundwater monitoring data prior to 2023 collected previously by Clifton, are presented in Appendix C (reproduced from Table 1A in Appendix A, Clifton, 2022b).

As presented in Table 2, LPH was not detected in any of the groundwater monitoring wells or extraction wells monitored in 2023. LPH was last measured at the site in groundwater well BH1704 in May 2022; LPH was not detected in this well during the 2023 sampling events.

The depth to water varies with the grade elevation and the geological unit, varying from approximately 1 to 15 mbgs. Generally, groundwater is deeper in the northern areas of the site, and shallower in the southern areas.

As presented in Table 2, subsurface vapour concentrations measured in the monitoring wells ranged from not detected (<5 parts per million by volume (ppmv)) to greater than 100% of the lower explosive limit (LEL).

6.4 GROUNDWATER FLOW

The apparent direction of groundwater flow during the January and July 2023 monitoring events was generally towards the south-southeast, which is consistent with the direction of groundwater flow previously reported. The inferred direction of groundwater flow for the January and July 2023 semi-annual monitoring events are presented on Drawing Nos. 6 and 7.

6.5 SUMMARY OF HYDRAULIC CONDUCTIVITY (BAIL TESTS)

The results of hydraulic conductivity testing performed in August 2023 are presented in Appendix D and on Drawing No. 8 (along with historic hydraulic conductivity test results). As indicated, the hydraulic conductivity results in five groundwater monitoring wells completed in geological unit 3 ranged from 1.1×10^{-7} m/s to 3.3×10^{-6} m/s, with a geometric mean of 8.6×10^{-7} m/s. The hydraulic conductivity results in four groundwater monitoring wells completed in geological units 4 and 5 ranged from 2.1×10^{-7} m/s to 4.5×10^{-7} m/s, with a geometric mean of 3.3×10^{-7} m/s.

6.6 SUMMARY OF GROUNDWATER ANALYTICAL RESULTS – 2023

Groundwater analytical results for samples collected during the January, July/August, and October 2023 sampling events are summarized in Table 3a/b/c/d. A spatial summary of the concentrations of benzene and 1,2-DCA are shown on Drawing No. 9. Results are compared to the groundwater guidelines for the domestic use aquifer exposure pathway, as well as the most stringent guideline of the remaining applicable pathways (the vapour inhalation or the ecological soil contact pathway).

As indicated, one or more of the analyzed parameters exceeded the referenced guidelines for some monitoring wells for the 2023 sampling events. Results are summarized as follows:

- 12 of 118 groundwater monitoring wells and/or extraction wells sampled exceeded guidelines for the vapour inhalation pathway (BH1704, BH1912, BH1915, BH1924, BH1979, BH4002, BH4003A, BH4006, BH4007, EX1, EX5 and EX7) for one or more petroleum hydrocarbon constituents (BTEX, F1, F2) or 1,2-DCA;

- 46 of 118 groundwater monitoring wells and/or extraction wells sampled exceeded the drinking water guidelines for one or more petroleum hydrocarbon constituents (BTEX, F1, F2), or 1,2-DCA;
- None of wells sampled exceeded the guidelines for the ecological direct soil pathway; and,
- Lateral delineation has been achieved in the wells located on the southernmost extent of the site, in the vicinity of 10th Avenue NW, and installed within geological units 3, 4, and/or 5, as shown on Drawing No. 9.

6.7 TREND ANALYSIS

Trend analysis was conducted in accordance with the 2022 Annual Report (Parsons, 2023c) and the Revised Remediation Plan (RRP) (Version 4.0) (Clifton, 2022a). The concentration trend analyses included visual inspection of the concentration changes over time and statistical analysis with the Mann-Kendall method using ProUCL (USEPA, 2022). A description of the Mann-Kendall analysis and the trend decision logic is included in Appendix E. Benzene and 1,2-DCA were selected to represent the overall trends at the site and analytical data from 2013 to 2023 was used in the analysis. Additional details on the data selection are included in Appendix E.

Charts showing groundwater concentrations with time for benzene and 1,2-DCA are presented in Appendix E.

The results of the Mann-Kendall trend analysis for benzene and 1,2-DCA are provided in Table 4 and on Drawing No. 10, and are summarized as follows:

- 39 of 51 monitoring wells indicated decreasing, probably decreasing, stable, or no trends. Wells with decreasing or probably decreasing trends are mainly located in the areas south of the mall property, in Lions Park, in the residential area south of Lions Park, and north of 11th Avenue NW, as well as in wells immediately downgradient of the Permeable Reactive Barrier (PRB) at 11th Avenue NW.
- 12 of 51 monitoring wells indicated increasing, or probably increasing trend for either benzene and/or 1,2-DCA:
 - BH1907, BH4002, BH4003A, BH4003B, and BH6003, located on the mall property, in or near Lions Park, all screened within Unit 3 (although note that BH6003 has limited data); and,
 - BH1944, BH1954, BH1977, BH1979, BH2001, BH2005, and BH2006, located south of 11th Avenue NW.

For the groundwater monitoring wells located south of PRB/11th Avenue NW that indicated increasing or probably increasing trends in either benzene or 1,2-DCA (BH1944, BH1954, BH1977, BH1979, BH2001, BH2005, and BH2006), monitoring well BH1979 is the sole well that exceeds the vapour inhalation guidelines (for benzene). Dissolved trends in this well indicate no trend (for benzene) and increasing trend (for 1,2-DCA); the 1,2-DCA concentrations measured in this well (maximum of 0.015 mg/L, October 2023) remain substantially less than the vapour inhalation guideline for 1,2-DCA in this area (0.17 mg/L), as shown on Drawing No. 11. Concentrations of benzene and/or 1,2-DCA also remain less than the vapour inhalation groundwater guidelines in the other wells in the area that also indicate increasing or probably increasing trends.

Groundwater samples collected from the groundwater monitoring wells south and southeast of this area did not exceed the guidelines and were also less than or approaching the laboratory detection limits for benzene and 1,2-DCA (BH3002A/B, BH3001A/B/C, BH1945/BH1978, BH1951, BH2004, BH1942, BH2002, and BH1980/BH1941/BH2003), as shown in Table 3a/b/c/d and on Drawing No. 9.

6.8 MONITORED NATURAL ATTENUATION AND MICROBIAL ASSESSMENT

Sampling of selected wells for evaluation of MNA and presence of microbial populations was completed in 2023 in accordance with the 2022 Annual Report (Parsons, 2023c) and RRP (Version 4.0) (Clifton, 2022a). The results indicate the site is generally weakly aerobic to microaerophilic. Mild nitrate-reducing conditions may possibly dominate some areas of the site. This is based on an evaluation of available DO, methane, sulfate, ferrous iron, manganese, and nitrate concentrations as well as ORP values. There is no discernable spatial relationship regarding the concentration of benzene and/or 1,2-DCA, and the dominating redox condition. An evaluation of the molecular data reveals that the total bacterial population size ranges from 10^3 to 10^6 genes per millilitre (genes/mL) in the monitoring wells evaluated (EBAC gene). This is a moderate to healthy population size, and is within the range of what is expected for a location such as this. With the exception of BH1102, BH1917 and BH1963, the remaining groundwater samples report detectable concentrations of multiple genes involved with the biodegradation of benzene and other hydrocarbons under site conditions. Most of these detections report gene concentrations of 10^2 to 10^4 genes/mL, which reflects a small to moderate level of activity for these functional genes (a concentration of 10^6 genes/mL is typically what is desired for a substantial level of biodegradation activity). Lower concentrations of genes involved in anaerobic benzene and hydrocarbon degradation, including the ORM-2 gene, were detected in most samples. The presence of these anaerobic genes and organisms, including the detection of sulfate-reducing bacteria, in all samples likely reflects the presence of anaerobic micro-environments that exist within the greater, overall environment.

In conclusion, a direct evaluation of the indigenous microbial community at this site has shown that bacteria capable of degrading benzene under site geochemical conditions exists. This population is small to moderate in size. However, knowing that the site can and does support

hydrocarbon (and, specifically, benzene) biodegradation, this supports the evidence that there is an existing biodegradation capacity, and that biological MNA is occurring.

Additional information is presented in the Revised Remediation Plan (Version 5.0). The laboratory certificates of analysis of the groundwater microbial results are presented in Appendix F.

6.9 PERMEABLE REACTIVE BARRIER PERFORMANCE MONITORING

In November/December 2019, under direction of Clifton (Clifton, 2020), a PRB was installed along a portion of 11th Avenue NW, involving the injection of PlumeStop™ and Oxygen Release Compound-Advanced (ORC-A). This included 57 injection locations to a maximum depth of approximately 19.2 mbgs. The total length of the barrier was approximately 165 m and injection locations were spaced approximately 3.05 m apart. Pilot testing was completed prior to this in August 2016 involving nine injection points, at a depth range of 6.1 to 8.8 mbgs, and in September 2018 involving three injection points, at a depth range of 7.6 to 14.9 mbgs. The location of the PRB is shown on Drawing No. 4.

Groundwater wells downgradient of the PRB and used for evaluation purposes included:

- Nested group BH1982/BH1939/BH1937, BH1936 and BH1929, all located approximately 4 m south of the PRB at various locations; and,
- BH1928 (located 15 m south of the PRB), BH1954/BH1981 (38 m south of the PRB) and BH1943/BH1979 (39 m south of the PRB).

Time series plots for these wells are included in Appendix E with selected wells also displayed on Drawing No. 11. The plots also denote the approximate PRB injection dates for either pilot and/or full-scale implementation date for the specific area, whichever was earlier.

As indicated, concentrations of BTEX, F1, and 1,2-DCA were reduced compared to pre-injection concentrations in those wells located immediately adjacent the PRB, and in many cases, concentrations have been reduced to less than or approaching the laboratory detection limits. For wells located further downgradient of the PRB, concentrations appear to be increasing in some wells but remain less than the Tier 2 site specific guidelines for the vapour inhalation pathway, with the exception of benzene in BH1979, which indicated no trend according to statistical analysis.

7.0 DUAL PHASE VAPOUR EXTRACTION (DPVE) SYSTEM OPERATIONS AND PERFORMANCE

A Dual Phase Vapour Extraction (DPVE) system was installed in November 2008 by Ground Effects Environmental Services Inc. on behalf of Clifton and became operational in October 2010. Operations were suspended in early October 2010 and resumed on July 27, 2011 (Clifton, 2011).

The DPVE system operated on a header/extraction well network connected to seven extraction wells (EX-1 to EX-7), as shown on Drawing No. 4. A list of the extraction wells connected to the system throughout the year are shown in Table 5.

During 2023, system operation and maintenance was completed by Sequoia, on behalf of retained by Parsons.

As a part of system operation, Sequoia monitored performance parameters on a generally weekly basis. The system was generally operational throughout 2023, except while monitoring and sampling events were being conducted, and for periods of system maintenance, as summarized in Table 5. The system experienced a blower malfunction between September 29, 2023 and October 6, 2023. The system operated on the one remaining blower for the remainder of 2023.

The results of the DPVE system monitoring between December 28, 2022 and December 28, 2023 are presented in Table 5, and are summarized as follows:

- No LPH was recovered by the system in 2023;
- Approximately 320,662 Litres (L) of groundwater was extracted, treated by the system, and subsequently discharged to the City of Calgary's sanitary sewer system; and,
- In vapour phase, an equivalent LPH volume of approximately 469 L was removed by the DPVE system.

Fluctuations in the estimated extraction rate can be the result of soil moisture variations, water table fluctuations, barometric pressure changes, temperature fluctuations, drop-tube depths, as well as system shutdowns and restarts following site monitoring events and/or system maintenance.

Treated water is discharged to the sanitary sewer in accordance with the requirements in The City of Calgary (City) discharge permit number GW-0257, issued on January 10, 2023, and effective until December 31, 2025. The effluent of the DPVE system was sampled four times in 2023 and results were reported to The City of Calgary. Monthly volume discharge reports were

also provided to The City of Calgary under the scope of the same permit for January to December 2023.

The 2023 system performance data is summarized as follows:

- No free-phase LNAPL was recovered by the system in 2023;
- The average vapour extraction rate was estimated to be 2.3 L/day in 2023; and,
- The average groundwater extraction rate was 1580 L/day in 2023.

The operation of the DPVE system within the northern portion of the Hounsfield Heights Area appears to have been successful in removing LPH to the current extent that is practicable, which was a primary objective. In addition, extraction rates have appeared to have reached asymptotic levels.

8.0 DATA GAPS, FUTURE WORK, AND OTHER CHANGES TO THE PROGRAM

Revisions or refinement to the items outlined below may be proposed as the continued evaluation of the site data/information is completed.

The following work is proposed for 2024 and onwards:

Activity	Description	Schedule/ Implementation
Plume Monitoring and Risk Management	<ul style="list-style-type: none"> • Continued semi-annual groundwater sampling. 	<ul style="list-style-type: none"> • May and September 2024
	<ul style="list-style-type: none"> • Additional groundwater sampling in selected wells in the vicinity of the PRB to further evaluate benzene and 1,2-DCA concentration changes. 	<ul style="list-style-type: none"> • Q4 2024
	<ul style="list-style-type: none"> • Continued assessment of dissolved trends in groundwater, including statistical analysis and continued assessment of overall plume stability. 	<ul style="list-style-type: none"> • Annual report (March 31, 2025)
	<ul style="list-style-type: none"> • Continued sampling and assessment of natural attenuation parameters in groundwater. 	<ul style="list-style-type: none"> • Annual report (March 31, 2025)
	<ul style="list-style-type: none"> • Continued semi-annual soil vapour sampling; ongoing review of soil vapour data as it is collected and compared to the 90% screening threshold as per the RM&C plan. 	<ul style="list-style-type: none"> • April and September/October 2024

Activity	Description	Schedule/ Implementation
	<ul style="list-style-type: none"> • Replacement or rehabilitation of groundwater well BH1956, and potential installation of an additional groundwater well(s) north of the PRB. • Replacement of soil vapour well SV38 (south of the PRB), and installation of additional soil vapour well(s) in the vicinity of BH1943/BH1979. • Additional groundwater investigation in the area surrounding BH2005. • Re-evaluation of the remedial objectives (guidelines), including the possibility of eliminating the domestic use aquifer exposure pathway. • Evaluation and optimization of both the groundwater monitoring well and soil vapour well network. • Characterization of residual concentrations of contaminants of concern, and their distribution at the Mall Area. • Monitoring for the presence of seeps. 	<ul style="list-style-type: none"> • 2024 • 2024 • 2024 • On-going • On-going • On-going • 2024
Remedial Activities	<ul style="list-style-type: none"> • Continued operation of the DPVE system until a proposed temporary shutdown (see Revised Remediation Plan (Version 5.0), followed by increased monitoring of soil vapour, LPH presence, and groundwater assessment at key locations; and potential additional soil vapour and/or groundwater well installations in the DPVE area. • Assessment of the effectiveness of the PRB, including evaluation of concentration trends in the vicinity of the PRB. • Continued evaluation of geochemical and microbiological conditions, as described in the Revised Remediation Plan (Version 5.0). 	<ul style="list-style-type: none"> • Q2/Q3 2024 • On-going • Q2/Q3 2024
Communication	<ul style="list-style-type: none"> • Community bulletins. • Communication strategy. 	<ul style="list-style-type: none"> • Q1, Q2, Q3, and Q4 2024 • On-going

9.0 LIMITATION OF LIABILITY, SCOPE OF REPORT AND THIRD-PARTY RELIANCE

This report has been prepared and the work referred to in this report has been undertaken by Parsons for Suncor Energy Products Partnership (Suncor). It is intended for the sole and exclusive use of Suncor Energy Inc., its affiliated companies and partners and their respective insurers, agents, employees and advisors (collectively, "Suncor"). Any use, reliance on or decision made by any person other than Suncor based on this report is the sole responsibility of such other person. Suncor and Parsons make no representation or warranty to any other person with regard to this report and the work referred to in this report and they accept no duty of care to any other person or any liability or responsibility whatsoever for any losses, expenses, damages, fines, penalties or other harm that may be suffered or incurred by any other person as a result of the use of, reliance on, any decision made or any action taken based on this report or the work referred to in this report.

The investigations undertaken by Parsons with respect to this report and any conclusions or recommendations made in this report reflect Parsons' judgement based on the site conditions observed at the time of the site inspection on the date(s) set out in this report and on information examined at the time of preparation of this report. This report has been prepared for specific application to this site and it is based, in part, upon visual observation of the site, subsurface investigation at discrete locations and depths, and specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future site conditions, portions of the site which were unavailable for direct investigation, subsurface locations which were not investigated directly, or chemical parameters, materials or analysis which were not addressed in the report. Substances other than those addressed by the investigation described in this report may exist within the site, substances addressed by this investigation may exist in areas of the site not investigated and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

If site conditions or applicable standards change or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary.

Other than by Suncor, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of Parsons. Nothing in this report is intended to constitute or provide a legal opinion.

10.0 CLOSURE

We trust the foregoing information is satisfactory for your requirements. If there are any questions or concerns regarding this report, please do not hesitate to contact the undersigned.

Respectfully submitted,

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TABLE 1-A
SUMMARY OF 2022 TO 2023 SOIL VAPOUR ANALYTICAL DATA
PETROLEUM HYDROCARBON PARAMETERS, 1,2-DICHLOROETHANE, AND NAPHTHALENE

Well ID	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Duplicate	Area	Benzene	Toluene	Ethylbenzene	Total Xylenes	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic C6-C8	Aromatic >C7-C8 (TEX Excl.)	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	1,2-Dichloro-ethane	Naphthalene	F1 C6-C10	F1 minus BTEX C6-C10	F2 >C10-C16
Guidelines^a:																							
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG
SV01	4.5	2022-06-27		Commercial	<0.50	6.56	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
SV07	5.0	2022-10-01		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
SV08	4.0	2022-02-14		Residential	1.09	<0.75	<0.87	<2.2	-	24	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	24	23	<15
	4.0	2022-02-14	Dup	Residential	1.05	<0.75	<0.87	<2.2	-	23	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	23	22	<15
	4.0	2022-09-30		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	4.0	2022-09-30	Dup	Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
SV09	4.0	2022-02-14		Residential	0.93	<0.75	<0.87	<2.2	-	18	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	18	17	<15
	4.0	2022-09-30		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	4.0	2023-05-10		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	7.6	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	4.0	2023-05-10	Dup	Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	4.0	2023-08-28		Residential	0.41	0.54	<0.43	<1.3	<5.0	<5.0	<5.0	14.7	5.9	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV10	1.0	2022-02-10		Residential	1.02	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2022-09-26		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2023-01-25		Residential	<0.64	1.21	<0.87	<2.2	-	35	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.0	2023-08-30		Residential	0.51	0.62	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	1.0	2023-08-30	Dup	Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV11	1.5	2022-02-17		Residential	1.66	<0.75	<0.87	<2.2	-	27	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	27	25	<15
	1.5	2022-10-06		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.5	2023-01-23		Residential	<0.64	<0.75	<0.87	<2.2	-	25	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-08-30		Residential	1.38	0.83	<0.43	<1.3	<5.0	5.3	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-

a - For the full set of depth-specific guidelines, for commercial and residential land use, fine-grained and coarse-grained guidelines, refer to Appendix A, and/or the report entitled *Development of Soil Vapour and Groundwater Quality Guidelines, Prepared by Intrinsic Corp. for Suncor Energy Products Partnership, December 2022*. The RM&C Plan screening threshold is 90% of the guidelines; see report text for additional details. Guidelines <1 m beneath foundation are based on default attenuation coefficient of 0.01 (AEP 2022b).

b - Data appears to be anomalous and is inconsistent with prior and subsequent sampling events; additional sampling is recommended.

c - Reflects the data as reported by the lab certificate, where a discrepancy was identified.

NG - No guideline.

.- Not analyzed.

Dup - Duplicate Sample.

mbgs - metres below ground surface (unless otherwise specified)

Italics - Greater than 90% of referenced guidelines (screening threshold).

Underline - Detection limit exceeds guideline.

Shaded Calculated guideline value results in a vapour concentration greater than the maximum possible vapour concentration for that chemical, assuming no NAPL is present. Maximum vapour concentration calculated according to Health Canada (2010) guidance.

BOLD - Exceeds referenced guidelines.

Results for all parameters are reported in micrograms per metre cubed (µg/m³), unless otherwise specified.

Notes: All 2022 analytical data was collected by Clifton Engineering Group Inc.

TABLE 1-A
SUMMARY OF 2022 TO 2023 SOIL VAPOUR ANALYTICAL DATA
PETROLEUM HYDROCARBON PARAMETERS, 1,2-DICHLOROETHANE, AND NAPHTHALENE

Well ID	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Duplicate	Area	Benzene	Toluene	Ethylbenzene	Total Xylenes	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic C6-C8	Aromatic >C7-C8 (TEX Excl.)	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	1,2-Dichloro-ethane	Naphthalene	F1 C6-C10	F1 minus BTEX C6-C10	F2 >C10-C16	
Guidelines^a:																								
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG	
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG	
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG	
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG	
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG	
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG	
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG	
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG	
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG	
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG	
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG	
SV20	3.5	2022-02-15		Residential	54.9	1.66	5.21	10.7	-	3001	33	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	3030	2960	<15	
	3.5	2022-09-28		Residential	0.80	1.92	<0.87	<1.8	-	29	404	1138	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	433	430	1140
SV21	3.5	2022-02-15		Residential	15.2	0.75	1.43	3.0	-	44	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	44	24	<15	
	3.5	2022-09-28		Residential	<0.50	<0.75	<0.87	<1.8	-	21	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	21	21	<15	
	3.5	2023-01-24		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-	
	3.5	2023-09-05		Residential	0.82	1.15	<0.43	<1.3	<5.0	<5.0	<5.0	9.1	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-	
SV22	4.0	2022-02-15		Residential	1.15	<0.75	<0.87	<2.2	-	25	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	25	24	<15	
	4.0	2022-09-28		Residential	1.63	4.97	<0.87	2.1	-	40	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	40	31	<15	
SV23	4.5	2022-02-15		Residential	1.12	<0.75	<0.87	<2.2	-	22	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	22	21	<15	
	4.5	2022-09-28		Residential	<0.50	<0.75	<0.87	<1.8	-	16	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	16	16	<15	
	4.5	2023-01-25		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-	
	4.5	2023-09-08		Residential	0.43	0.49	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-	
SV24	5.0	2022-02-10		Residential	0.86	1.02	<0.87	<2.2	-	<15	17	68	<15	<15	-	<15	<15	<15	<0.41	<5.2	17	15	68	
	5.0	2022-09-28		Residential	<0.50	<0.75	<0.87	<1.8	-	19	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	19	19	<15	
	5.0	2023-01-25		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-	
	5.0	2023-08-29		Residential	<0.32	0.40	<0.43	<1.3	<5.0	<5.0	<5.0	6.2	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-	
SV25	5.0	2022-02-10		Residential	1.12	2.00	<0.87	<2.2	-	100	768	291	<15	<15	-	<15	<15	<15	<0.41	<5.2	868	864	291	
	5.0	2022-09-28		Residential	0.70	1.47	<0.87	<1.8	-	2781	429	241	<15	<15	-	<15	<15	<15	<0.41	<5.2	3210	3210	241	
SV26A	5.0	2022-02-11		Residential	1.34	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15	
	5.0	2022-10-01		Residential	<0.50	<0.75	<0.87	<1.8	-	31	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	31	31	<15	
	5.0	2023-01-25		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-	
	5.0	2023-05-05		Residential	<0.32	0.76	<0.43	<1.3	<5.0	<5.0	7.5	42.8	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-	
	5.0	2023-08-29		Residential	0.36	0.87	<0.43	<1.3	<5.0	10.7	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-	

a - For the full set of depth-specific guidelines, for commercial and residential land use, fine-grained and coarse-grained guidelines, refer to Appendix A, and/or the report entitled *Development of Soil Vapour and Groundwater Quality Guidelines, Prepared by Intrinsic Corp. for Suncor Energy Products Partnership, December 2022*. The RM&C Plan screening threshold is 90% of the guidelines; see report text for additional details. Guidelines <1 m beneath foundation are based on default attenuation coefficient of 0.01 (AEP 2022b).

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Italics - Greater than 90% of referenced guidelines (screening threshold).

Underline - Detection limit exceeds guideline.

Shaded - Calculated guideline value results in a vapour concentration greater than the maximum possible vapour concentration for that chemical, assuming no NAPL is present. Maximum vapour concentration calculated according to Health Canada (2010) guidance.

BOLD - Exceeds referenced guidelines.

Results for all parameters are reported in micrograms per metre cubed (µg/m³), unless otherwise specified.

Notes: All 2022 analytical data was collected by Clifton Engineering Group Inc.

TABLE 1-A
SUMMARY OF 2022 TO 2023 SOIL VAPOUR ANALYTICAL DATA
PETROLEUM HYDROCARBON PARAMETERS, 1,2-DICHLOROETHANE, AND NAPHTHALENE

Well ID	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Duplicate	Area	Benzene	Toluene	Ethylbenzene	Total Xylenes	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic C6-C8	Aromatic >C7-C8 (TEX Excl.)	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	1,2-Dichloroethane	Naphthalene	F1 C6-C10	F1 minus BTEX C6-C10	F2 >C10-C16
Guidelines^a:																							
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG
SV26B	3.5	2022-02-11		Residential	319	7.61	33.9	69.0	-	27350	360	<15	<15	102	-	<15	<15	<15	<0.41	<5.2	27800	27400	<15
	3.5	2022-10-01		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	3.5	2023-01-25		Residential	<0.64	<0.75	<0.87	<2.2	-	26	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	3.5	2023-01-25	Dup	Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	3.5	2023-05-05		Residential	0.50	1.22	<0.43	<1.3	<5.0	5.0	11.1	57.3	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	3.5	2023-08-29		Residential	0.70	2.11	0.67	2.9	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	3.5	2023-08-29	Dup	Residential	0.78	3.12	0.58	2.4	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV26C	2.0	2022-02-11		Residential	0.93	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	2.0	2022-10-01		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	2.0	2023-01-25		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	2.0	2023-05-05		Residential	<0.32	0.74	<0.43	<1.3	<5.0	<5.0	5.4	29.6	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	2.0	2023-08-29		Residential	0.63	1.67	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV27	3.0	2022-02-10		Residential	13.6	1.17	1.17	2.3	-	933	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	933	915	<15
	3.0	2022-09-26		Residential	1.66	3.2	<0.87	<1.8	-	69	22	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	91	86	<15
SV28	2.5	2022-02-10		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	2.5	2022-09-26		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	2.5	2023-01-25		Residential	<0.64	<0.75	<0.87	<2.2	-	22	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	2.5	2023-08-30		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV29	1.5	2022-02-10		Residential	<0.64	1.06	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.5	2022-09-26		Residential	<0.50	<0.75	<0.87	<1.8	-	27	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	27	27	<15
	1.5	2023-01-25		Residential	<0.64	<0.75	<0.87	<2.2	-	19	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-08-30		Residential	0.59	0.74	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-

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The RM&C Plan screening threshold is 90% of the guidelines; see report text for additional details. Guidelines <1 m beneath foundation are based on default attenuation coefficient of 0.01 (AEP 2022b).

b - Data appears to be anomalous and is inconsistent with prior and subsequent sampling events; additional sampling is recommended.

c - Reflects the data as reported by the lab certificate, where a discrepancy was identified.

NG - No guideline.

.- Not analyzed.

Dup - Duplicate Sample.

mbgs - metres below ground surface (unless otherwise specified)

Italics - Greater than 90% of referenced guidelines (screening threshold).

Underline - Detection limit exceeds guideline.

Shaded - Calculated guideline value results in a vapour concentration greater than the maximum possible vapour concentration for that chemical, assuming no NAPL is present. Maximum vapour concentration calculated according to Health Canada (2010) guidance.

BOLD - Exceeds referenced guidelines.

Results for all parameters are reported in micrograms per metre cubed (µg/m³), unless otherwise specified.

Notes: All 2022 analytical data was collected by Clifton Engineering Group Inc.

TABLE 1-A
SUMMARY OF 2022 TO 2023 SOIL VAPOUR ANALYTICAL DATA
PETROLEUM HYDROCARBON PARAMETERS, 1,2-DICHLOROETHANE, AND NAPHTHALENE

Well ID	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Duplicate	Area	Benzene	Toluene	Ethylbenzene	Total Xylenes	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic C6-C8	Aromatic >C7-C8 (TEX Excl.)	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	1,2-Dichloro-ethane	Naphthalene	F1 C6-C10	F1 minus BTEX C6-C10	F2 >C10-C16
Guidelines^a:																							
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG
SV30	1.0	2022-02-16		Residential	2.49	<0.75	<0.87	<2.2	-	49	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	49	47	<15
	1.0	2022-10-02		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2023-08-28		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV31	1.0	2022-02-17		Residential	1.34	<0.75	<0.87	<2.2	-	21	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	21	20	<15
	1.0	2022-10-03		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2022-10-03	Dup	Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2023-01-23		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	149	556	26	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.0	2023-09-06		Residential	1.21	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV32	1.0	2022-02-12		Residential	2.84	<0.75	<0.87	<2.2	-	43	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	43	40	<15
	1.0	2022-05-25		Residential	1790	1910	749	835	-	3750000	14200	<15	<15	326000	-	12200	1540	<15	<0.41	100	4100000	4090000	3080
	1.0	2022-06-27		Residential	1890	3540	392	2000	-	55219	816	<15	<15	7259	-	197.86	<15	<15	<0.41	10	63500	55700	<15
	1.0	2022-10-05		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2022-10-05	Dup	Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2023-01-24		Residential	<0.64	<0.75	<0.87	<2.2	-	173	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.0	2023-05-05		Residential	<0.32	0.50	<0.43	<1.3	<5.0	<5.0	<5.0	6.9	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.0	2023-09-07		Residential	0.34	0.48	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	1.0	2023-12-06		Residential	1.15	0.64	6.88	33.0	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	16.9	<5.0	<5.0	<0.40	<1.0	-	-	-
SV36	3.0	2022-02-15		Residential	0.89	<0.75	<0.87	<2.2	-	22	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	22	21	<15
	3.0	2022-09-30		Residential	<0.50	<0.75	<0.87	<1.8	-	68	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	68	68	<15
	3.0	2023-01-24		Residential	<0.64	<0.75	<0.87	<2.2	-	46	4276	16119	1012	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	3.0	2023-01-30		Residential	<0.64	1.7	2.69	3	-	212	2018	1524	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-

a - For the full set of depth-specific guidelines, for commercial and residential land use, fine-grained and coarse-grained guidelines, refer to Appendix A, and/or the report entitled *Development of Soil Vapour and Groundwater Quality Guidelines, Prepared by Intrinsic Corp. for Suncor Energy Products Partnership, December 2022*

The RM&C Plan screening threshold is 90% of the guidelines; see report text for additional details. Guidelines <1 m beneath foundation are based on default attenuation coefficient of 0.01 (AEP 2022b).

b - Data appears to be anomalous and is inconsistent with prior and subsequent sampling events; additional sampling is recommended.

c - Reflects the data as reported by the lab certificate, where a discrepancy was identified.

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Well ID	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Duplicate	Area	Benzene	Toluene	Ethylbenzene	Total Xylenes	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic C6-C8	Aromatic >C7-C8 (TEX Excl.)	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	1,2-Dichloro-ethane	Naphthalene	F1 C6-C10	F1 minus BTEX C6-C10	F2 >C10-C16
Guidelines^a:																							
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG
SV37	2.5	2022-02-17		Residential	3.10	0.87	<0.87	<2.2	-	33	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	33	29	<15
	2.5	2022-09-30		Residential	<0.50	<0.75	<0.87	<1.8	-	286	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	286	286	<15
	2.5	2023-01-24		Residential	<0.64	<0.75	<0.87	<2.2	-	95	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	2.5	2023-08-30		Residential	0.55	0.41	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV38	4.0	2022-02-16		Residential	10.2	0.90	<0.87	<2.2	-	205	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	205	194	<15
	4.0	2022-10-02		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
SV39	2.0	2022-02-17		Residential	2.75	<0.75	<0.87	<2.2	-	30	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	30	27	<15
	2.0	2022-02-17	Dup	Residential	2.75	<0.75	<0.87	<2.2	-	28	<15	59	<15	<15	-	<15	<15	<15	<0.41	<5.2	28	25	59
	2.0	2022-09-30		Residential	<0.50	<0.75	<0.87	<1.8	-	513	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	513	513	<15
	2.0	2023-01-23		Residential	<0.64	<0.75	<0.87	<2.2	-	77	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	2.0	2023-08-30		Residential	17.4	4.10	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV40	1.5	2022-02-17		Residential	0.96	<0.75	<0.87	<2.2	-	21	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	21	20	<15
	1.5	2022-10-06		Residential	0.51	<0.75	<0.87	<1.8	-	21	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	21	20	<15
	1.5	2023-01-23		Residential	<0.64	<0.75	<0.87	<2.2	-	36	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-08-30		Residential	0.33	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	7.5	<5.0	<5.0	-	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV41	1.5	2022-02-16		Residential	5.65	<0.75	<0.87	<2.2	-	138	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	138	132	<15
	1.5	2022-10-02		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.5	2023-05-10		Residential	0.33	0.68	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.5	2023-08-28		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-

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Guidelines^a:																							
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG
SV101	0.3 m below foundation	2022-10-03		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	0.3 m below foundation	2023-01-31		Residential	6.77	6.52	1.52	10.2	-	160	30	71	22	21	-	50.01	<15	<15	<0.40	<5.2	-	-	-
	0.3 m below foundation	2023-05-08		Residential	6.56	2.38	0.69	6.2	<5.0	<5.0	<5.0	76.8	180	-	<5.0	41.8	12.4	24.5	<0.4	<1.0	-	-	-
SV321B	1.09	2022-02-11		Residential	<0.64	1.02	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.09	2022-05-24		Residential	<0.50	1.92	<0.87	<1.8	-	30	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	30	27	<15
	1.09	2022-10-04		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.09	2023-07-27		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	1.09	2023-12-06		Residential	5.45	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	16.6	<5.0	<5.0	<0.4	<1.0	-	-	-
SV322	1.0	2022-02-11		Residential	4.03	0.79	<0.87	<2.2	-	107	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	107	102	<15
	1.0	2022-05-24		Residential	42.9	50.0	13.8	78.8	-	518	<15	<15	<15	120	-	<15	<15	<15	<0.41	<5.2	638	453	<15
	1.0	2022-05-24	Dup	Residential	44.4	53.6	15.0	83.8	-	537	<15	<15	<15	127	-	<15	<15	<15	<0.41	<5.2	664	467	<15
	1.0	2022-10-04		Residential	1.0	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2022-10-04	Dup	Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2023-01-30		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.0	2023-07-27		Residential	0.44	1.07	1.20	5.6	<5.0	6.4	10.2	70.0	9.2	-	<5.0	6.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	1.0	2023-12-06		Residential	0.51	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
SV323	1.0	2022-02-11		Residential	0.83	0.94	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2022-05-24		Residential	<0.50	1.06	1.43	2.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2022-10-03		Residential	1.47	4.90	3.34	65.7	-	42	18	33	<15	107	-	21.45	<15	<15	<0.41	<5.2	188	113	33
	1.0	2023-01-31		Residential	<0.64	<0.75	<0.87	<2.2	-	130	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.0	2023-05-11		Residential	0.53	0.95	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.0	2023-09-06		Residential	0.36	0.55	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	1.0	2023-12-18		Residential	1.55	0.44	<0.43	<1.3	<5.0	<5.0	<5.0	13.9	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-

a - For the full set of depth-specific guidelines, for commercial and residential land use, fine-grained and coarse-grained guidelines, refer to Appendix A, and/or the report entitled *Development of Soil Vapour and Groundwater Quality Guidelines, Prepared by Intrinsic Corp. for Suncor Energy Products Partnership, December 2022*. The RM&C Plan screening threshold is 90% of the guidelines; see report text for additional details. Guidelines <1 m beneath foundation are based on default attenuation coefficient of 0.01 (AEP 2022b).

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c - Reflects the data as reported by the lab certificate, where a discrepancy was identified.

NG - No guideline.

.* - Not analyzed.

Dup - Duplicate Sample.

mbgs - metres below ground surface (unless otherwise specified)

Italics - Greater than 90% of referenced guidelines (screening threshold).

Underline - Detection limit exceeds guideline.

Shaded - Calculated guideline value results in a vapour concentration greater than the maximum possible vapour concentration for that chemical, assuming no NAPL is present. Maximum vapour concentration calculated according to Health Canada (2010) guidance.

BOLD - Exceeds referenced guidelines.

Results for all parameters are reported in micrograms per metre cubed (µg/m³), unless otherwise specified.

Notes: All 2022 analytical data was collected by Clifton Engineering Group Inc.

TABLE 1-A
SUMMARY OF 2022 TO 2023 SOIL VAPOUR ANALYTICAL DATA
PETROLEUM HYDROCARBON PARAMETERS, 1,2-DICHLOROETHANE, AND NAPHTHALENE

Well ID	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Duplicate	Area	Benzene	Toluene	Ethylbenzene	Total Xylenes	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic C6-C8	Aromatic >C7-C8 (TEX Excl.)	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	1,2-Dichloro-ethane	Naphthalene	F1 C6-C10	F1 minus BTEX C6-C10	F2 >C10-C16
Guidelines^a:																							
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG
SV324	1.5	2022-10-03		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.5	2023-01-26		Residential	<0.64	<0.75	<0.87	<2.2	-	20	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-01-26	Dup	Residential	0.67	1.81	<0.87	<2.2	-	91	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-05-10		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
SV325	1.5	2022-10-04		Residential	<0.50	<0.75	<0.87	<1.8	-	71	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	71	71	<15
	1.5	2023-01-26		Residential	<0.64	<0.75	<0.87	<2.2	-	28	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-05-05		Residential	<0.32	2.06	0.48	2.3	<5.0	<5.0	8.7	52.7	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
SV326	1.5	2022-10-04		Residential	<0.50	<0.75	<0.87	<1.8	-	21	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	21	21	<15
	1.5	2023-01-26		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-05-05		Residential	<0.32	1.36	<0.43	1.8	<5.0	<5.0	10.5	31.7	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
SV401	1.5	2022-02-12		Residential	1.21	2.41	<0.87	<2.2	-	17	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	17	<15	<15
	1.5	2022-05-24		Residential	<0.50	1.09	2.00	4.9	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.5	2022-10-05		Residential	<0.50	<0.75	<0.87	<1.8	-	19	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	19	19	<15
	1.5	2023-05-11		Residential	0.37	1.03	<0.43	<1.3	<5.0	<5.0	<5.0	7.7	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.5	2023-09-06		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	1.5	2023-12-06		Residential	0.56	1.01	0.86	3.4	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
SV402	1.5	2022-02-12		Residential	0.83	<0.75	<0.87	<2.2	-	<15	<15	67	634	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	701
	1.5	2022-02-12	Dup	Residential	0.86	<0.75	<0.87	<2.2	-	<15	<15	74	599	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	673
	1.5	2022-05-25		Residential	264000	182000	35300	178000	-	28500	600	<15	<15	4170	-	219	36	<15	<0.41	1160	33500	<15	72
	1.5	2022-06-27		Residential	1410	2950	452	2510	-	35896	650	<15	<15	6434	-	188.75	<15	<15	<0.41	27.4	43200	35900	<15
	1.5	2022-10-05		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.5	2023-01-24		Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-01-24	Dup	Residential	<0.64	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.5	2023-05-05		Residential	<0.32	0.94	<0.43	<1.3	<5.0	<5.0	<5.0	26.8	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.5	2023-09-07		Residential	1.54	1.19	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-

a - For the full set of depth-specific guidelines, for commercial and residential land use, fine-grained and coarse-grained guidelines, refer to Appendix A, and/or the report entitled *Development of Soil Vapour and Groundwater Quality Guidelines, Prepared by Intrinsic Corp. for Suncor Energy Products Partnership, December 2022*. The RM&C Plan screening threshold is 90% of the guidelines; see report text for additional details. Guidelines <1 m beneath foundation are based on default attenuation coefficient of 0.01 (AEP 2022b).

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Well ID	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Duplicate	Area	Benzene	Toluene	Ethylbenzene	Total Xylenes	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic C6-C8	Aromatic >C7-C8 (TEX Excl.)	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	1,2-Dichloro-ethane	Naphthalene	F1 C6-C10	F1 minus BTEX C6-C10	F2 >C10-C16
Guidelines^a:																							
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG
SV403	0.95	2022-02-11		Residential	2.46	<0.75	<0.87	<2.2	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	0.95	2022-05-24		Residential	<0.50	0.83	<0.87	<1.8	-	20	<15	18	<15	<15	-	<15	<15	<15	<0.41	<5.2	20	19	18
	0.95	2022-10-05		Residential	1.50	0.79	<0.87	<1.8	-	34	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	34	32	<15
	0.95	2023-05-10		Residential	0.41	0.39	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	0.95	2023-08-28		Residential	0.81	1.69	<0.43	1.5	<5.0	<5.0	<5.0	13.5	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	0.95	2023-08-28	Dup	Residential	0.57	0.62	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	0.95	2023-12-06		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	10.5	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
SV404	1.0	2022-02-11		Residential	5.08	<0.75	<0.87	<2.2	-	35	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	35	30	<15
	1.0	2022-05-25		Residential	0.61	2.00	1.56	2.6	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2022-10-05		Residential	<0.50	<0.75	<0.87	<1.8	-	<15	<15	<15	<15	<15	-	<15	<15	<15	<0.41	<5.2	<15	<15	<15
	1.0	2023-01-24		Residential	<0.64	<0.75	<0.87	<2.2	-	17	<15	<15	<15	<15	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.0	2023-05-05		Residential	<0.32	0.61	<0.43	<1.3	<5.0	<5.0	<5.0	19.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.0	2023-05-05	Dup	Residential	1.32	2.5	0.65	2.9	<5.0	9.6	9.7	48.8	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.0	2023-08-28		Residential	<0.32	0.46	<0.43	<1.3	<5.0	<5.0	<5.0	16.8	7.1	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	1.0	2023-12-07		Residential	1.78	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	10.7	<5.0	<5.0	<0.4	<1.0	-	-	-

a - For the full set of depth-specific guidelines, for commercial and residential land use, fine-grained and coarse-grained guidelines, refer to Appendix A, and/or the report entitled *Development of Soil Vapour and Groundwater Quality Guidelines, Prepared by Intrinsic Corp. for Suncor Energy Products Partnership, December 2022*. The RM&C Plan screening threshold is 90% of the guidelines; see report text for additional details. Guidelines <1 m beneath foundation are based on default attenuation coefficient of 0.01 (AEP 2022b).

b - Data appears to be anomalous and is inconsistent with prior and subsequent sampling events; additional sampling is recommended.

c - Reflects the data as reported by the lab certificate, where a discrepancy was identified.

NG - No guideline.

"- " - Not analyzed.

Dup - Duplicate Sample.

mbgs - metres below ground surface (unless otherwise specified)

Italics - Greater than 90% of referenced guidelines (screening threshold).

Underline - Detection limit exceeds guideline.

Shaded - Calculated guideline value results in a vapour concentration greater than the maximum possible vapour concentration for that chemical, assuming no NAPL is present. Maximum vapour concentration calculated according to Health Canada (2010) guidance.

BOLD - Exceeds referenced guidelines.

Results for all parameters are reported in micrograms per metre cubed (µg/m³), unless otherwise specified.

Notes: All 2022 analytical data was collected by Clifton Engineering Group Inc.

TABLE 1-A
SUMMARY OF 2022 TO 2023 SOIL VAPOUR ANALYTICAL DATA
PETROLEUM HYDROCARBON PARAMETERS, 1,2-DICHLOROETHANE, AND NAPHTHALENE

Well ID	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Duplicate	Area	Benzene	Toluene	Ethylbenzene	Total Xylenes	Aliphatic >C5-C6	Aliphatic >C6-C8	Aliphatic >C8-C10	Aliphatic >C10-C12	Aliphatic >C12-C16	Aromatic C6-C8	Aromatic >C7-C8 (TEX Excl.)	Aromatic >C8-C10	Aromatic >C10-C12	Aromatic >C12-C16	1,2-Dichloro-ethane	Naphthalene	F1 C6-C10	F1 minus BTEX C6-C10	F2 >C10-C16
Guidelines^a:																							
Residential: fine or coarse-grained; <1 m beneath foundation					6.2E+01	1.1E+05	9.9E+04	4.9E+03	NG	9.1E+05	4.8E+04	5.0E+04	5.0E+04	NG	NG	8.1E+03	1.0E+04	1.0E+04	3.8E+01	4.5E+02	NG	NG	NG
Residential: fine-grained: 1 m beneath foundation					3.0E+04	5.4E+07	4.9E+07	2.4E+06	NG	4.7E+08	2.4E+07	2.5E+07	2.5E+07	NG	NG	4.1E+06	5.1E+06	5.1E+06	1.8E+03	2.2E+04	NG	NG	NG
Residential: fine-grained: 1.5 m beneath foundation					3.1E+04	5.6E+07	5.1E+07	2.5E+06	NG	5.0E+08	2.6E+07	2.7E+07	2.7E+07	NG	NG	4.4E+06	5.4E+06	5.4E+06	1.8E+03	2.4E+04	NG	NG	NG
Residential: fine-grained: 2 m beneath foundation					3.2E+04	5.9E+07	5.3E+07	2.6E+06	NG	5.3E+08	2.7E+07	2.9E+07	2.9E+07	NG	NG	4.7E+06	5.8E+06	5.8E+06	1.9E+03	2.5E+04	NG	NG	NG
Residential: fine-grained: 2.5 m beneath foundation					3.3E+04	6.1E+07	5.5E+07	2.7E+06	NG	5.6E+08	2.9E+07	3.0E+07	3.0E+07	NG	NG	4.9E+06	6.1E+06	6.1E+06	1.9E+03	2.6E+04	NG	NG	NG
Residential: fine-grained: 3 m beneath foundation					3.5E+04	6.3E+07	5.7E+07	2.8E+06	NG	5.9E+08	3.1E+07	3.2E+07	3.2E+07	NG	NG	5.2E+06	6.4E+06	6.4E+06	2.0E+03	2.7E+04	NG	NG	NG
Residential: coarse-grained: 1 m beneath foundation					4.0E+03	7.3E+06	6.8E+06	3.3E+05	NG	7.3E+07	3.8E+06	4.0E+06	4.0E+06	NG	NG	6.5E+05	8.0E+05	8.0E+05	2.3E+02	3.4E+03	NG	NG	NG
Residential: coarse-grained: 1.5 m beneath foundation					4.7E+03	8.5E+06	8.0E+06	3.8E+05	NG	9.0E+07	4.7E+06	4.9E+06	4.9E+06	NG	NG	8.0E+05	9.8E+05	9.8E+05	2.6E+02	4.0E+03	NG	NG	NG
Residential: coarse-grained: 2 m beneath foundation					5.3E+03	9.7E+06	9.2E+06	4.4E+05	NG	1.0E+08	5.5E+06	5.8E+06	5.8E+06	NG	NG	9.4E+05	1.1E+06	1.1E+06	2.9E+02	4.7E+03	NG	NG	NG
Residential: coarse-grained: 2.5 m beneath foundation					5.9E+03	1.0E+07	1.0E+07	5.0E+05	NG	1.2E+08	6.4E+06	6.7E+06	6.7E+06	NG	NG	1.0E+06	1.3E+06	1.3E+06	3.3E+02	5.4E+03	NG	NG	NG
Residential: coarse-grained: 3 m beneath foundation					6.6E+03	1.2E+07	1.1E+07	5.5E+05	NG	1.3E+08	7.3E+06	7.6E+06	7.6E+06	NG	NG	1.2E+06	1.5E+06	1.5E+06	3.6E+02	6.1E+03	NG	NG	NG
SV500	1.2	2023-01-27		Residential	<0.64	1.85	3	11.4	-	22	71	189	<15	16	-	<15	<15	<15	<0.40	<5.2	-	-	-
SV501	1.2	2023-01-30		Residential	0.89	6.33	5.43	15.6	-	53	130	40	<15	21	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.2	2023-05-11		Residential	0.51	2.01	1.58	4.1	<5.0	<5.0	<5.0	10.6	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.2	2023-09-07		Residential	1.28	0.60	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
	1.2	2023-12-06		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
SV502	1.2	2023-05-11		Residential	<0.32	0.62	0.55	<1.3	<5.0	20.4	5.8	23.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.2	2023-09-07		Residential	2.77	3.60	<0.43	<1.3	<5.0	<5.0	<5.0	10.2	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV503	1.2	2023-05-11		Residential	0.36	0.49	<0.43	<1.3	<5.0	<5.0	<5.0	14.1	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.2	2023-05-11	Dup	Residential	<0.32	0.65	<0.43	<1.3	<5.0	<5.0	<5.0	13.9	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.4	<1.0	-	-	-
	1.2	2023-09-06		Residential	5.43	2.90	1.31	4.50	<5.0	<5.0	<5.0	6.7	<5.0	-	<5.0	11.2	5.5	<5.0	<0.61	<1.0	-	-	-
SV504	1.2	2023-05-11		Residential	<0.32	<0.38	<0.43	<1.3	<5.0	13.5	131	360	10.7	-	<5.0	5.3	9.1	<5.0	<0.4	<1.0	-	-	-
	1.2	2023-09-06		Residential	<0.32	0.51	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-
SV505	1.2	2023-01-23		Residential	0.73	9.8	7.08	25.5	-	269	151	188	<15	42	-	<15	<15	<15	<0.40	<5.2	-	-	-
	1.2	2023-09-06		Residential	0.93	0.57	<0.43	<1.3	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<0.40	<1.0	-	-	-

a - For the full set of depth-specific guidelines, for commercial and residential land use, fine-grained and coarse-grained guidelines, refer to Appendix A, and/or the report entitled *Development of Soil Vapour and Groundwater Quality Guidelines, Prepared by Intrinsic Corp. for Suncor Energy Products Partnership, December 2022*

The RM&C Plan screening threshold is 90% of the guidelines; see report text for additional details. Guidelines <1 m beneath foundation are based on default attenuation coefficient of 0.01 (AEP 2022b).

b - Data appears to be anomalous and is inconsistent with prior and subsequent sampling events; additional sampling is recommended.

c - Reflects the data as reported by the lab certificate, where a discrepancy was identified.

NG - No guideline.

"-" - Not analyzed.

Dup - Duplicate Sample.

mbgs - metres below ground surface (unless otherwise specified)

Italics - Greater than 90% of referenced guidelines (screening threshold).

Underline - Detection limit exceeds guideline.

Shaded - Calculated guideline value results in a vapour concentration greater than the maximum possible vapour concentration for that chemical, assuming no NAPL is present. Maximum vapour concentration calculated according to Health Canada (2010) guidance.

BOLD - Exceeds referenced guidelines.

Results for all parameters are reported in micrograms per metre cubed (µg/m³), unless otherwise specified.

Notes: All 2022 analytical data was collected by Clifton Engineering Group Inc.

TABLE 1-C
SUMMARY OF 2021 TO 2023 SOIL VAPOUR ANALYTICAL DATA
MATRIX GAS

Well ID	Dup	Total Well Depth (mbgs)	Date Sampled (dd-mmm-yy)	Original Sample ID	Helium (%)	Hydrogen (%)	Oxygen (%)	Nitrogen (%)	Carbon Dioxide (%)	Hydrogen Sulphide (%)	Methane (%)	Ethane (%)	Propane (%)	I-Butane (%)	N-Butane (%)	I-Pentane (%)	N-Pentane (%)	Hexanes (%)	Heptanes (%)	Octanes (%)	Nonanes (%)	Decanes+ (%)	
Guidelines:					NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG	NG
SV21		3.5	2023-01-24	21	0.00230	<0.001	20.88710	78.3407	0.769	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV24		5	2023-01-25	24	0.00180	0.00350	18.40760	79.2816	2.306	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV26A		5.0	2022-02-11	26A	<0.001	0.0128	20.6108	78.4465	0.9287	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
		5.0	2022-10-01	26A	0.03	<0.01	20.31	78.9	0.71	<0.0001	<0.01	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
		5.0	2023-01-25	26A	0.02320	<0.001	20.39210	78.6349	0.949	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV26B		3.5	2022-02-11	26B	0.0257	0.0352	20.9215	78.5524	0.4610	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0014	0.0011	<0.001	<0.001	<0.001	<0.001
		3.5	2022-10-01	26B	<0.01	<0.01	20.10	79.2	0.71	<0.0001	<0.01	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Dup	3.5	2023-01-25	26B	0.00620	0.00530	20.93540	78.7687	0.285	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
		3.5	2023-01-25	26B	0.01480	<0.001	20.38980	78.6346	0.960	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV26C		2.0	2022-02-11	26C	<0.001	0.0559	20.9268	78.4332	0.5745	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0030	0.0045	<0.001	<0.001	<0.001	<0.001
		2.0	2022-10-01	26C	0.01	<0.01	19.09	80.1	0.76	<0.0001	<0.01	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
		2.0	2023-01-25	26C	0.03260	0.00670	20.34960	78.7573	0.854	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV36		3.0	2023-01-30	36	0.00320	0.00690	20.50470	79.0476	0.438	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV39		2.0	2023-01-23	39	0.00330	0.00540	20.67780	78.1758	1.138	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV101		0.3 m below foundation	2023-01-31	101	0.00170	0.00870	20.32140	79.6162	0.052	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV322		1.0	2023-01-30	322	0.00400	<0.001	20.96910	78.7739	0.252	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV323		1.0	2023-01-31	323	<0.001	<0.001	20.95270	78.5999	0.45	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SV501		1.2	2023-01-30	501	0.00190	0.00280	20.74210	78.3730	0.88	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

NG - No guideline.
Dup - Duplicate Sample.
mbgs - metres below ground surface (unless otherwise specified)
Notes: Results for all parameters are reported in micrograms per metre cubed ($\mu\text{g}/\text{m}^3$), unless otherwise specified.
All 2022 analytical data was collected by Clifton Engineering Group Inc.

TABLE 2
SUMMARY OF 2023 GROUNDWATER MONITORING DATA

ASSESSMENT LOCATION	TOP OF PIPE ELEVATION (masl)	GROUND SURFACE ELEVATION (masl)	SCREEN INTERVAL (mbgs)	DATE (yyyy/mm/dd)	SUBSURFACE VAPOUR CONCENTRATIONS ¹	FREE PRODUCT THICKNESS (mm)	POTENTIOMETRIC DEPTH ³ (mbgs)	POTENTIOMETRIC ELEVATION ² (masl)
BH510A	1091.04	1091.15	11.3 - 17.4	2023/01/10	ND	ND	13.59	1077.56
				2023/07/21	10	ND	13.67	1077.48
BH732	1080.54	1080.60	4.3 - 14.9	2023/01/09	ND	ND	5.55	1075.06
				2023/07/19	25	ND	5.90	1074.71
BH912	1075.14	1075.23	1.5 - 6.1	2023/01/09	20	ND	2.60	1072.63
				2023/07/17	150	ND	3.61	1071.63
BH1102	1089.18	1089.25	7.6 - 15.2	2023/01/09	ND	ND	10.34	1078.91
				2023/07/13	NM	ND	10.53	1078.72
				2023/07/17	60	ND	10.46	1078.79
BH1701	1088.19	1088.27	6.4 - 12.19	2023/07/20	Could Not Locate	Could Not Locate	Could Not Locate	Could Not Locate
BH1704	1089.46	1089.58	9.1 - 13.7	2023/01/10	250	ND	10.50	1079.09
				2023/07/21	10	ND	10.59	1078.99
BH1901	1090.30	1090.44	19.8 - 24.4	2023/07/18	10	ND	15.03	1075.41
BH1902	1089.74	1089.92	19.7 - 30.5	2023/07/18	<5	ND	14.88	1075.04
BH1903	1090.32	1090.42	23.6 - 26.7	2023/07/20	15	ND	13.57	1076.86
BH1904	1090.49	1090.58	12.8 - 16.8	2023/01/13	210	ND	10.08	1080.50*
				2023/07/18	<5	ND	10.27	1080.31
BH1905	1090.43	1090.57	3.1 - 6.1	2023/01/13	220	ND	3.87	1086.70
				2023/07/18	10	ND	4.10	1086.47
BH1906	1090.95	1091.03	11.6 - 19.2	2023/01/09	100	ND	11.71	1079.32
				2023/07/11	NM	ND	11.43	1079.60
				2023/07/17	10	ND	11.60	1079.43
BH1907	1090.14	1090.22	8.8 - 18.0	2023/01/09	100%	ND	11.05	1079.17
				2023/07/17	46%	ND	11.19	1079.03
BH1908	1089.44	1089.55	12.2 - 16.8	2023/01/09	290	ND	10.71	1078.84*
				2023/07/17	150	ND	10.82	1078.73
BH1909	1089.48	1089.56	5.5 - 7.4	2023/01/09	35	DRY	DRY	DRY
				2023/07/17	40	ND	7.33	1082.23
BH1910	1090.08	1090.23	11.0 - 18.6	2023/01/09	170	ND	11.37	1078.86
				2023/07/17	40	ND	11.42	1078.80
BH1911	1092.86	1092.96	14.3 - 18.3	2023/01/09	20	ND	13.82	1079.14*
				2023/07/17	5	ND	14.06	1078.90
BH1912	1091.04	1091.09	13.4 - 21.0	2023/01/13	60	ND	10.49	1080.60*
				2023/07/19	25	ND	10.71	1080.38
BH1913	1091.05	1091.11	6.4 - 10.0	2023/01/13	5	ND	5.66	1085.45*
				2023/07/19	20	ND	5.77	1085.34
BH1914	1091.03	1091.08	1.5 - 7.3	2023/01/13	10	ND	5.35	1085.73
				2023/07/19	45	ND	5.38	1085.69
BH1915	1091.06	1091.10	10.4 - 18.6	2023/01/13	40%	ND	10.20	1080.90*
				2023/07/19	28%	ND	10.46	1080.64
BH1916	1091.06	1091.12	0.9 - 6.4	2023/01/13	5	ND	5.52	1085.60
				2023/07/19	<5	ND	5.63	1085.50
BH1917	1089.39	1089.55	8.8 - 16.2	2023/01/09	NM (Could Not Find)	NM (Could Not Find)	NM (Could Not Find)	NM (Could Not Find)
				2023/07/11	NM	ND	12.42	1077.12
				2023/07/19	<5	ND	12.78	1076.77
				2023/08/25	NM	ND	12.80	1076.75
BH1918	1087.23	1087.27	5.8 - 13.1	2023/01/12	40	ND	9.38	1077.89
				2023/07/20	45	ND	9.48	1077.79
BH1919	1085.47	1085.52	6.7 - 15.5	2023/01/09	60	ND	9.82	1075.70
				2023/07/04	NM	ND	9.89	1075.63
				2023/07/19	20	ND	9.87	1075.65
BH1920	1087.16	1087.27	1.5 - 4.6	2023/07/20	35	DRY	DRY	DRY
BH1921	1088.92	1089.11	8.8 - 18.9	2023/01/10	25	ND	11.49	1077.62
				2023/07/17	10	ND	11.55	1077.56
BH1922	1087.65	1087.76	7.9 - 19.2	2023/01/10	70	ND	10.99	1076.76
				2023/07/17	<5	ND	11.03	1076.73
BH1923	1088.64	1088.70	7.6 - 15.9	2023/07/20	20	ND	10.21	1078.49
				2023/08/23	NM	ND	10.29	1078.41

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* - Water level above top of screen.

** - Screen interval to be confirmed.

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SUMMARY OF 2023 GROUNDWATER MONITORING DATA

ASSESSMENT LOCATION	TOP OF PIPE ELEVATION (masl)	GROUND SURFACE ELEVATION (masl)	SCREEN INTERVAL (mbgs)	DATE (yyyy/mm/dd)	SUBSURFACE VAPOUR CONCENTRATIONS ¹	FREE PRODUCT THICKNESS (mm)	POTENTIOMETRIC DEPTH ³ (mbgs)	POTENTIOMETRIC ELEVATION ² (masl)
BH1924	1093.31	1093.39	14.9 - 19.8	2023/01/16	70%	ND	14.18	1079.21*
				2023/07/13	NM	ND	14.29	1079.10
				2023/07/21	12%	ND	14.40	1079.00
BH1925	1091.15	1091.24	16.4 - 19.8	2023/01/11	10	ND	13.72	1077.53*
				2023/07/21	15	ND	13.80	1077.44
				2023/08/25	NM	ND	13.85	1077.40
BH1926	1091.01	1091.13	7.6 - 23.5	2023/01/09	NM (Could Not Find)	NM (Could Not Find)	NM (Could Not Find)	NM (Could Not Find)
BH1927	1090.31	1090.45	12.2 - 22.3	2023/01/10	NM (Could Not Find)	NM (Could Not Find)	NM (Could Not Find)	NM (Could Not Find)
				2023/07/17	45	ND	12.70	1077.75
BH1928	1083.60	1083.72	6.4 - 16.8	2023/01/09	60	ND	8.29	1075.43
				2023/07/18	140	ND	8.21	1075.51
BH1929	1082.55	1082.67	5.5 - 14.9	2023/01/09	7%	ND	7.88	1074.79
				2023/07/17	360	ND	7.83	1074.84
BH1930	1088.51	1088.73	6.4 - 18.3	2023/01/10	NM	NM	NM	NM
				2023/07/18	55	ND	11.47	1077.26
BH1931	1088.64	1088.74	4.6 - 7.3	2023/07/20	10	DRY	DRY	DRY
BH1932	1088.61	1088.69	1.5 - 4.3	2023/07/20	Could Not Locate	Could Not Locate	Could Not Locate	Could Not Locate
BH1933	1090.41	1090.53	8.8 - 17.1	2023/01/13	30	ND	11.01	1079.53
				2023/07/19	<5	ND	11.28	1079.26
BH1934	1090.47	1090.55	5.8 - 8.5	2023/01/13	85	ND	6.44	1084.11
				2023/07/19	45	ND	6.53	1084.03
BH1935	1090.48	1090.60	1.5 - 5.2	2023/01/16	ND	ND	4.58	1086.02
				2023/07/19	<5	ND	4.60	1086.00
BH1936	1082.18	1082.26	5.3 - 14.7	2023/01/10	280	ND	7.60	1074.66
				2023/07/17	100	ND	7.66	1074.60
BH1937	1080.60	1080.75	8.8 - 12.8	2023/01/10	ND	ND	6.18	1074.58*
				2023/07/19	<5	ND	6.25	1074.51
BH1938	1082.20	1082.30	3.7 - 5.2	2023/01/10	30	DRY	DRY	DRY
				2023/07/18	55	DRY	DRY	DRY
BH1939	1080.66	1080.75	8.1 - 8.7	2023/01/10	5	ND	6.22	1074.53*
				2023/07/19	<5	ND	6.25	1074.50
BH1941	1073.80	1073.95	7.3 - 11.3	2023/01/09	55	ND	2.02	1071.92*
				2023/07/18	90	ND	1.89	1072.05
BH1942	1068.37	1068.54	4.4 - 8.5	2023/01/09	60	ND	1.80	1066.74*
				2023/07/18	150	ND	1.69	1066.86
BH1943	1078.72	1078.91	7.3 - 14.0	2023/01/11	NM (Could Not Find)	NM (Could Not Find)	NM (Could Not Find)	NM (Could Not Find)
				2023/07/20	10	ND	6.57	1072.35
				2023/10/03	30	ND	6.65	1072.27
BH1944	1077.12	1077.33	5.9 - 7.6	2023/01/11	15	ND	5.89	1071.44*
				2023/07/05	NM	ND	5.79	1071.54
				2023/07/20	25	ND	5.91	1071.43
BH1945	1069.27	1069.36	3.7 - 6.4	2023/01/11	ND	ND	3.04	1066.32*
				2023/07/19	15	ND	3.13	1066.22
				2023/08/24	NM	ND	3.26	1066.10
BH1946	1064.57	1064.66	4.3 - 6.4	2023/01/11	45	ND	2.97	1061.69*
				2023/07/18	120	ND	1.40	1063.26
BH1947	1067.72	1067.83	4.3 - 6.1	2023/01/12	20	ND	1.68	1066.14*
				2023/07/18	10	ND	1.57	1066.25
				2023/08/25	NM	ND	1.37	1066.45
BH1948	1072.45	1072.58	4.0 - 7.9	2023/07/18	Could Not Locate	Could Not Locate	Could Not Locate	Could Not Locate
BH1949	1091.06	1091.10	6.4 - 7.3	2023/01/09	ND	DRY	DRY	DRY
				2023/07/18	35	ND	7.15	1083.95
BH1950A	1091.04	1091.15	8.5 - 11.1	2023/01/11	60	ND	10.01	1081.14
				2023/07/21	5	ND	10.65	1080.50
BH1951	1068.02	1068.12	2.0 - 4.1	2023/01/11	35	ND	3.26	1064.85
				2023/07/19	65	ND	3.03	1065.09
BH1952	1090.81	1090.99	7.9 - 18.6	2023/01/10	40	ND	11.73	1079.26
				2023/07/18	85	ND	11.94	1079.05
BH1953	1091.28	1091.34	11.3 - 18.6	2023/01/12	15	ND	14.85	1076.49
				2023/07/20	<5	ND	14.93	1076.42
BH1954	1076.76	1076.90	5.5 - 13.1	2023/01/09	5	ND	3.48	1073.42*
				2023/07/17	<5	ND	3.50	1073.39
				2023/10/02	ND	ND	3.64	1073.26

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BH1955A	1073.95	1074.13	8.5 - 11.0**	2023/01/09	ND	ND	2.40	1071.73
				2023/07/17	<5	ND	2.40	1071.73
BH1956	1084.76	1084.92	5.8 - 14.6	2023/01/11	50	NM (Blocked)	NM (Blocked)	NM (Blocked)
				2023/07/21	<5	Repairs Required	Repairs Required	Repairs Required
BH1957	1089.87	1089.98	5.8 - 14.1	2023/01/13	35	ND	10.01	1079.97
				2023/07/18	35	ND	10.11	1079.88
BH1958	1090.26	1090.41	5.8 - 14.9	2023/01/13	45	ND	9.78	1080.62
				2023/07/10	NM	ND	9.84	1080.57
				2023/07/18	30	ND	9.83	1080.58
BH1959	1090.27	1090.42	6.4 - 15.5	2023/07/21	25	ND	9.25	1081.17
BH1960	1090.26	1090.42	1.5 - 3.3	2023/07/20	45	ND	3.29	1087.13
BH1961	1076.67	1076.79	8.5 - 11.9	2023/01/11	ND	ND	4.41	1072.38*
				2023/07/20	<5	ND	4.59	1072.20
BH1962	1078.36	1078.48	9.8 - 12.5	2023/01/11	ND	ND	3.10	1075.38*
				2023/07/06	NM	ND	3.25	1075.23
				2023/07/20	25	ND	3.31	1075.17
BH1963	1080.84	1080.96	5.5 - 11.3	2023/01/11	30	ND	4.98	1075.98*
				2023/07/11	NM	ND	4.73	1076.23
				2023/07/20	<5	ND	4.07	1076.90
				2023/10/03	10	ND	4.15	1076.81
BH1964	1076.77	1076.90	7.6 - 8.5	2023/01/11	ND	ND	4.24	1072.66*
				2023/07/20	<5	ND	4.44	1072.46
BH1965	1091.27	1091.37	9.8 - 11	2023/07/20	25	ND	11.00	1080.37
BH1966	1089.42	1089.52	7.3 - 16.5	2023/01/09	5	ND	10.62	1078.90
				2023/07/17	30	ND	10.72	1078.80
BH1967	1090.10	1090.21	5.5 - 8.5	2023/01/09	85	ND	7.18	1083.03
				2023/07/17	<5	ND	7.65	1082.56
BH1968	1090.08	1090.20	1.5 - 5.2	2023/01/09	45	DRY	DRY	DRY
				2023/07/17	30	DRY	DRY	DRY
BH1969	1089.39	1089.47	1.5 - 7.6	2023/01/09	15	DRY	DRY	DRY
				2023/07/17	10	DRY	DRY	DRY
BH1970	1089.22	1089.30	7.9 - 8.5	2023/01/09	100	DRY	DRY	DRY
				2023/07/17	15	ND	8.64	1080.67
BH1971	1090.76	1090.94	7.3 - 11.0	2023/01/09	ND	ND	7.23	1083.72*
				2023/07/17	35	ND	7.60	1083.34
BH1972	1088.79	1088.92	8.2 - 11.0	2023/01/10	45	ND	8.51	1080.41
				2023/07/18	85	ND	8.65	1080.27
BH1973	1090.81	1090.93	1.5 - 6.4	2023/01/09	35	ND	6.06	1084.87
				2023/07/17	40	ND	6.52	1084.41
				2023/10/03	ND	ND	DRY	DRY
BH1974	1090.07	1090.24	7.6 - 10.4	2023/01/09	ND	ND	6.62	1083.62*
				2023/07/17	5	ND	7.10	1083.15
BH1975	1090.23	1090.39	1.5 - 7.3	2023/01/09	25	ND	6.30	1084.09
				2023/07/17	20	ND	6.90	1083.49
BH1976	1092.63	1092.79	9.4 - 14.3	2023/01/09	ND	ND	8.34	1084.45*
				2023/07/17	20	ND	9.17	1083.62
BH1977	1074.04	1074.16	3.1 - 7.6	2023/01/09	ND	ND	1.18	1072.98*
				2023/07/17	<5	ND	1.24	1072.92
BH1978	1069.24	1069.42	0.9 - 3.0	2023/01/11	ND	ND	2.37	1067.05
				2023/07/19	<5	ND	2.49	1066.93
BH1979	1078.71	1078.78	2.8 - 6.7	2023/01/11	5	ND	5.74	1073.04
				2023/07/05	NM	ND	5.81	1072.97
				2023/07/20	45	ND	5.84	1072.95
				2023/10/03	20	ND	5.94	1072.84
BH1980	1074.24	1074.31	4.3 - 6.1	2023/01/09	105	ND	2.62	1071.69*
				2023/07/18	10	ND	2.62	1071.69
				2023/10/02	25	ND	2.59	1071.72
BH1981	1076.99	1077.06	3.0 - 9.1	2023/01/09	50	ND	3.61	1073.45
				2023/07/17	45	ND	3.63	1073.43

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BH1982	1080.85	1080.96	1.5 - 7.9	2023/01/10	ND	ND	6.39	1074.58
				2023/07/13	NM	ND	6.24	1074.73
				2023/07/19	40	ND	6.45	1074.51
BH1983A	1090.59	1090.71	3.7 - 5.2**	2023/01/16	200	ND	9.61	1081.10
				2023/07/18	5	ND	9.76	1080.95
BH1984	1090.37	1090.46	7.3 - 15.5	2023/01/13	>100%	ND	8.74	1081.72
				2023/07/06	NM	ND	8.99	1081.47
				2023/07/18	<5	ND	8.99	1081.47
BH1985	1090.21	1090.31	6.4 - 17.4	2023/01/13	90	ND	8.54	1081.78
				2023/07/18	110	ND	8.77	1081.55
BH1986	1090.31	1090.42	4.9 - 6.7	2023/07/18	10	DRY	DRY	DRY
BH1987	1090.15	1090.27	4.9 - 6.1	2023/07/18	35	DRY	DRY	DRY
BH1988	1090.16	1090.26	1.5 - 4.4	2023/07/18	35	DRY	DRY	DRY
BH2001	1069.85	1069.94	3.4 - 4.9	2023/01/12	45	ND	1.00	1068.94*
				2023/07/19	20	ND	1.08	1068.87
				2023/08/24	NM	ND	1.09	1068.86
				2023/10/02	ND	ND	1.07	1068.88
BH2002	1070.03	1070.14	1.6 - 3.8	2023/01/09	ND	ND	2.56	1067.58
				2023/07/17	25	ND	2.49	1067.66
BH2003	1073.31	1073.48	1.5 - 4.6	2023/01/09	40	ND	2.88	1070.60
				2023/07/18	10	ND	3.82	1069.66
BH2004	1074.03	1074.18	4.9 - 6.4	2023/01/11	75	ND	5.08	1069.10
				2023/07/20	15	ND	5.06	1069.13
BH2005	1076.70	1076.84	3.95 - 7	2023/01/12	ND	ND	3.35	1073.49*
				2023/07/06	NM	ND	3.43	1073.41
				2023/07/20	<5	ND	3.39	1073.45
				2023/10/03	10	ND	3.47	1073.37
BH2006	1074.10	1074.24	2.3 - 4.9	2023/01/09	ND	ND	1.34	1072.90*
				2023/07/17	15	ND	1.39	1072.85
				2023/08/24	NM	ND	1.56	1072.68
BH2007	1091.72	1091.86	12.8 - 18.3	2023/01/11	ND	ND	11.23	1080.63*
				2023/07/17	20	ND	11.34	1080.52
BH2008	1091.80	1091.93	5.2 - 12.8	2023/01/11	35	ND	7.58	1084.35
				2023/07/17	5	ND	8.94	1082.99
BH2009	1091.95	1092.02	2.1 - 5.2	2023/07/17	75	DRY	DRY	DRY
BH2010	1094.27	1094.38	14.0 - 18.9	2023/01/09	70	ND	13.72	1080.66*
				2023/07/05	NM	ND	13.76	1080.62
				2023/07/18	45	ND	13.91	1080.47
BH2011	1094.07	1094.26	9.4 - 14.0	2023/01/09	80	ND	11.12	1083.15
				2023/07/18	20	ND	11.48	1082.79
BH2012	1094.72	1094.90	13.4 - 18.3	2023/01/11	ND	ND	13.58	1081.32
				2023/07/18	40	ND	13.68	1081.22
BH3001A	1070.46	1070.52	1.5 - 3.05	2023/01/12	ND	ND	1.30	1069.22*
				2023/07/20	40	ND	1.71	1068.81
				2023/10/02	5	ND	1.71	1068.81
BH3001B	1070.43	1070.50	3.7 - 4.3	2023/01/12	ND	ND	1.79	1068.72*
				2023/07/20	10	ND	2.19	1068.31
				2023/10/02	ND	ND	2.34	1068.16
BH3001C	1070.35	1070.44	5.2 - 6.1	2023/01/12	10	ND	2.88	1067.55*
				2023/07/20	<5	ND	3.35	1067.09
				2023/08/24	NM	ND	3.64	1066.80
BH3002A	1073.25	1073.37	1.8 - 3.8	2023/01/12	20	ND	1.57	1071.80*
				2023/07/20	60	ND	1.90	1071.47
BH3002B	1073.22	1073.30	6.1 - 7.6	2023/01/12	35	ND	5.34	1067.96*
				2023/07/20	<5	ND	5.85	1067.45
BH3003A	1073.08	1073.15	2.18 - 2.9	2023/01/12	110	ND	1.92	1071.24*
				2023/07/20	<5	DRY	DRY	DRY
BH3003B	1072.95	1073.07	6.9 - 7.9	2023/01/12	5	ND	5.36	1067.71*
				2023/07/20	<5	ND	5.70	1067.37
BH4002	1091.10	1091.00	11.7 - 13.2	2023/01/13	330	ND	9.37	1081.63*
				2023/07/18	60	ND	9.01	1081.99

1 - ppmv if not indicated or % LEL if indicated.

2 - Calculated using product thicknesses corrected by a specific gravity of 0.75 g/cm³.

masl - metres above sea level

mbgs - metres below ground surface

mm - millimetres

ND - Not detected.

NM - Not monitored.

* - Water level above top of screen.

** - Screen interval to be confirmed.

TABLE 2
SUMMARY OF 2023 GROUNDWATER MONITORING DATA

ASSESSMENT LOCATION	TOP OF PIPE ELEVATION (masl)	GROUND SURFACE ELEVATION (masl)	SCREEN INTERVAL (mbgs)	DATE (yyyy/mm/dd)	SUBSURFACE VAPOUR CONCENTRATIONS ¹	FREE PRODUCT THICKNESS (mm)	POTENTIOMETRIC DEPTH ³ (mbgs)	POTENTIOMETRIC ELEVATION ² (masl)
BH4003A	1090.97	1090.87	10.5 - 12	2023/01/13	4%	ND	9.40	1081.47*
				2023/07/18	320	ND	9.57	1081.30
				2023/10/03	10	ND	9.59	1081.28
BH4003B	1090.97	1090.92	14.9 - 16.4	2023/01/13	50	ND	9.57	1081.35*
				2023/07/18	20	ND	9.13	1081.79
				2023/10/03	ND	ND	9.82	1081.10
BH4004A	1090.69	1090.62	11.5 - 13	2023/01/13	100	ND	9.41	1081.213*
				2023/07/18	10	ND	9.46	1081.16
BH4004B	1090.71	1090.64	14.5 - 16	2023/01/13	5%	ND	9.65	1080.99*
				2023/07/18	35	ND	9.79	1080.85
BH4005	1090.41	1090.36	10.7 - 12.2	2023/01/13	45	ND	8.82	1081.54*
				2023/07/18	90	ND	8.95	1081.40
BH4006	1090.62	1090.51	10.7 - 12.2	2023/01/13	10%	ND	8.81	1081.70*
				2023/07/18	55	ND	8.99	1081.52
BH4007	1090.73	1090.65	10.6 - 12.1	2023/01/17	35	ND	9.14	1081.52*
				2023/07/18	55	ND	9.30	1081.35
BH4008A	1090.83	1090.74	10.5 - 12	2023/01/13	80	ND	9.00	1081.75*
				2023/07/11	NM	ND	8.70	1082.04
				2023/07/18	<5	ND	9.23	1081.52
BH4008B	1090.84	1090.76	15.2 - 16.7	2023/01/13	25	ND	9.37	1081.39*
				2023/07/18	35	ND	9.54	1081.22
BH4009A	1091.52	1091.43	10.5 - 12	2023/01/13	150	ND	9.83	1081.60*
				2023/07/18	65	ND	10.00	1081.44
BH4009B	1091.56	1091.44	14.5 - 16	2023/01/13	20	ND	9.88	1081.56*
				2023/07/18	85	ND	10.10	1081.34
BH5001	1069.38	1069.47	1.5 - 3.05	2023/01/12	50	ND	1.57	1067.90
				2023/07/17	130	ND	1.59	1067.88
BH5002	1065.68	1065.83	1.5 - 3.05	2023/01/12	80	ND	1.72	1064.10
				2023/07/17	110	ND	1.84	1063.99
BH6001	1089.36	1089.47	9.75 - 12.8	2023/01/10	ND	ND	11.22	1078.25
				2023/07/17	45	ND	11.32	1078.15
BH6002	1089.55	1089.67	10.65 - 13.7	2023/01/10	60	ND	11.12	1078.55
				2023/07/17	40	ND	11.22	1078.45
BH6003	1089.77	1089.88	9.75 - 12.8	2023/01/10	5%	ND	11.02	1078.87
				2023/07/17	70	ND	11.14	1078.75
				2023/10/03	55	ND	11.25	1078.63
BH6004	1089.66	1089.78	9.15 - 12.2	2023/01/09	150	ND	10.66	1079.12
				2023/07/17	<5	ND	10.73	1079.05
BH6005	1089.08	1089.31	9.15 - 12.2	2023/01/09	ND	ND	10.19	1079.12
				2023/07/05	NM	ND	10.29	1079.02
				2023/07/17	85	ND	10.27	1079.04
				2023/08/23	NM	ND	10.49	1078.82
BH6006	1091.38	1091.50	12.2 - 15.2	2023/01/11	45	ND	13.80	1077.70
				2023/07/21	15	ND	13.85	1077.65
EX-1	1088.62	1089.25	11.7 - 14.63	2023/07/21	<5 NM (Could Not Open)	ND NM (Could Not Open)	14.32 NM (Could Not Open)	1074.93 NM (Could Not Open)
EX-2	1087.85	1088.48	8.8 - 13.41	2023/01/10	ND	ND	13.41	1075.07
				2023/07/21	20	ND	13.44	1075.05
EX-3	1088.46	1089.09	8.2 - 12.8	2023/01/10	10	ND	12.13	1076.96
				2023/07/21	<5	ND	12.13	1076.97
EX-4	1089.44	1090.07	10.3 - 13.72	2023/01/10	15	ND	10.54	1079.54
				2023/07/21	75	ND	10.60	1079.47
EX-5	1090.31	1090.94	10.6 - 13.72	2023/01/10	10	ND	10.82	1080.12
				2023/07/21	<5	ND	10.95	1080.00
EX-6	1090.45	1091.08	10.6 - 13.11	2023/01/19	100	ND	11.55	1079.53
				2023/07/17	50	ND	11.42	1079.66
EX-7	1088.92	1089.55	11.5 - 15.85	2023/01/16	20	ND	11.54	1078.01
				2023/07/17	<5	ND	11.67	1077.88

1 - ppmv if not indicated or % LEL if indicated.

2 - Calculated using product thicknesses corrected by a specific gravity of 0.75 g/cm³.

masl - metres above sea level

mbgs - metres below ground surface

mm - millimetres

ND - Not detected.

NM - Not monitored.

* - Water level above top of screen.

** - Screen interval to be confirmed.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	CONSTITUENT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^d:											
Domestic Use Aquifer Pathway					0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:											
N1 Area (Tier 2)					15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)					12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)					0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)					0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained					0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained					0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained					0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:											
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)					61	59	20	21	6.5	1.8	NG
Residential, Fine-grained					100	82	42	21	6.5	1.8	NG
BH510A	11.3 - 17.4	N1	2023-01-19		<u>0.169</u>	0.0115	<u>0.348</u>	<u>0.0208</u>	1.1	0.2	<u>0.019</u>
			2023-01-19 Dup		<u>0.172</u>	0.0114	<u>0.358</u>	0.0193	1.0	0.1	<u>0.020</u>
			2023-07-24		<u>0.21</u>	0.0097	<u>0.36</u>	0.0094	1.1	0.14	<u>0.026</u>
			2023-07-24 Dup		<u>0.081</u>	0.0050	<u>0.14</u>	0.0051	0.85	0.13	<u>0.020</u>
BH732	4.3 - 14.9	N2	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH912	1.5 - 6.1	S1	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.00067
BH1102	7.6 - 15.2	N1	2023-01-17		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-13		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1704	9.1 - 13.7	N1	2023-01-19		<u>0.121</u>	<u>0.655</u>	<u>0.0538</u>	<u>2.63</u>	<u>3.0</u>	<u>6.0</u>	<u>0.020</u>
			2023-07-25		<u>1.2</u>	<u>5.4</u>	<u>0.89</u>	<u>6.5</u>	<u>7.9</u>	<u>2.4</u>	<u>0.062</u>
BH1901	19.8 - 24.4	Commercial area	2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1902	19.7 - 30.5	Commercial area	2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1903	23.6 - 26.7	Commercial area	2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1904	12.8 - 16.8	Commercial area	2023-01-18		<u>0.114</u>	<0.0003	<0.0005	0.0005	<0.1	<0.1	<0.001
		Commercial area	2023-01-18 Dup		<u>0.115</u>	<0.0003	<0.0005	0.0006	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1905	3.1 - 6.1	Commercial area	2023-07-26		<u>0.13</u>	0.0066	<u>0.19</u>	<u>2.1</u>	2.0	<u>3.2</u>	<u>0.025</u>
			2023-07-26 Dup		<u>0.13</u>	0.0088	<u>0.24</u>	<u>2.3</u>	<u>2.8</u>	<u>4.2</u>	<u>0.033</u>
BH1906	11.6 - 19.2	N1	2023-01-17		<u>1.65</u>	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.028</u>
			2023-01-17 Dup		<u>1.62</u>	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.028</u>
			2023-08-09		<u>0.41</u>	<0.00040	<0.00040	<0.00080	-	-	<u>0.032</u>
			2023-07-11		<u>1.2</u>	0.00056	0.00048	<0.00089	<0.10	<0.10	-

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsic, 2022);

For fine-grained or coarse-grained soil, commercial or residential land use; Refer to report text for additional information on guideline selection.

b - BTEX have been subtracted from the fraction.

c - Naphthalene has not been subtracted from the fraction.

d - Screen interval to be confirmed.

e - Groundwater samples for BH4003A and BH4003B were labelled incorrectly, confirmatory samples were taken in October to verify the July results.

*-: Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^a:										
Domestic Use Aquifer Pathway				0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:										
N1 Area (Tier 2)				15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)				12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)				0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)				0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained				0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained				0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained				0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:										
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)				61	59	20	21	6.5	1.8	NG
Residential, Fine-grained				100	82	42	21	6.5	1.8	NG
BH1907	8.8 - 18.0	N1	2023-01-17	<u>0.387</u>	<u>2.82</u>	<u>0.608</u>	<u>4.96</u>	<u>2.8</u>	0.7	<u>0.007</u>
			2023-07-24	<u>0.020</u>	<u>0.095</u>	<u>0.14</u>	<u>1.1</u>	1.7	0.47	0.0023
			2023-07-24 Dup	<u>0.020</u>	<u>0.095</u>	<u>0.14</u>	<u>1.2</u>	1.8	0.52	0.0025
BH1908	12.2 - 16.8	N1	2023-01-17	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1910	11.0 - 18.6	N1	2023-01-17	<u>0.135</u>	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.022</u>
			2023-01-17 Dup	<u>0.136</u>	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.021</u>
			2023-07-24	<u>0.10</u>	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<u>0.025</u>
BH1911	14.3 - 18.3	N1	2023-01-17	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.0011	<0.10	<0.10	0.0012
BH1912	13.4 - 21.0	Residential Buffer	2023-01-13	<u>0.007</u>	<0.0003	<0.0005	<0.0005	<0.1	<0.1	0.015
			2023-07-19	<u>0.0070</u>	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.014
BH1913	6.4 - 10.0	Residential Buffer	2023-01-13	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-19	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1914	1.5 - 7.3	Residential Buffer	2023-01-13	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-19	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1915	10.4 - 18.6	Residential Buffer	2023-01-13	0.0315	0.0006	<u>0.0029</u>	0.013	1.4	0.3	0.015
			2023-01-13 Dup	0.033	0.0007	<u>0.0033</u>	0.0128	1.3	0.4	0.016
			2023-07-19	0.20	0.0011	<u>0.0024</u>	0.017	0.90	0.30	0.037
			2023-07-19 Dup	0.20	0.0011	<u>0.0024</u>	0.017	0.90	0.29	0.039
BH1916	0.91 - 6.4	Residential Buffer	2023-01-13	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-19	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1917	8.8 - 16.2	N1	2023-08-09	<0.00040	<0.00040	<0.00040	<0.00080	-	-	<0.00050
			2023-07-11	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	-

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsic, 2022);

For fine-grained or coarse-grained soil, commercial or residential land use; Refer to report text for additional information on guideline selection.

b - BTEX have been subtracted from the fraction.

c - Naphthalene has not been subtracted from the fraction.

d - Screen interval to be confirmed.

e - Groundwater samples for BH4003A and BH4003B were labelled incorrectly, confirmatory samples were taken in October to verify the July results.

**- Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	CONSTITUENT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^a:											
Domestic Use Aquifer Pathway					0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:											
N1 Area (Tier 2)					15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)					12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)					0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)					0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained					0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained					0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained					0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:											
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)					61	59	20	21	6.5	1.8	NG
Residential, Fine-grained					100	82	42	21	6.5	1.8	NG
BH1918	5.8 - 13.1	N1	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1919	6.7 - 15.5	N2	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-04		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1921	8.8 - 18.9	N1	2023-07-25		<u>0.027</u>	0.0092	<u>0.070</u>	0.0050	0.74	<0.10	<u>0.040</u>
			2023-07-25 Dup		<u>0.027</u>	0.0088	<u>0.067</u>	0.0048	0.83	<0.10	<u>0.040</u>
BH1922	7.9 - 19.2	N2	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1923	7.6 - 15.9	N1	2023-07-24		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1924	14.9 - 19.8	N1	2023-07-13		<u>0.96</u>	0.0099	<0.00040	<u>0.070</u>	0.10	0.10	<u>0.088</u>
BH1925	16.4 - 19.8	N1	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24		0.0020	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0041
BH1927	12.2 - 22.3	N1	2023-07-24		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1928	6.4 - 16.8	N2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0017
BH1929	5.5 - 14.9	N2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-01-18 Dup		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1930	6.4 - 18.3	N2	2023-01-19		0.0029	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1933	8.8 - 17.1	Residential Buffer	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1934	5.8 - 8.5	Residential Buffer	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1935	1.5 - 5.2	Residential Buffer	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsik, 2022);

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c - Naphthalene has not been subtracted from the fraction.

d - Screen interval to be confirmed.

e - Groundwater samples for BH4003A and BH4003B were labelled incorrectly, confirmatory samples were taken in October to verify the July results.

. - Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^a:										
Domestic Use Aquifer Pathway				0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:										
N1 Area (Tier 2)				15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)				12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)				0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)				0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained				0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained				0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained				0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:										
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)				61	59	20	21	6.5	1.8	NG
Residential, Fine-grained				100	82	42	21	6.5	1.8	NG
BH1936	5.3 - 14.7	S1	2023-01-20	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-01-20 Dup	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1937	5.3 - 14.7	S1	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1939	8.1 - 8.7	S1	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.051</u>
			2023-07-25	<0.00045	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<u>0.062</u>
BH1941	7.3 - 11.3	S2	2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	0.11	<0.00050
BH1942	4.4 - 8.5	S2	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-01-19 Dup	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1943	7.3 - 14.0	S1	2023-10-04	<u>0.031</u>	<0.00040	<0.00040	<0.0026	<0.10	<0.10	<u>0.011</u>
			2023-07-24	<u>0.053</u>	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<u>0.014</u>
BH1944	5.9 - 7.6	S1	2023-01-19	<u>0.0155</u>	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-05	<u>0.011</u>	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1945	3.7 - 6.4	S2	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.00088
BH1946	4.3 - 6.4	S2	2023-07-25	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1947	4.3 - 6.1	S2	2023-07-25	<0.00040	<0.00040	<0.00040	<0.0011	<0.10	<0.10	0.00071
BH1949	6.4 - 7.3	N1	2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1950A	8.5 - 11.1	N1	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1951	2.0 - 4.1	Residential	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsic, 2022);

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* - Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	CONSTITUENT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^d:											
Domestic Use Aquifer Pathway					0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:											
N1 Area (Tier 2)					15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)					12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)					0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)					0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained					0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained					0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained					0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:											
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)					61	59	20	21	6.5	1.8	NG
Residential, Fine-grained					100	82	42	21	6.5	1.8	NG
BH1952	7.9 - 18.6	N1	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1953	11.3 - 18.6	N1	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1954	5.5 - 13.1	S1	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	0.002
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<i>0.010</i>
			2023-10-04		<0.00040	<0.00040	<0.00040	<0.0013	<0.10	<0.10	<i>0.012</i>
BH1955A	8.5 - 11.0 ^d	S2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0029
BH1957	5.8 - 14.1	Commercial area	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.0017	<0.10	<0.10	<0.00050
BH1958	5.8 - 14.9	Commercial area	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-10		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1959	6.4 - 15.5	Commercial area	2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1961	8.5 - 11.9	N2	2023-01-20		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1962	9.8 - 12.5	N2	2023-01-20		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-06		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1963	5.5 - 11.3	N2	2023-01-20		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-11		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	-
			2023-08-09		0.0047	<0.00040	<0.00040	<0.00080	-	-	<0.00050
			2023-10-04		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
			2023-10-04 Dup		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.00061
BH1964	7.6 - 8.5	N2	2023-01-20		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsic, 2022);

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*- Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

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Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

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PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^d:										
Domestic Use Aquifer Pathway				0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:										
N1 Area (Tier 2)				15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)				12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)				0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)				0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained				0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained				0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained				0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:										
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)				61	59	20	21	6.5	1.8	NG
Residential, Fine-grained				100	82	42	21	6.5	1.8	NG
BH1966	7.3 - 16.5	N1	2023-01-17	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1967	5.5 - 8.5	N1	2023-01-17	<u>0.0900</u>	0.0072	<u>0.0114</u>	0.0009	<u>2.4</u>	0.3	<u>0.019</u>
			2023-07-24	<u>0.074</u>	0.011	<u>0.022</u>	0.0029	<u>3.3</u>	0.30	<u>0.021</u>
			2023-07-24 Dup	<u>0.078</u>	0.011	<u>0.022</u>	0.0028	<u>3.2</u>	0.29	<u>0.021</u>
BH1971	7.3 - 11.0	N1	2023-01-17	0.0037	0.0004	<u>0.0083</u>	<0.0005	1.4	0.2	<u>0.046</u>
			2023-07-24	0.0017	0.00059	<u>0.0089</u>	<0.00089	0.70	0.23	<u>0.026</u>
			2023-07-24 Dup	0.0019	0.00055	<u>0.0094</u>	<0.00089	0.93	0.23	<u>0.024</u>
BH1972	8.2 - 11.0	N2	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0016
BH1973	1.5 - 6.4	N1	2023-01-17	0.0034	0.0007	<u>0.0067</u>	<0.0005	0.8	0.2	<u>0.018</u>
BH1974	7.6 - 10.4	N1	2023-01-17	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	0.0014	<0.00040	<0.00040	0.0013	0.21	<0.10	<u>0.030</u>
BH1976	9.4 - 14.3	N1	2023-01-17	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1977	3.1 - 7.6	S2	2023-01-18	<u>0.0646</u>	<0.0003	<0.0005	<0.0005	<0.1	<0.1	0.004
			2023-07-25	<u>0.030</u>	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0028
BH1978	0.9 - 3.0	S2	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1979	2.8 - 6.7	S1	2023-01-19	1.11	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.009</u>
			2023-07-05	0.93	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<u>0.012</u>
			2023-10-04	1.6	<0.00040	<0.00040	<0.0013	<0.10	<0.10	<u>0.015</u>
BH1980	4.3 - 6.1	S2	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0037
			2023-10-04	<0.00040	<0.00040	<0.00050	<0.0030	<0.10	<0.10	<0.00050

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NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	CONSTITUENT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^d:											
Domestic Use Aquifer Pathway					0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:											
N1 Area (Tier 2)					15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)					12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)					0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)					0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained					0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained					0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained					0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:											
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)					61	59	20	21	6.5	1.8	NG
Residential, Fine-grained					100	82	42	21	6.5	1.8	NG
BH1981	3.0 - 9.1	S1	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.027</u>
			2023-01-18 Dup		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.026</u>
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<u>0.030</u>
BH1982	1.5 - 7.9	S1	2023-01-19		<u>0.0477</u>	0.0055	<u>0.0301</u>	0.0029	0.4	<0.1	<u>0.097</u>
			2023-01-19 Dup		<u>0.0463</u>	0.006	<u>0.0331</u>	0.0031	0.4	<0.1	<u>0.111</u>
			2023-07-13		<u>0.098</u>	0.0012	<u>0.0037</u>	<0.00089	<0.10	<0.10	<u>0.037</u>
BH1983A	3.7 - 5.2 ^d	Commercial area	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1984	7.3 - 15.5	Commercial area	2023-01-18		0.0019	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-06		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH1985	6.4 - 17.4	Residential Buffer	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH2001	3.4 - 4.9	S2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	0.002
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<u>0.0070</u>
			2023-10-04		<0.00040	<0.00040	<0.00040	<0.0012	<0.10	<0.10	0.0023
BH2002	1.6 - 3.8	S2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH2003	1.5 - 4.6	S2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH2004	4.9 - 6.4	S2	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-01-19 Dup		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH2005	3.95 - 7	S2	2023-01-18		0.0010	<0.0003	<0.0005	<0.0005	<0.1	<0.1	0.003
			2023-07-06		<u>0.29</u>	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<u>0.011</u>
			2023-10-04		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0046
BH2006	2.3 - 4.9	S2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	0.005
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<u>0.0060</u>

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsic, 2022);

For fine-grained or coarse-grained soil, commercial or residential land use; Refer to report text for additional information on guideline selection.

b - BTEX have been subtracted from the fraction.

c - Naphthalene has not been subtracted from the fraction.

d - Screen interval to be confirmed.

e - Groundwater samples for BH4003A and BH4003B were labelled incorrectly, confirmatory samples were taken in October to verify the July results.

. - Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^a:										
Domestic Use Aquifer Pathway				0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:										
N1 Area (Tier 2)				15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)				12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)				0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)				0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained				0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained				0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained				0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:										
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)				61	59	20	21	6.5	1.8	NG
Residential, Fine-grained				100	82	42	21	6.5	1.8	NG
BH2007	12.8 - 18.3	Residential Buffer	2023-01-17	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH2008	5.2 - 12.8	Residential Buffer	2023-01-17	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH2010	14.0 - 18.9	Residential Buffer	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-05	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH2011	9.4 - 14.0	Residential Buffer	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH2012	13.4 - 18.3	Residential Buffer	2023-01-20	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH3001A	1.5 - 3.05	Residential	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0016
			2023-10-04	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH3001B	3.7 - 4.3	Residential	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0043
			2023-10-04	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
			2023-10-04 Dup	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH3001C	5.2 - 6.1	Residential	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH3002A	1.8 - 3.8	Residential	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH3002B	6.1 - 7.6	Residential	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH3003A	2.18 - 2.9	Residential	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
BH3003B	6.9 - 7.9	Residential	2023-01-18	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-27	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsic, 2022);

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c - Naphthalene has not been subtracted from the fraction.

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*- - Not analyzed.

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NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

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BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	CONSTITUENT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^a:											
Domestic Use Aquifer Pathway					0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:											
N1 Area (Tier 2)					15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)					12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)					0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)					0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained					0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained					0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained					0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:											
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)					61	59	20	21	6.5	1.8	NG
Residential, Fine-grained					100	82	42	21	6.5	1.8	NG
BH4002	11.7 - 13.2	Residential Buffer	2023-01-18		<u>0.0071</u>	<u>0.140</u>	0.0005	2.66	1.9	0.5	<0.001
			2023-07-26		<u>0.0084</u>	<u>0.18</u>	0.00065	2.6	2.2	0.68	0.00059
BH4003A	10.5 - 12	Commercial area	2023-01-18		2.33	0.0030	<0.0005	<u>0.0567</u>	0.2	0.2	0.195
			2023-07-26 ^d		0.65	0.0014	<0.00040	<u>0.042</u>	<0.10	0.18	<u>0.11</u>
			2023-10-04		0.69	0.0016	<0.00040	<u>0.053</u>	<0.10	0.12	<u>0.11</u>
BH4003B	14.9 - 16.4	Commercial area	2023-01-18		<u>0.0187</u>	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26 ^e		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0011
			2023-10-04		<u>0.021</u>	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.00095
BH4004A	11.5 - 13	Commercial area	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH4004B	14.5 - 16	Commercial area	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
			2023-07-26 Dup		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH4005	10.7 - 12.2	Commercial area	2023-01-18		<u>0.0117</u>	0.0004	<u>0.0048</u>	<0.0005	0.1	<0.1	<0.001
			2023-07-26		<u>0.022</u>	<0.00040	<0.00040	<0.00089	<0.10	0.25	<0.00050
BH4006	10.7 - 12.2	Residential Buffer	2023-01-18		0.460	0.0010	<0.0005	<u>0.0309</u>	0.4	<0.1	0.023
			2023-07-26		0.42	0.00071	<0.00040	<u>0.038</u>	<0.10	0.28	0.039
BH4007	10.6 - 12.1	Commercial area	2023-01-18		0.689	0.0012	<0.0005	0.0142	0.1	0.1	<u>0.025</u>
			2023-07-26		0.97	0.0024	<0.00040	<u>0.070</u>	0.90	0.20	<u>0.047</u>
BH4008A	10.5 - 12	Residential Buffer	2023-01-18		<0.0005	0.0046	<0.0005	<u>0.0465</u>	0.2	<0.1	<0.001
			2023-07-11		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	-
			2023-08-09		<0.00040	<0.00040	<0.00040	<0.00080	-	-	<0.00050
BH4008B	15.2 - 16.7	Residential Buffer	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-26		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050

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e - Groundwater samples for BH4003A and BH4003B were labelled incorrectly, confirmatory samples were taken in October to verify the July results.

**- Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

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Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

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TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	CONSTITUENT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^d:											
Domestic Use Aquifer Pathway					0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:											
N1 Area (Tier 2)					15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)					12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)					0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)					0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained					0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained					0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained					0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:											
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)					61	59	20	21	6.5	1.8	NG
Residential, Fine-grained					100	82	42	21	6.5	1.8	NG
BH4009A	10.5 - 12	Residential Buffer	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	0.004
			2023-07-26		<u>0.0080</u>	<0.00040	<0.00040	<0.00089	<0.10	1.3	0.0025
BH4009B	14.5 - 16	Residential Buffer	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	0.003
			2023-07-26		0.0018	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0028
BH5001	1.5 - 3.05	S2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH5002	1.5 - 3.05	S2	2023-01-18		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-01-18 Dup		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050
BH6001	9.75 - 12.8	N1	2023-01-19		0.0037	0.0005	<u>0.0161</u>	0.0020	0.1	<0.1	<u>0.021</u>
			2023-07-25		<0.00040	<0.00040	<0.00040	<0.0011	<0.10	<0.10	<u>0.022</u>
BH6002	10.65 - 13.7	N1	2023-01-19		<u>0.0699</u>	<u>0.423</u>	<u>0.532</u>	<u>4.30</u>	<u>3.4</u>	0.7	<u>0.030</u>
			2023-07-25		<u>0.033</u>	<u>0.050</u>	<u>0.28</u>	<u>1.3</u>	2.0	0.43	<u>0.025</u>
BH6003	9.75 - 12.8	N1	2023-01-19		<u>0.0191</u>	<u>0.744</u>	<u>0.291</u>	<u>4.69</u>	<u>4.2</u>	<u>1.9</u>	<u>0.012</u>
			2023-07-25		<u>0.020</u>	<u>0.93</u>	<u>0.24</u>	<u>7.1</u>	<u>4.1</u>	<u>2.6</u>	<u>0.012</u>
			2023-10-04		<u>0.013</u>	<u>0.61</u>	<u>0.20</u>	<u>5.1</u>	1.5	<u>1.9</u>	<u>0.011</u>
BH6004	9.15 - 12.2	N1	2023-01-17		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<u>0.009</u>
			2023-07-24		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	0.0050
BH6005	9.15 - 12.2	N1	2023-01-17		<u>0.840</u>	<u>0.639</u>	<u>0.110</u>	<u>0.875</u>	<u>2.8</u>	0.5	<u>0.024</u>
			2023-07-05		<u>0.62</u>	<u>0.052</u>	<u>0.15</u>	<u>0.084</u>	2.1	0.36	<u>0.027</u>
BH6006	12.2 - 15.2	N1	2023-01-19		<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24		<0.00040	<0.00040	<0.00040	<0.00089	<0.10	<0.10	<0.00050

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsik, 2022);

For fine-grained or coarse-grained soil, commercial or residential land use; Refer to report text for additional information on guideline selection.

b - BTEX have been subtracted from the fraction.

c - Naphthalene has not been subtracted from the fraction.

d - Screen interval to be confirmed.

e - Groundwater samples for BH4003A and BH4003B were labelled incorrectly, confirmatory samples were taken in October to verify the July results.

* - Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-A
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
PETROLEUM HYDROCARBONS AND 1,2-DICHLOROETHANE

Sample Location	Screen Interval (mbgs)	Guideline Referenced	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Petroleum Hydrocarbons F1 (C6-C10) ^b	Petroleum Hydrocarbons F2 (>C10-C16) ^c	1,2-Dichloroethane
Guidelines^a:										
Domestic Use Aquifer Pathway				0.005	0.024	0.0016	0.02	2.2	1.1	0.005
Vapour Inhalation Pathway:										
N1 Area (Tier 2)				15	NG	NG	NG	540	NG	0.047
N2 Area (Tier 2)				12	NG	NG	NG	420	NG	0.038
S1 Area (Tier 2)				0.66	NG	NG	51	23	NG	0.19
S2 Area (Tier 2)				0.57	NG	NG	44	19	NG	0.17
Commercial area, Coarse-grained				0.37	NG	NG	26	9.1	17	0.13
Residential/Residential Buffer area, Coarse-grained				0.03	45	31	2.2	0.81	1.5	0.01
Residential, Fine-grained				0.57	NG	NG	44	19	NG	0.17
Ecological Soil Contact Pathway:										
N2, S1, S2 Areas (Residential, most stringent of fine or coarse-grained)				61	59	20	21	6.5	1.8	NG
Residential, Fine-grained				100	82	42	21	6.5	1.8	NG
EX-1	11.7 - 14.63	N1	2023-07-24	<u>0.68</u>	0.0048	<u>0.10</u>	0.0097	0.74	0.16	0.083
			2023-07-24 Dup	<u>0.99</u>	0.0062	<u>0.14</u>	0.011	0.61	0.20	0.084
EX-2	8.8 - 13.41	N1	2023-01-19	0.0035	0.0005	0.0016	<0.0005	<0.1	<0.1	0.002
			2023-07-24	<u>0.010</u>	0.00091	<u>0.022</u>	0.0014	<0.10	<0.10	0.0048
EX-3	8.2 - 12.8	N1	2023-01-19	<0.0005	<0.0003	<0.0005	<0.0005	<0.1	<0.1	<0.001
			2023-07-24	<0.00040	<0.00040	<0.00040	<0.00089	<0.10	0.11	<0.00050
EX-4	10.3 - 13.72	N1	2023-01-19	<u>0.188</u>	0.0141	<u>0.304</u>	<u>0.683</u>	1.9	1.0	<u>0.008</u>
			2023-07-25	<u>0.15</u>	0.0082	<u>0.27</u>	<u>0.54</u>	1.8	0.79	<u>0.0081</u>
EX-5	10.6 - 13.72	N1	2023-01-19	<u>5.46</u>	<u>10.1</u>	<u>1.46</u>	<u>6.71</u>	<u>10.2</u>	<u>1.2</u>	0.131
			2023-07-25	<u>4.1</u>	<u>6.3</u>	<u>1.5</u>	<u>6.4</u>	<u>5.3</u>	<u>1.2</u>	0.11
			2023-07-25 Dup	<u>3.7</u>	<u>5.3</u>	<u>1.5</u>	<u>6.1</u>	<u>12</u>	<u>1.3</u>	0.11
EX-6	10.6 - 13.11	N1	2023-01-19	<u>0.352</u>	<u>0.349</u>	<u>1.08</u>	<u>3.05</u>	<u>2.4</u>	0.7	<u>0.035</u>
			2023-07-25	<u>0.26</u>	<u>0.29</u>	<u>0.85</u>	<u>2.3</u>	<u>3.7</u>	0.95	<u>0.038</u>
EX-7	11.5 - 15.85	N1	2023-01-19	<u>0.322</u>	<u>0.454</u>	<u>0.878</u>	<u>2.37</u>	<u>4.4</u>	<u>1.2</u>	0.051
			2023-07-25	<u>0.33</u>	<u>0.32</u>	<u>0.77</u>	<u>1.5</u>	<u>4.6</u>	<u>1.9</u>	0.060

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsic, 2022);

For fine-grained or coarse-grained soil, commercial or residential land use; Refer to report text for additional information on guideline selection.

b - BTEX have been subtracted from the fraction.

c - Naphthalene has not been subtracted from the fraction.

d - Screen interval to be confirmed.

e - Groundwater samples for BH4003A and BH4003B were labelled incorrectly, confirmatory samples were taken in October to verify the July results.

* - Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 3-C
SUMMARY OF 2023 GROUNDWATER ANALYTICAL DATA
ROUTINE PARAMETERS

Table with 31 columns: CONSTITUENT, Alkalinity (PP as CaCO3), Alkalinity Total (as CaCO3), Bicarbonate (HCO3), Carbonate (CO3), Hardness (as CaCO3), Dissolved Nitrate (as N), Dissolved Nitrate (NO3), Dissolved Nitrite (as N), Dissolved Nitrite (NO2), Nitrate+Nitrite-N Dissolved, Total Dissolved Solids (Calculated), Conductivity (uS/cm), pH (S.U.), Hydroxide (OH), Dissolved Chloride (Cl), Dissolved Sulphate (SO4), Dissolved Calcium (Ca), Dissolved Iron (Fe), Dissolved Magnesium (Mg), Dissolved Manganese (Mn), Dissolved Potassium (K), Dissolved Sodium (Na), Methane (L/m3), Calculated Methane, Ammonia, Total Organic Carbon, Dissolved Organic Carbon, Total Sulphide, Sulphide (as H2S), Nitrogen, Kjeldahl Nitrogen, HCL Preserved Ferrous Iron (Fe+2), Fluoride, Sodium Adsorption Ratio (unitless).

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b) with the freshwater aquatic life pathway eliminated; Tier 2 calculated guidelines for the vapour inhalation pathway (Intrinsik, 2022); For fine-grained or coarse-grained soil, commercial or residential land use; Refer to report text for additional information on guideline selection.

d - Screen interval to be confirmed.

** - Not analyzed.

Dup - Duplicate sample.

NA - Not applicable.

NG - No Guideline.

Italics - Exceeds guideline for the domestic use aquifer pathway solely.

Highlighted - Exceeds referenced guideline for the ecological soil contact pathway (does not apply where the depth to groundwater is >3 mbgs) but not the vapour inhalation pathway.

Highlighted - Exceeds referenced guideline for the vapour inhalation pathway.

BOLD - Exceeds most stringent guideline for routine water quality parameters.

Results for all parameters are reported in milligrams per litre (mg/L), unless otherwise specified.

TABLE 5

SUMMARY OF 2023 DUAL PHASE VAPOUR EXTRACTION SYSTEM PERFORMANCE DATA
FORMER SEARS FUEL SITE AND ADJACENT HOUNSFIELD HEIGHTS COMMUNITY

DATE	BLOWER RUN TIME*	VAPOUR CONCENTRATION		EXHAUST VELOCITY	EXHAUST PIPE SIZE	TEMPERATURE OF BLOWER	ESTIMATED VAPOUR EXTRACTION RATE	CUMMULATIVE VOLUME VAPOUR EXTRACTED	METER READING TOTAL GROUNDWATER EXTRACTED	CUMMULATIVE GROUNDWATER EXTRACTED	HVE UNIT OPERATING STATUS		INLET VALVE SETTINGS	EXTRACTION WELLS CONNECTED TO SYSTEM
year-month-day	hrs	PPM	% LEL	m/s	inches	°C	L/day	L	USG	L	UPON ARRIVAL	AT DEPARTURE		
2022-12-28	0	160	1.28	4.20	4	112.0	1.5	0	208202	0	No	No	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-01-05	5	100	0.8	4.20	4	115.8	0.9	0	208326	469	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-01-09	NR	NR	NR	NR	4	NR	NR	NR	NR	NR	Yes	No	NR	NR
2023-02-02	72	75	0.6	4.80	4	114.9	0.8	2	209750.2	5861	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-02-10	192	150	1.2	2.39	4	110.0	0.8	8	212922	17867	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-02-17	93	75	0.6	3.52	4	111.0	0.6	10	214353.9	23287	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-02-24	133	55	0.44	2.40	4	38.3	0.4	12	215574	27906	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-02-28	1	160	1.28	4.30	4	50.7	1.9	12	215631.4	28123	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-03-09	214	170	1.36	4.90	4	116.3	1.9	29	220552.1	46750	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-03-17	190	110	0.88	4.35	4	127.3	1	37	224090.6	60145	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-03-29	123	320	2.56	2.84	4	92.0	2.2	48	225000.2	63588	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-03-30	4	230	1.84	5.58	4	92.8	3.1	49	225108.2	63997	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-04-06	149	310	2.48	5.13	4	121.0	3.5	71	226954	70984	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-04-13	170	290	2.32	4.82	4	125.3	3.1	93	230739	85312	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-04-21	191	500	4	1.45	4	122.5	1.6	106	236377.1	106654	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-04-28	169	320	2.56	4.52	4	124.0	3.2	129	241070	124419	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-05-01	NR	NR	NR	NR	4	NR	NR	NR	NR	NR	Yes	No	NR	NR
2023-05-15	72	220	1.76	4.29	4	93.1	2.3	136	242990	131686	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-05-26	246	110	1	5.50	4	111.3	1	150	248282	151721	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-06-02	10	230	2	4.20	4	14.9	3	151	248637	153063	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-06-08	158	280	2	4.33	4	130.1	3	168	251308	163172	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-06-16	159	260	2	4.95	4	127.9	3	187	254049	173551	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-06-23	99	375	3	1.98	4	124.5	2	194	255059	177371	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-06-26	74	190	1.52	1.94	4	126.8	1	196	256210	181729	Yes	No	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7

NR - Not recorded.

NA - Not applicable.

NC - Not calculable.

* - Blower run time reflects the operational time of one blower between monitoring events.

NOTE: Vapour concentrations were measured in ppm but also reported in % LEL.

TABLE 5

SUMMARY OF 2023 DUAL PHASE VAPOUR EXTRACTION SYSTEM PERFORMANCE DATA
FORMER SEARS FUEL SITE AND ADJACENT HOUNSFIELD HEIGHTS COMMUNITY

DATE	BLOWER RUN TIME*	VAPOUR CONCENTRATION		EXHAUST VELOCITY	EXHAUST PIPE SIZE	TEMPERATURE OF BLOWER	ESTIMATED VAPOUR EXTRACTION RATE	CUMMULATIVE VOLUME VAPOUR EXTRACTED	METER READING TOTAL GROUNDWATER EXTRACTED	CUMMULATIVE GROUNDWATER EXTRACTED	HVE UNIT OPERATING STATUS		INLET VALVE SETTINGS	EXTRACTION WELLS CONNECTED TO SYSTEM
year-month-day	hrs	PPM	% LEL	m/s	inches	°C	L/day	L	USG	L	UPON ARRIVAL	AT DEPARTURE		
2023-08-01	1	100	0.8	6.20	4	67.0	1.6	196	256405	182468	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-08-04	75	0	0	0.00	4	NR	0	196	257596	186975	No	Yes	1301, 1303	EX-4, EX-5, EX-6, EX-7
2023-08-11	155	360	2.88	4.20	4	67.0	3.9	221	258996	192276	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-08-18	168	180	1.44	5.84	4	116.2	2.4	238	259825	195415	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-08-23	119	85	0.68	6.10	4	116.0	1.2	244	262017	203712	Yes	No	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-09-12	3	260	2.08	3.45	4	73.5	2.3	244	262092	203997	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-09-22	241	110	0.88	2.90	4	110.0	0.7	251	267237	223470	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-09-29	165	550	4.4	2.10	4	103.4	2.7	270	267237	223470	Yes	No	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-10-06	1	350	2.8	3.00	4	70.0	2.7	270	267828	225710	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-10-13	169	410	3.28	4.70	4	86.1	4.7	303	270931	237453	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-10-20	166	390	3.12	4.73	4	107.0	4.2	332	272803	244541	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-10-27	168	360	2.88	4.80	4	104.0	4	360	274840	252252	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-11-02	144	190	1.52	2.01	4	92.3	0.9	365	275480	254675	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-11-10	188	120	0.96	2.15	4	100.0	0.6	370	275481	254678	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-11-16	141	950	7.6	1.55	4	65.0	3.8	392	275987	256593	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-11-24	190	1600	12.8	1.20	4	101.7	4.5	428	283474	284937	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-11-30	1	800	6.4	1.71	4	45.6	3.8	428	283516	285095	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-12-01	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Yes	No	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-12-19	45	1750	14	1.69	4	72.5	7.5	442	285357	292064	No	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7
2023-12-28	208	1000	8	1.25	4	82.5	3.1	469	292912	320662	Yes	Yes	1301, 1303, 1307	EX-1, EX-4, EX-5, EX-6, EX-7

NR - Not recorded.

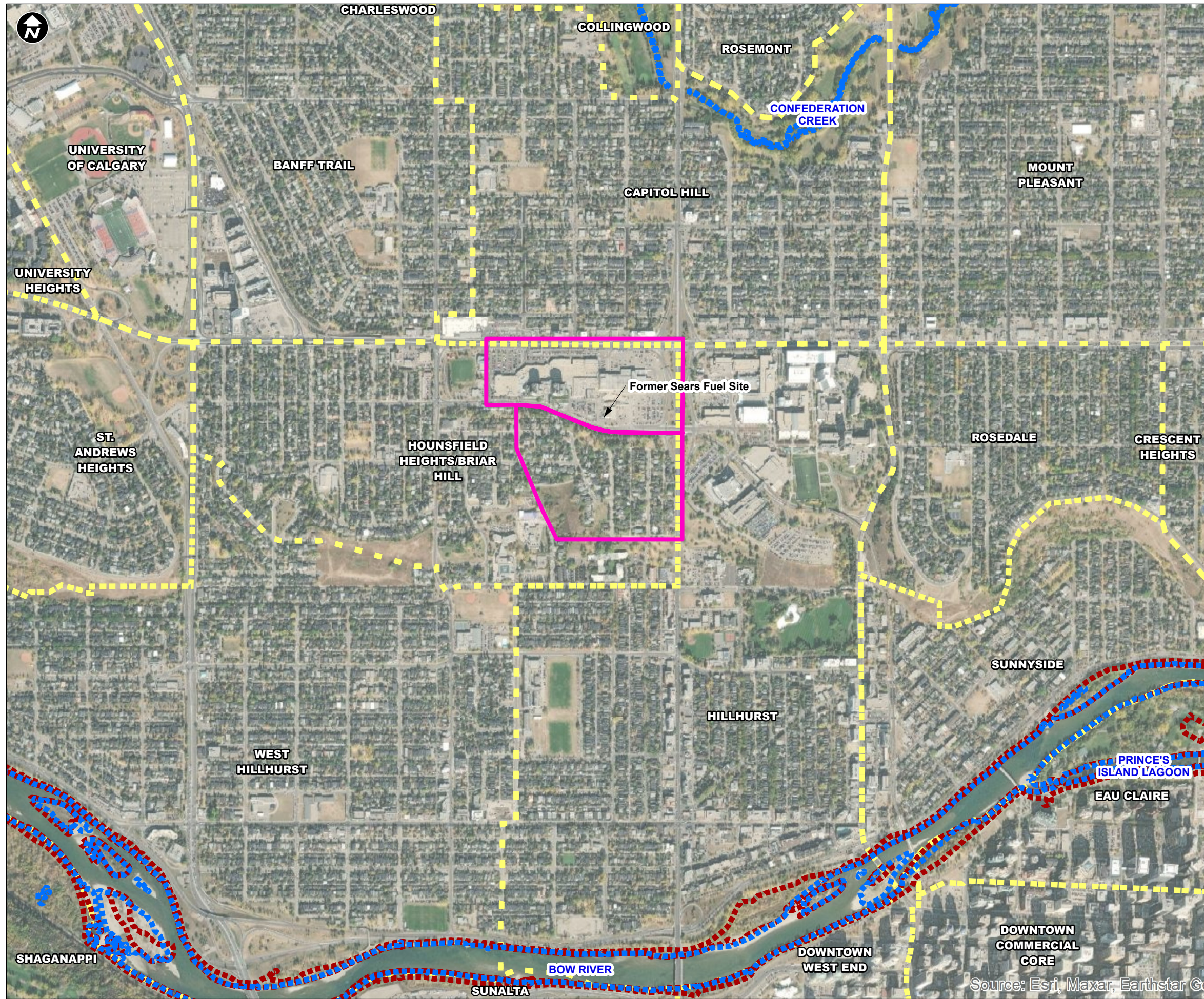
NA - Not applicable.

NC - Not calculable.

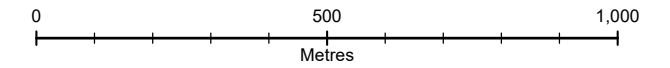
* - Blower run time reflects the operational time of one blower between monitoring events.

NOTE: Vapour concentrations were measured in ppm but also reported in % LEL.

Document Path: C:\Z_Drive\10-12832\MXD\12832_AreaWide_Feb2024.mxd Coordinate System: NAD83 UTM 114 Longitude Meter Province of Alberta Canada



- LEGEND**
- Study Area
 - Water Body
 - Floodway
 - Neighborhood Boundaries



- Notes:**
- Air photo: dated June 2022; downloaded from ESRI online.
 - Water bodies from City of Calgary Open Data Portal, Hydrology dataset, downloaded February 2024.
 - Floodway from City of Calgary Open Data Portal, Regulatory Flood Hazard dataset, downloaded February 2024.
 - Neighborhoods from City of Calgary Open Data Portal, Community Boundaries dataset, downloaded February 2024.

Site and Surrounding Area

Hounsfield Heights And Lion's Park
1620-14th Ave NW, Calgary, Alberta

Drawn By: SLD Ref. No.: 10-12832

Reviewed By: SLD Date: 23-Feb-2024

Drawing No.:

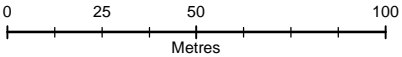
PARSONS

Source: Esri, Maxar, Earthstar Geo



LEGEND

- Grade Elevation Contour (masl) (1m)
- - - Site Boundary



- Notes:
- The orthophoto based on City of Calgary Basemap (WMASP), July-August 2022.
 - Elevation data based on City of Calgary's Open Data Portal, City Online, Base Map Data service. Downloaded January 2023.

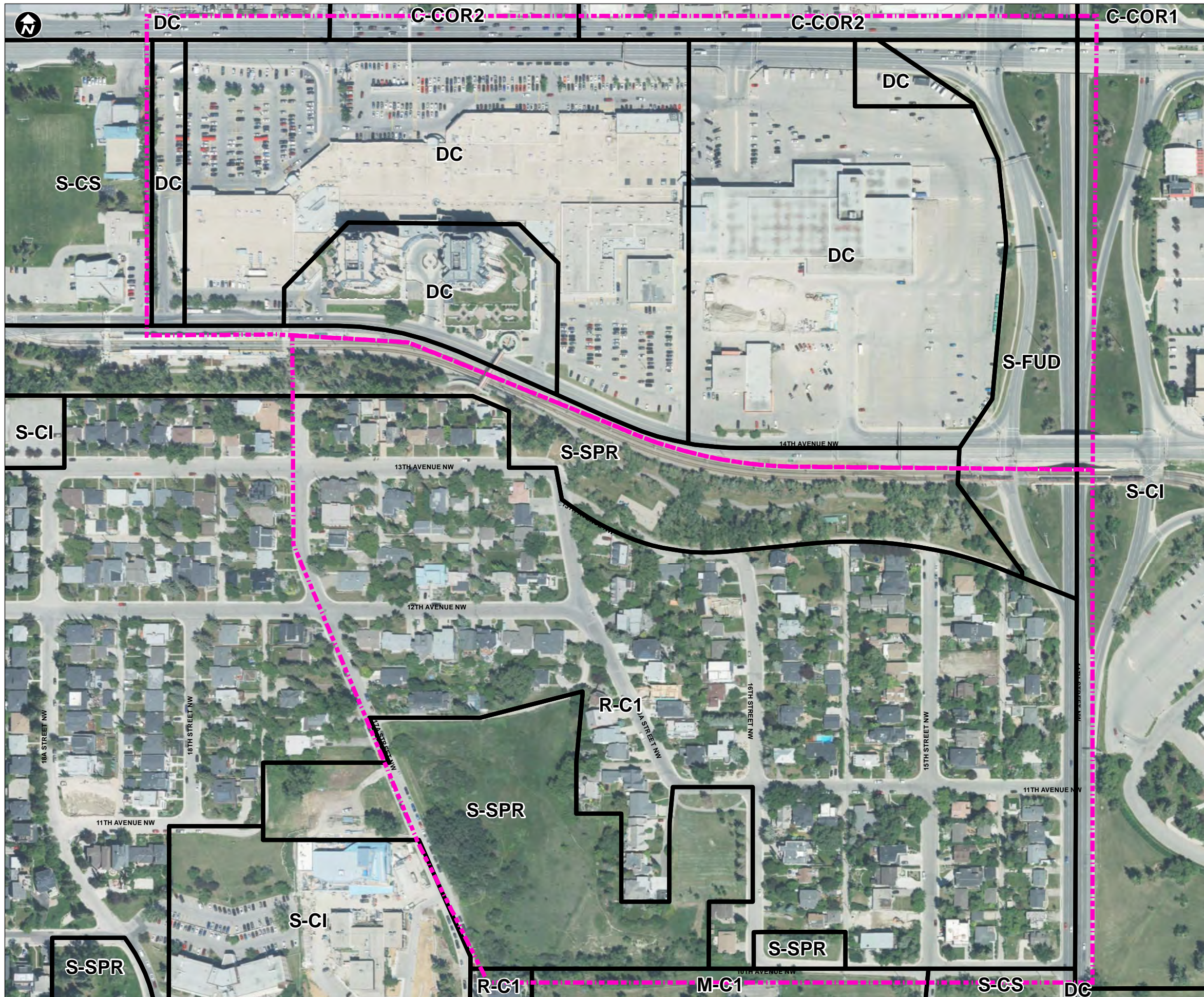
Site Topography

Hounsfeld Heights And Lion's Park
1620-14th Ave NW, Calgary, Alberta



Drawn By: JDC	Ref. No.: 10-12832
Reviewed By: MP	Date: 29-Mar-2023

Drawing No.:

PARSONS

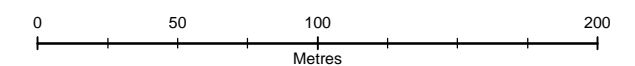
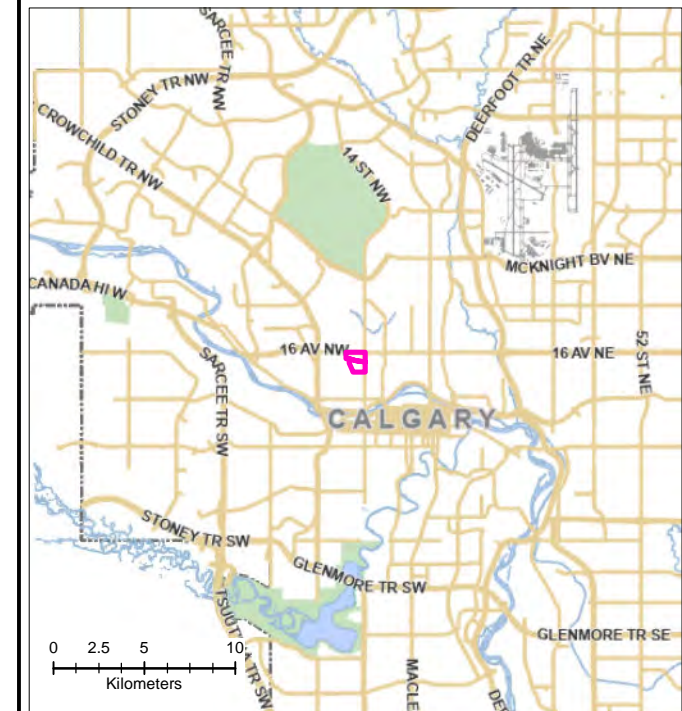


LEGEND

-  Site Boundary
-  City Of Calgary Zoning

Land Use Districts:

- R-C1 (Residential - Contextual One Dwelling)
- M-C1 (Multi-Residential - Contextual Low Profile)
- M-CG (Multi-Residential - Contextual Ground Oriented)
- C-COR1 (Commercial - Corridor 1)
- C-COR2 (Commercial - Corridor 2)
- S-SPR (Special Purpose - School, Park and Community Reserve)
- S-CI (Special Purpose - Community Institution)
- S-CS (Special Purpose - Community Service)
- S-FUD (Special Purpose - Future Urban Development)
- DC (Direct Control District)



- Notes:..
- The ArcGIS Map Service based on City of Calgary Basemap (WMASP).
 - The orthophoto based on City of Calgary Basemap (WMASP), July-August 2022.
 - Land Use District data based on City of Calgary's Open Data Portal, City Online, Base Map Data service. Downloaded March 2023.

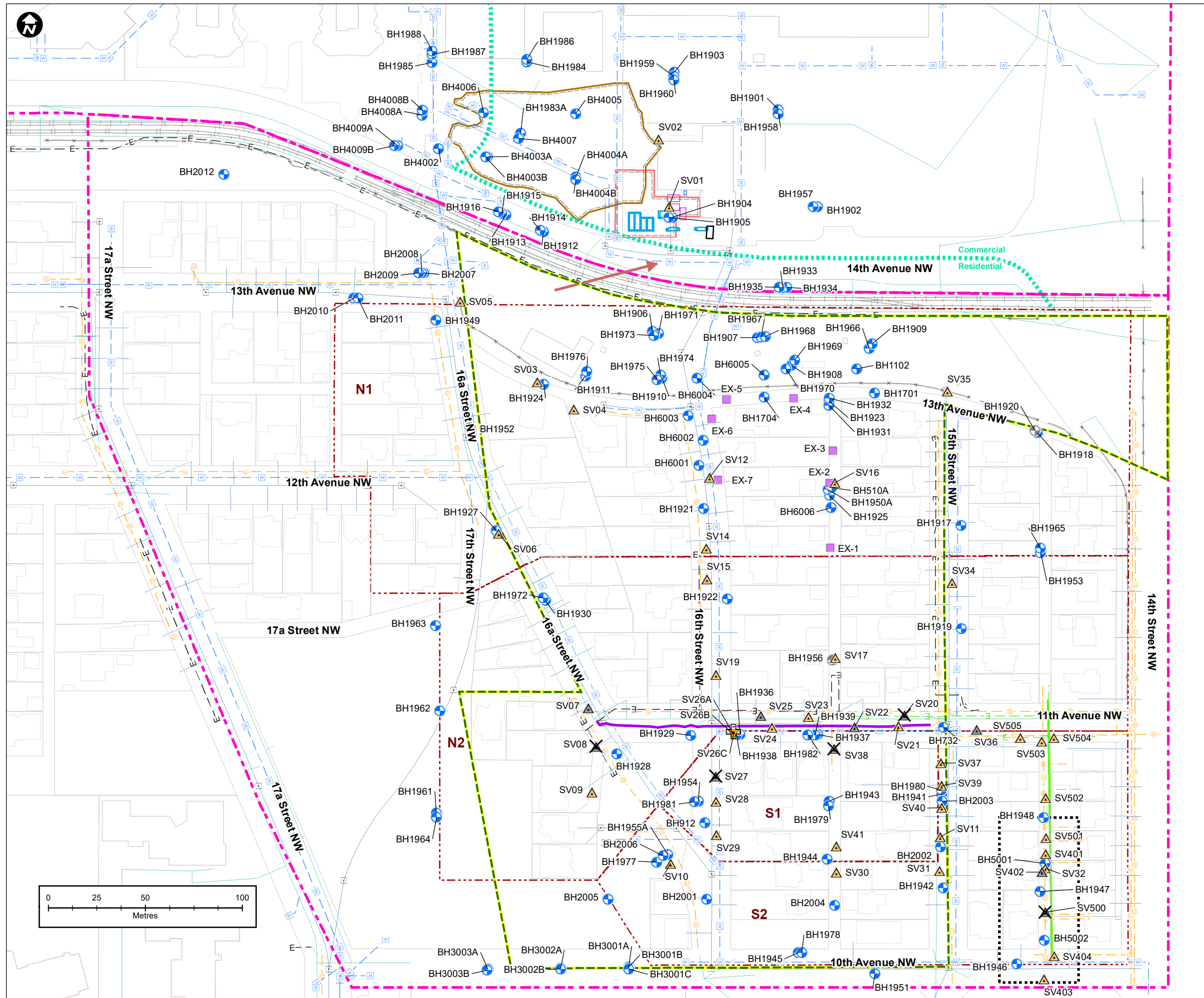
Zoning Map

Hounsfield Heights And Lion's Park
1620-14th Ave NW, Calgary, Alberta

Drawn By: JDC	Ref. No.: 10-12832
Reviewed By: MP	Date: 26-Mar-2023

Drawing No.:

PARSONS



LEGEND

- Extraction Well
- Monitoring Well
- Monitoring Well-Damaged
- ▲ Soil Vapour Probe
- ▲ Soil Vapour Probe (Nested)
- ▲ Soil Vapour Probe-Damaged
- ▲ Soil Vapour Probe-Destroyed
- Waste Oil UST
- UST as indicated on 1963 Fire Insurance Plan
- USTs noted on a 1985 Simons-Sears Contract Drawing
- Former Facilities (Kiosk, Pump Islands, USTs) Decommissioned 1995
- LRT Tracks
- Water
- Storm Sewer
- Sanitary Sewer
- Gas Line
- Overhead Electrical
- Underground Electrical
- Unconfirmed Electrical (Overhead or Underground)
- Tier 2 vapour inhalation pathway groundwater guideline area (N1, N2, S1, S2)
- Residential/parkland 30 m buffer
- Proposed Site Management Area (Lions Park and Hounsfield Heights)
- Risk Management & Contingency (RM&C) Program Area in 2003
- Permeable Reactive Barrier (Dec. 2019)
- Former Tank Nest Excavation Area (2003)
- Former Remedial Excavation Extent (2006/2007)
- Approximate Area of Utility Trench Excavation (September 2001)
- Site Boundary

Notes:

- Soil vapour wells on private property are not shown.
- The remedial excavation that took place in 1989 is not reflected on the drawing as the exact excavation limits are unknown. This area appears to be included within the subsequent 2003 excavation.
- Remedial excavations that took place in 2004 are not reflected on the drawing as the exact excavation limits are unknown. These areas appear to be included within the subsequent 2006/2007 excavation.

References:

- Well locations, on-site features provided as AutoCAD file by Clifton Engineering Group Inc..
- Property parcel data based on City of Calgary's Open Data Portal, City Online, Geospatial Data service. Downloaded March 2023.
- Building based on City of Calgary's Open Data Portal, City Online, Base Map Data service. Downloaded January 2023.
- Utility data based on City of Calgary's Open Data Portal (City Online, Geospatial Data service, 2023), City of Calgary Block Profiles (City Online, 2024), and private utility locate sweeps near the SV500 series conducted in December 2022.

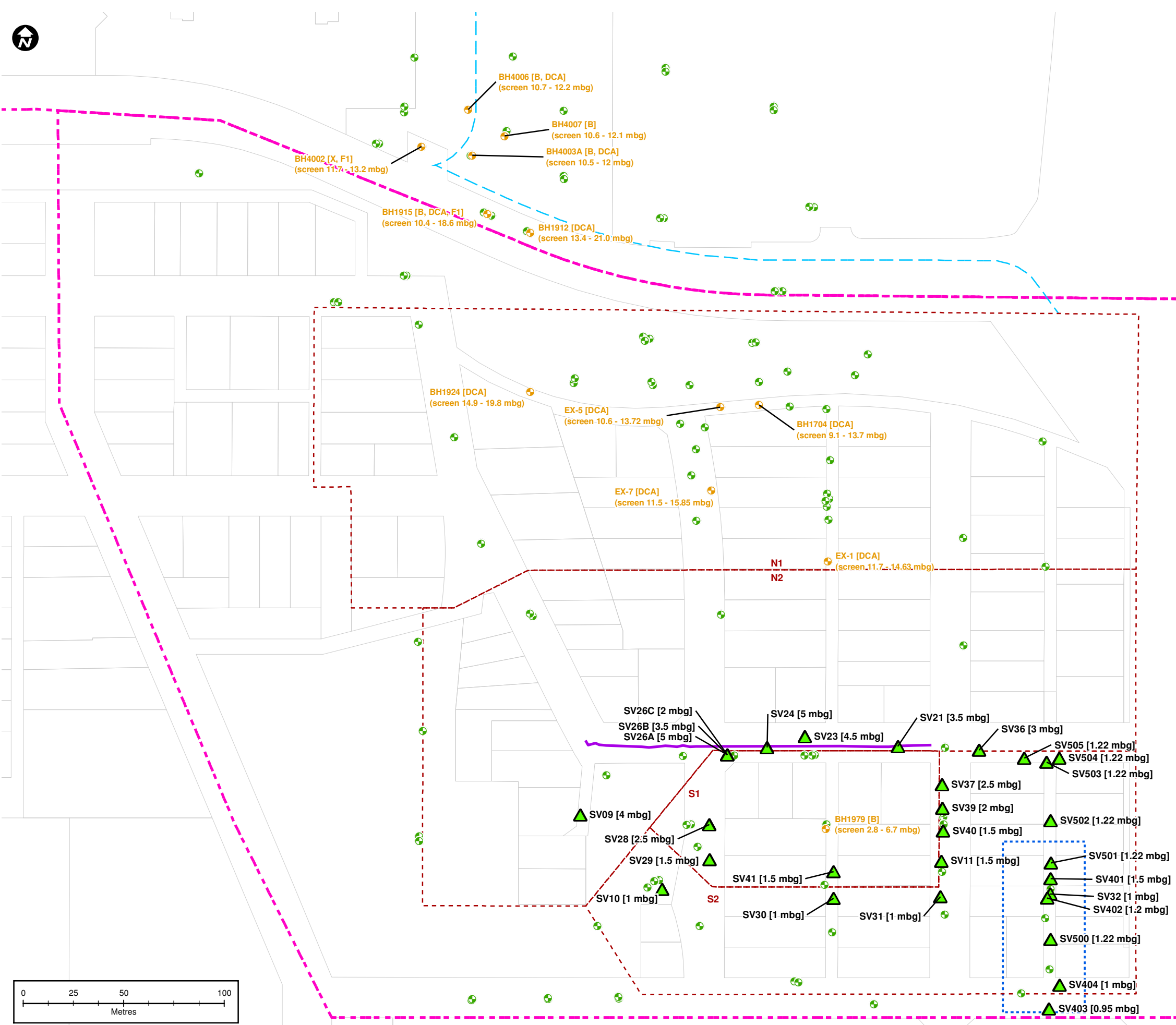
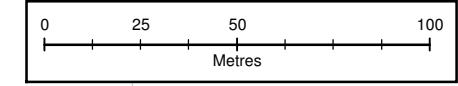
Site Plan

Groundwater Monitoring and Soil Vapour Well Locations

Hounsfield Heights And Lion's Park
1620-14th Ave NW, Calgary, Alberta

Drawn By: MR	Ref. No.: 10-12832
Reviewed By: SLD	Date: 28-Mar-2024
Drawing No.:	

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LEGEND

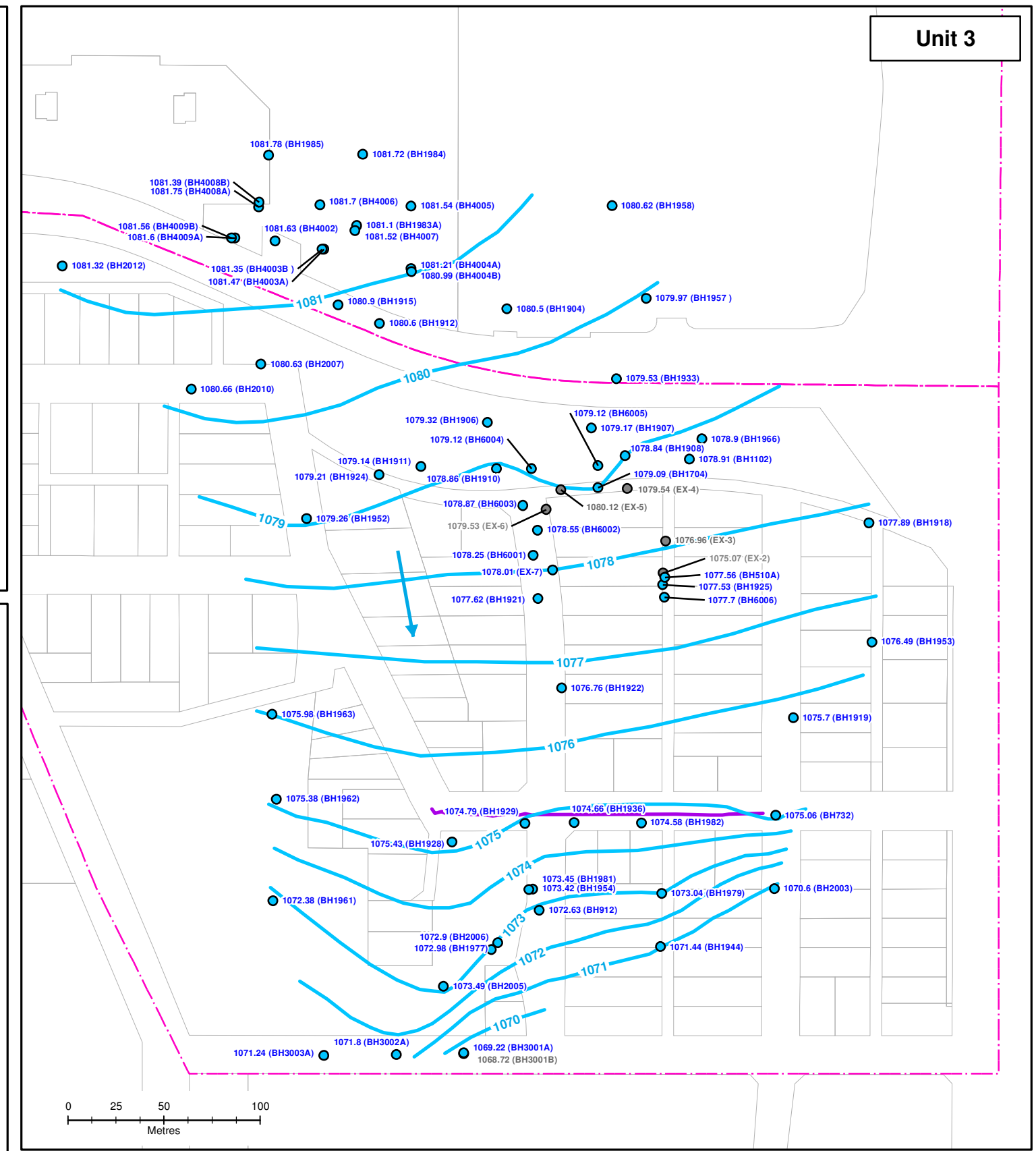
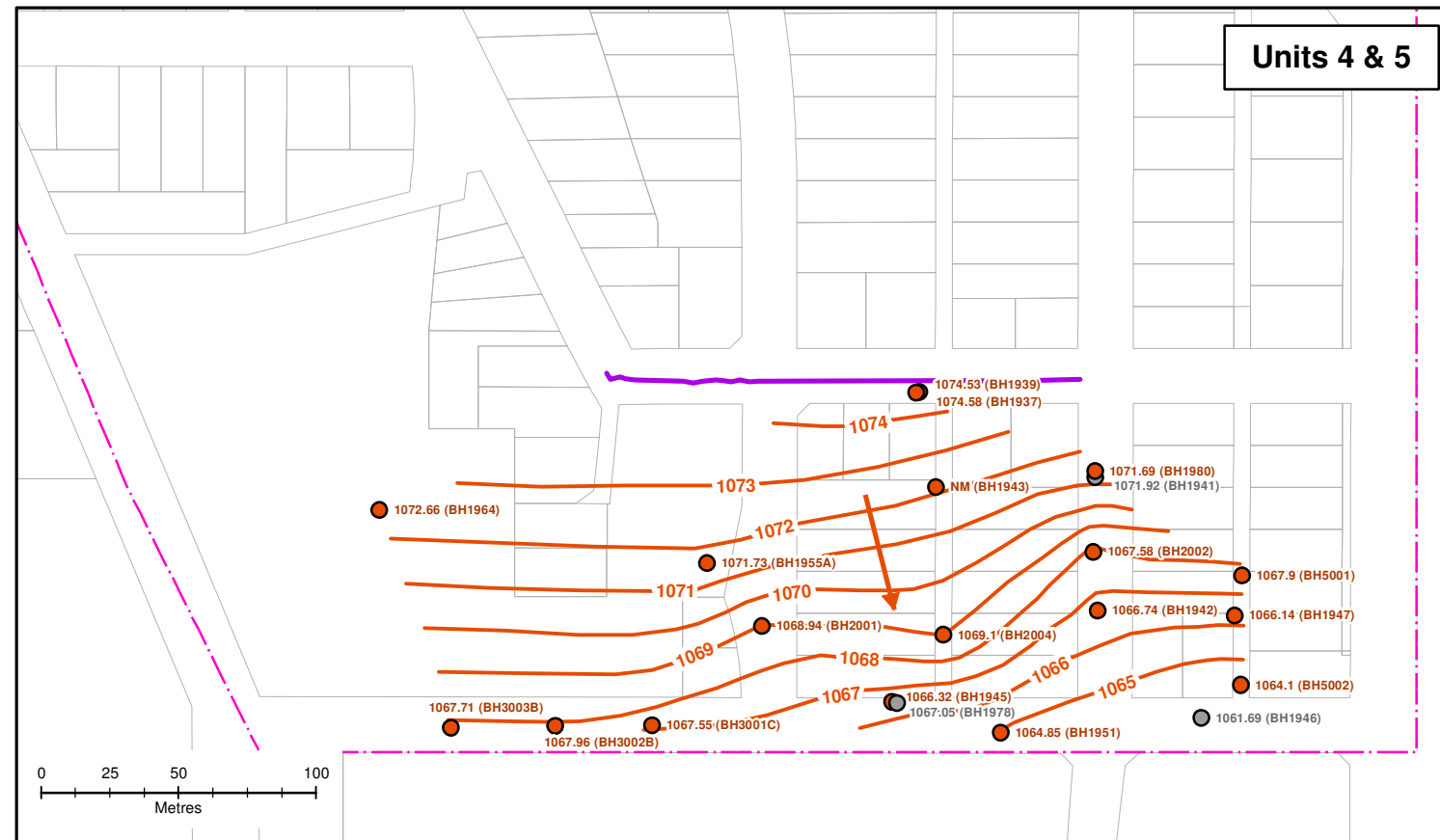
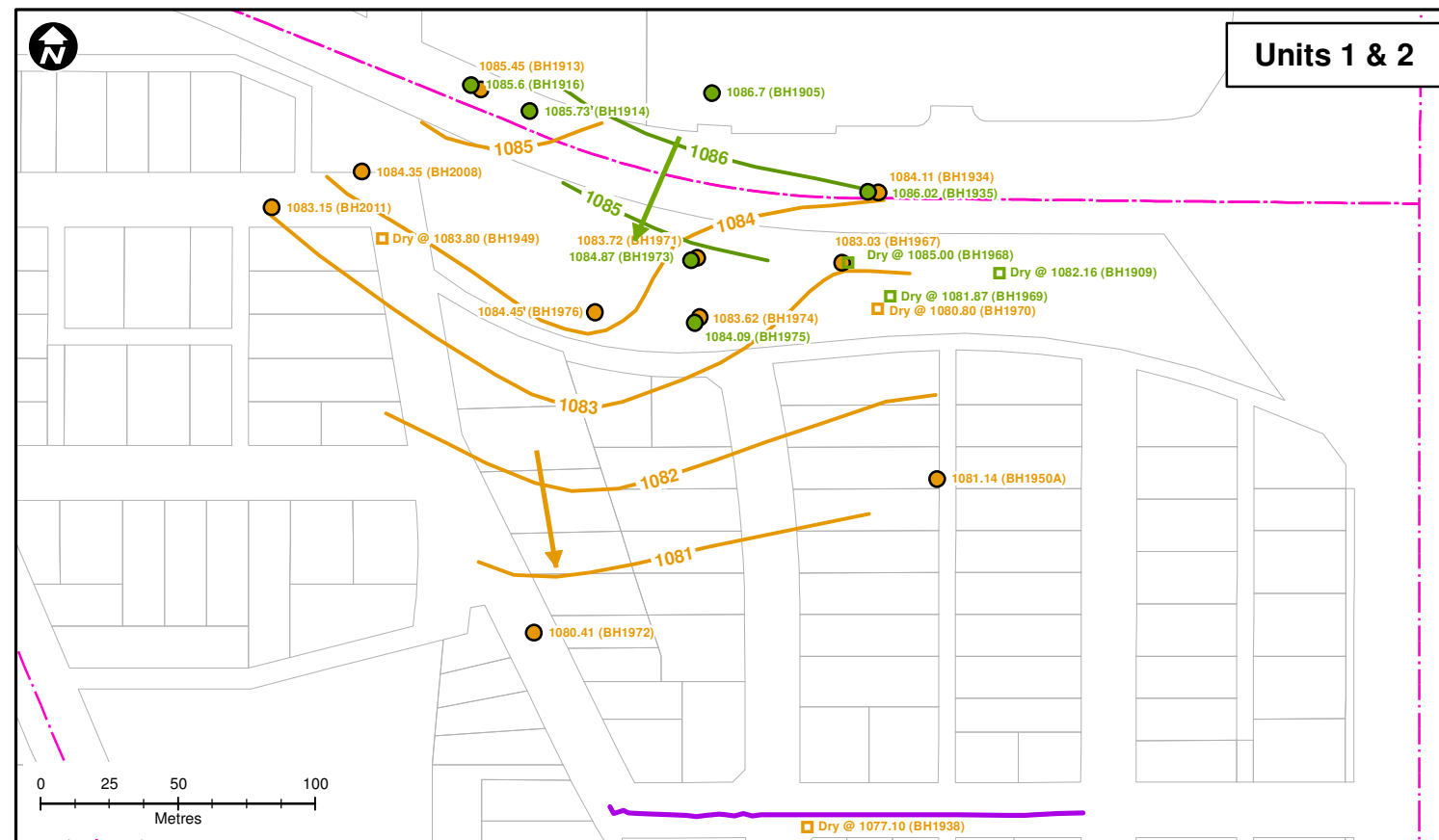
- - - Tier 2 vapour inhalation pathway groundwater guideline area (N1, N2, S1, S2)
 - - - Permeable Reactive Barrier (Dec. 2019)
 - - - Risk Management & Contingency (RM&C) Program Area in 2023
 - - - Site Boundary
 - GROUNDWATER sample(s) exceeds guideline for vapour inhalation pathway (guideline varies based on area) for one or more 2023 sampling events (all units)
 - GROUNDWATER sample(s) less than vapour inhalation pathway guideline for all 2023 sampling events (all units)
 - ▲ VAPOUR sample(s) less than guideline for all 2023 sampling events, all analytes
 - ▲ VAPOUR sample(s) exceeds guideline for any analyte (2023 sampling events)
 - ▲ VAPOUR sample(s) exceeds 90% threshold for any analyte (2023 sampling events) but does not exceed the guideline
 - [B, DCA] Groundwater: Analyte that exceeds vapour inhalation guideline
 - [3 mbg] Vapour: Total depth of vapour well (mbg)
- Note: soil vapour wells on private property are not shown.

**Vapour Inhalation Pathway:
2023 Groundwater Analytical Data &
2023 Soil Vapour Analytical Data**

Hounsfield Heights And Lion's Park
1620-14th Ave NW, Calgary, Alberta

Drawn By: SLD	Ref. No.: 10-12832
Reviewed By: SLD	Date: 26-Mar-2024
Drawing No.:	

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LEGEND

- Permeable Reactive Barrier (2019)
- Site Boundary
- Unit 1
- Unit 1: dry well
- Unit 2
- Unit 2: dry well
- Unit 3
- Unit 4 and 5
- Value Not Used for Contouring
- ← Inferred direction of groundwater flow

Notes:

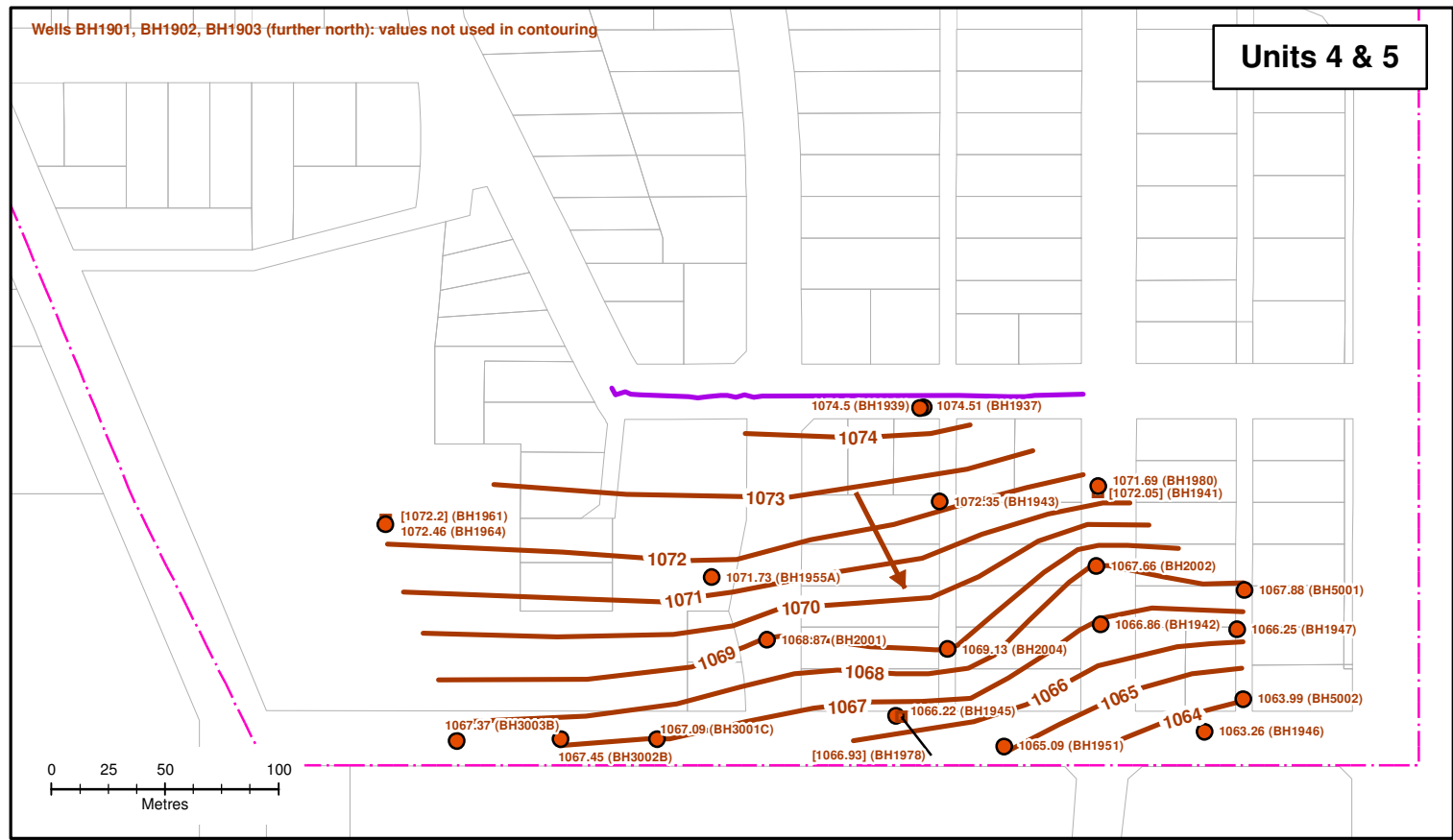
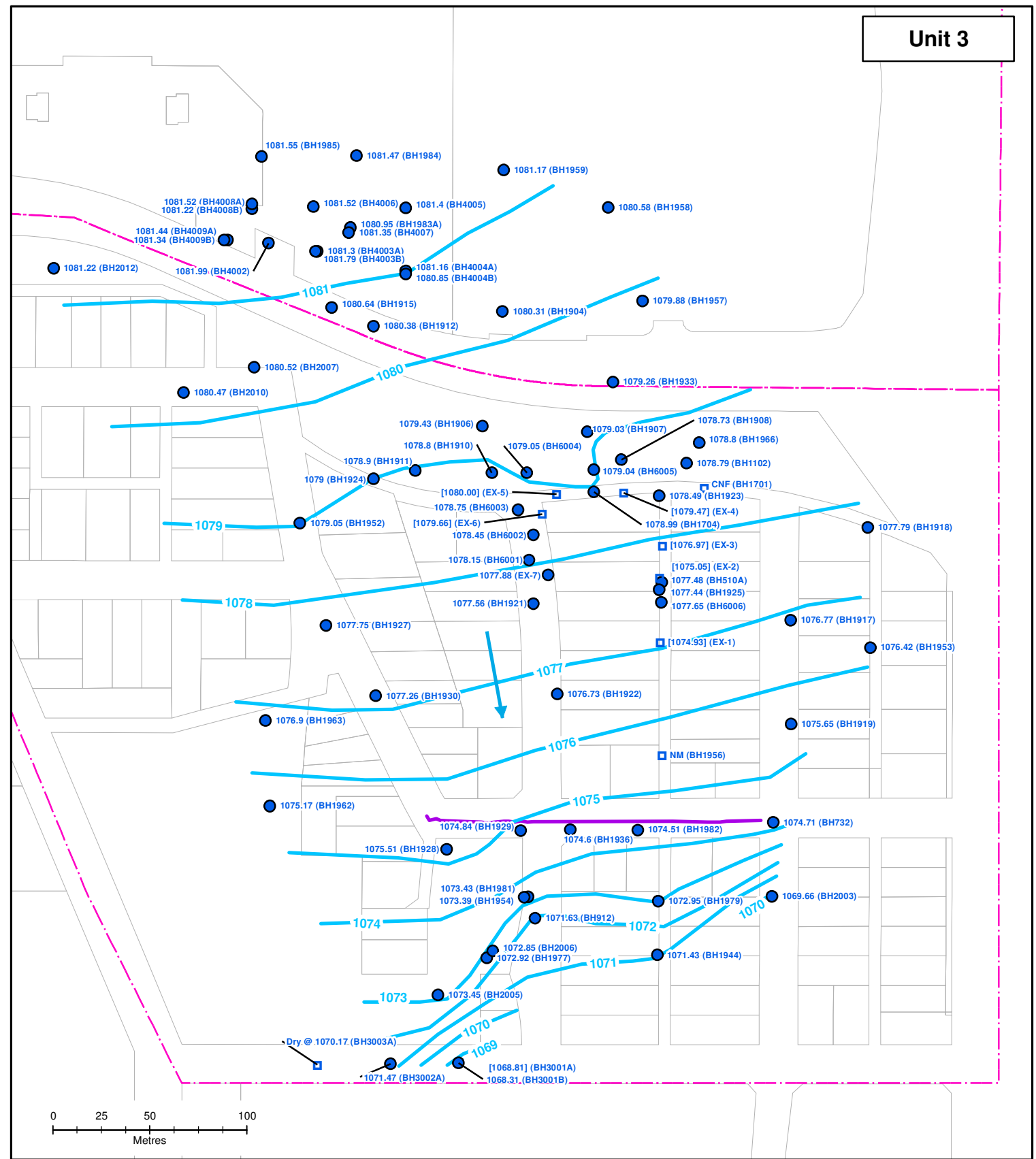
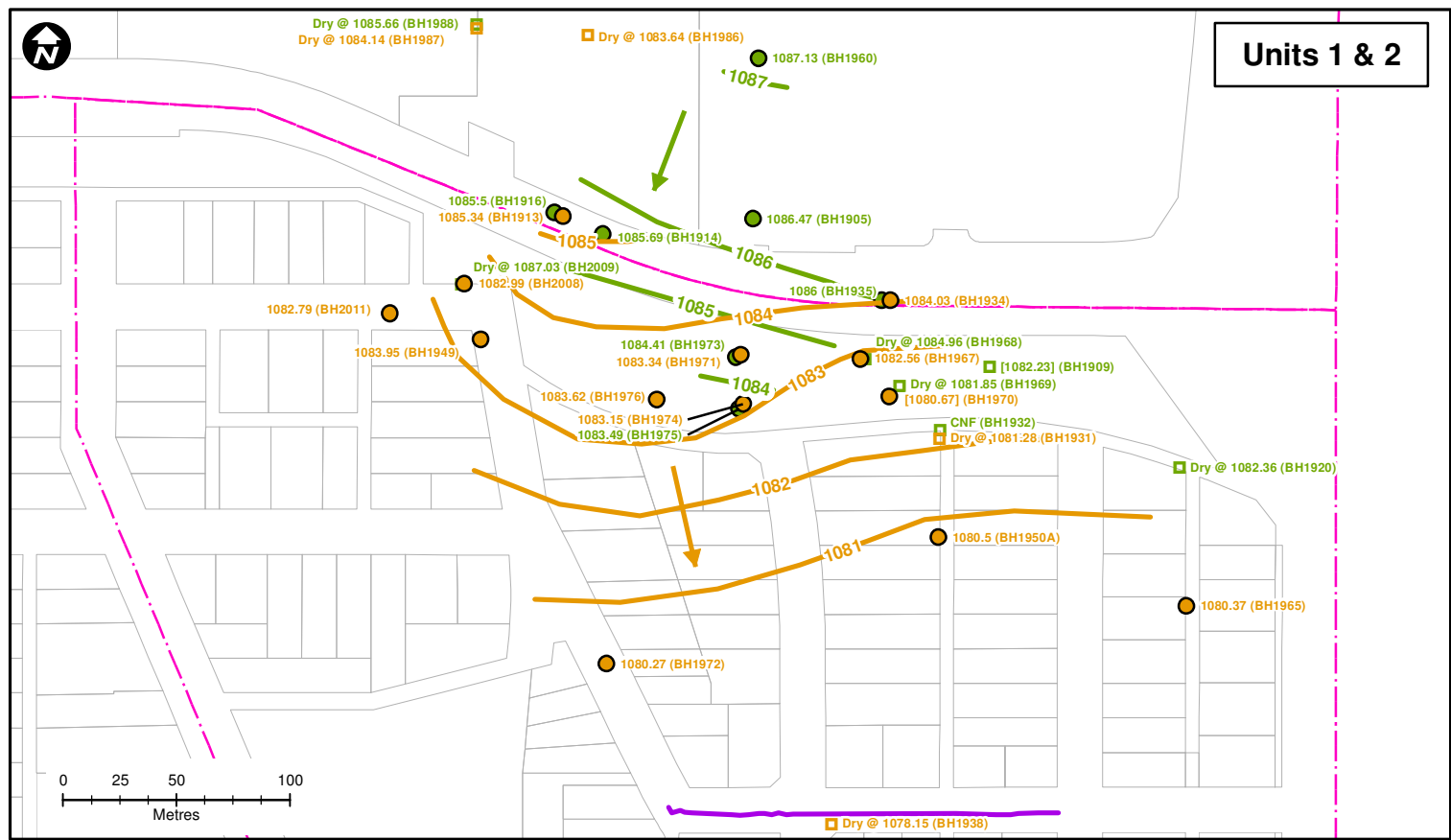
- Geological unit is as per the report May/June 2022 Monitoring and Sampling Event (Clifton, 2022).
- Wells that were not monitored for water levels are not shown.

**Elevation of the Groundwater Potentiometric Surface (masl)
(January 2023)**

Hounsfeld Heights And Lion's Park, 1620-14th Ave NW Calgary, Alberta

Drawn By: SLD
Reviewed By: AT/MP

Ref. No.: 10-12832
Date: 20-Mar-2024
Drawing No.: 6



LEGEND

- Permeable Reactive Barrier (2019)
- Site Boundary
- Unit 1
- Unit 2
- Unit 3
- Unit 4 and 5
- Well dry, could not be found (CNF), could not be monitored (NM), or value [] not used in contouring
- Inferred direction of groundwater flow
- [] Value not used in contouring

Notes:
 - Geological unit is as per the report May/June 2022 Monitoring and Sampling Event (Clifton, 2022).
 - Wells that were not monitored for water levels are not shown.

<h3>Elevation of the Groundwater Potentiometric Surface (masl) (July 2023)</h3> <p>Hounsfeld Heights And Lion's Park, 1620-14th Ave NW Calgary, Alberta</p>	Drawn By: SLD	Ref. No.: 10-12832
	Reviewed By: MP	Date: 30-Oct-2023
PARSONS		Drawing No.: 7

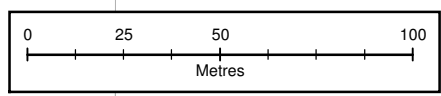
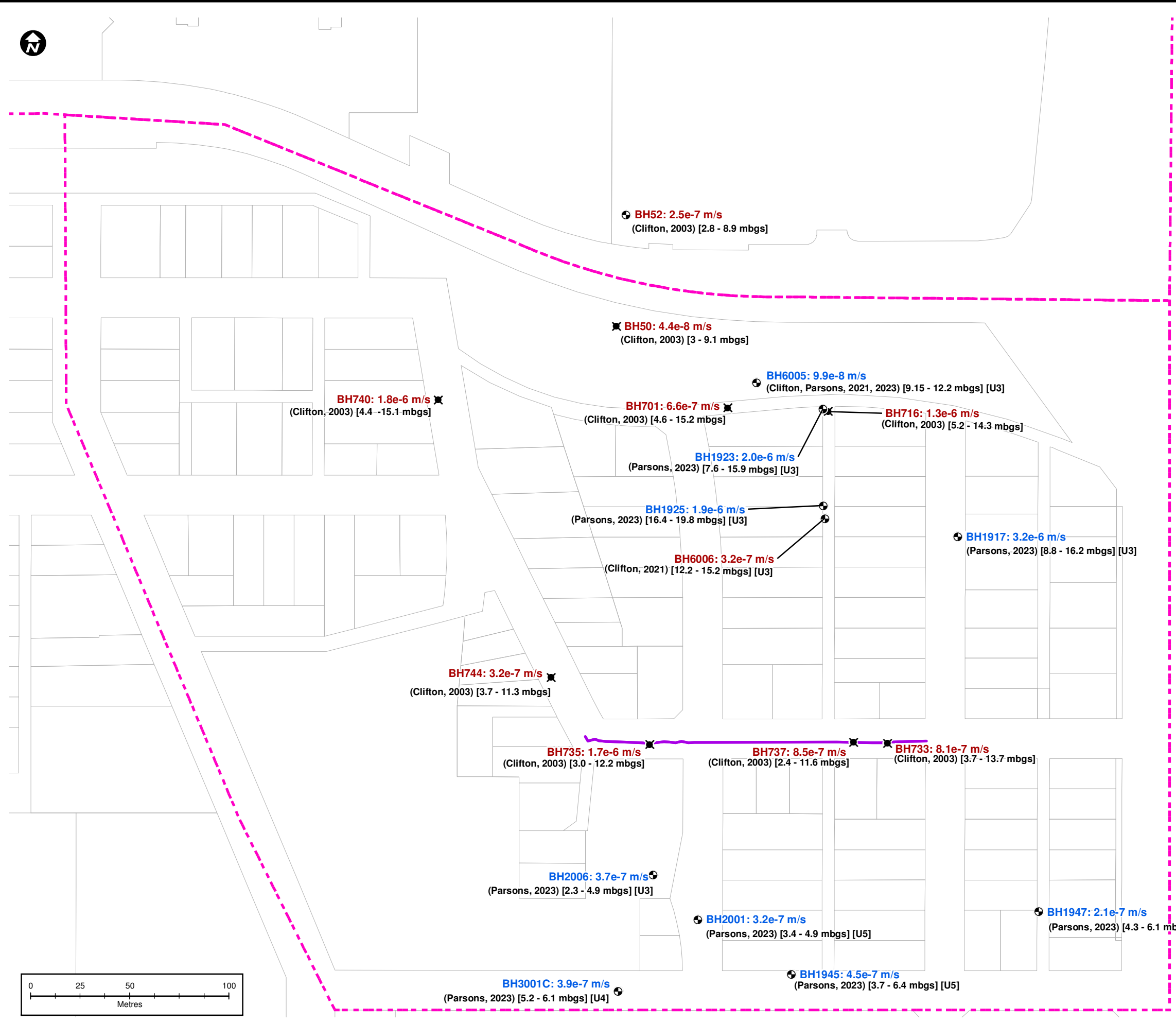


LEGEND

- Monitoring Well - Destroyed or Decommissioned
- Monitoring Well
- Permeable Reactive Barrier (Dec. 2019)
- Site Boundary

- 1.3 x 10⁻⁷ Hydraulic Conductivity (m/s) - 2023
- 1.3 x 10⁻⁷ Hydraulic Conductivity (ms/) - historical
- (Parsons, 2023) Consultant and Test Date
- [1 - 5 mbgs] Well Screen
- [U3] Geological Unit

The average is shown where more than one test result is available for a well.



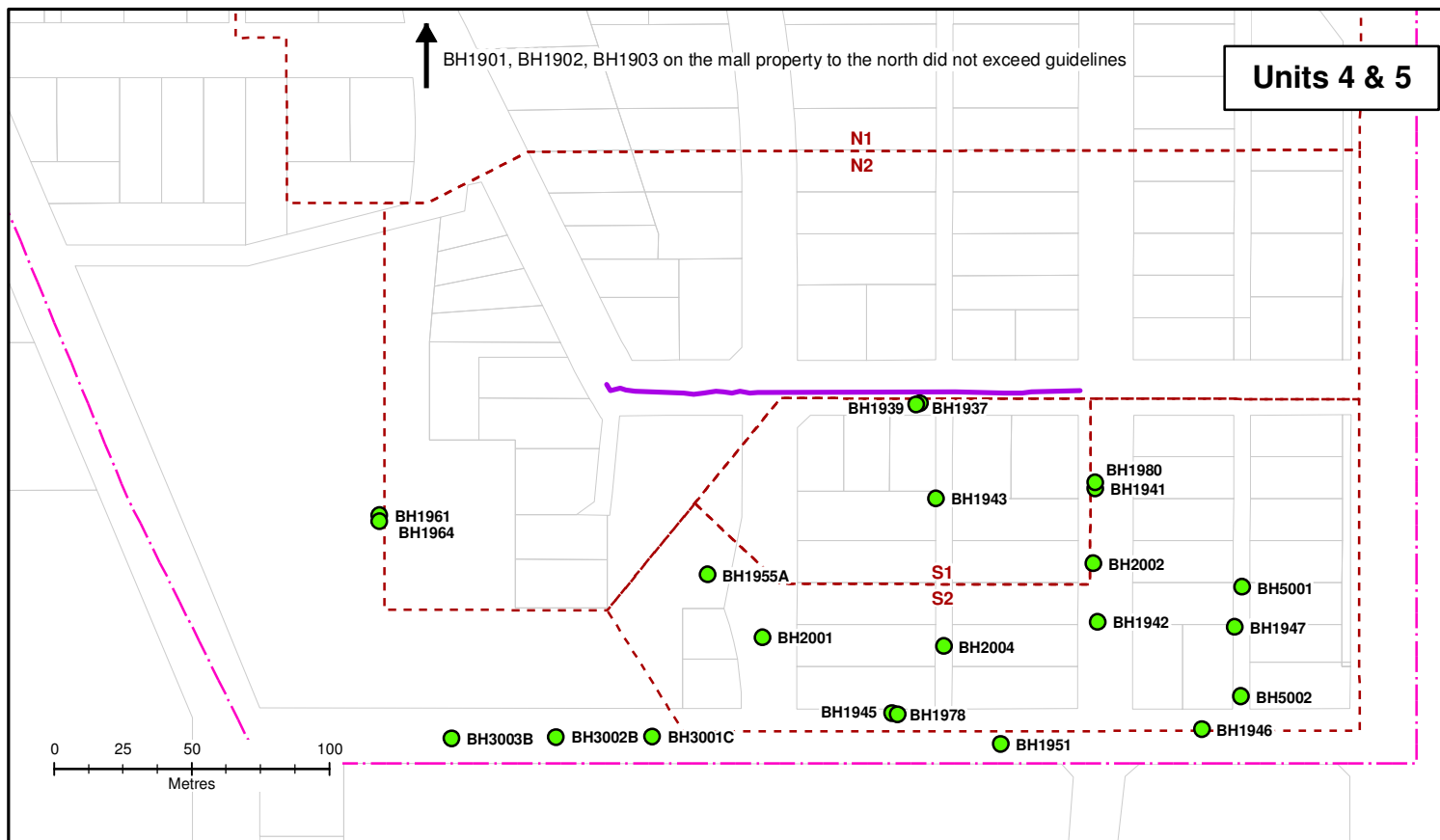
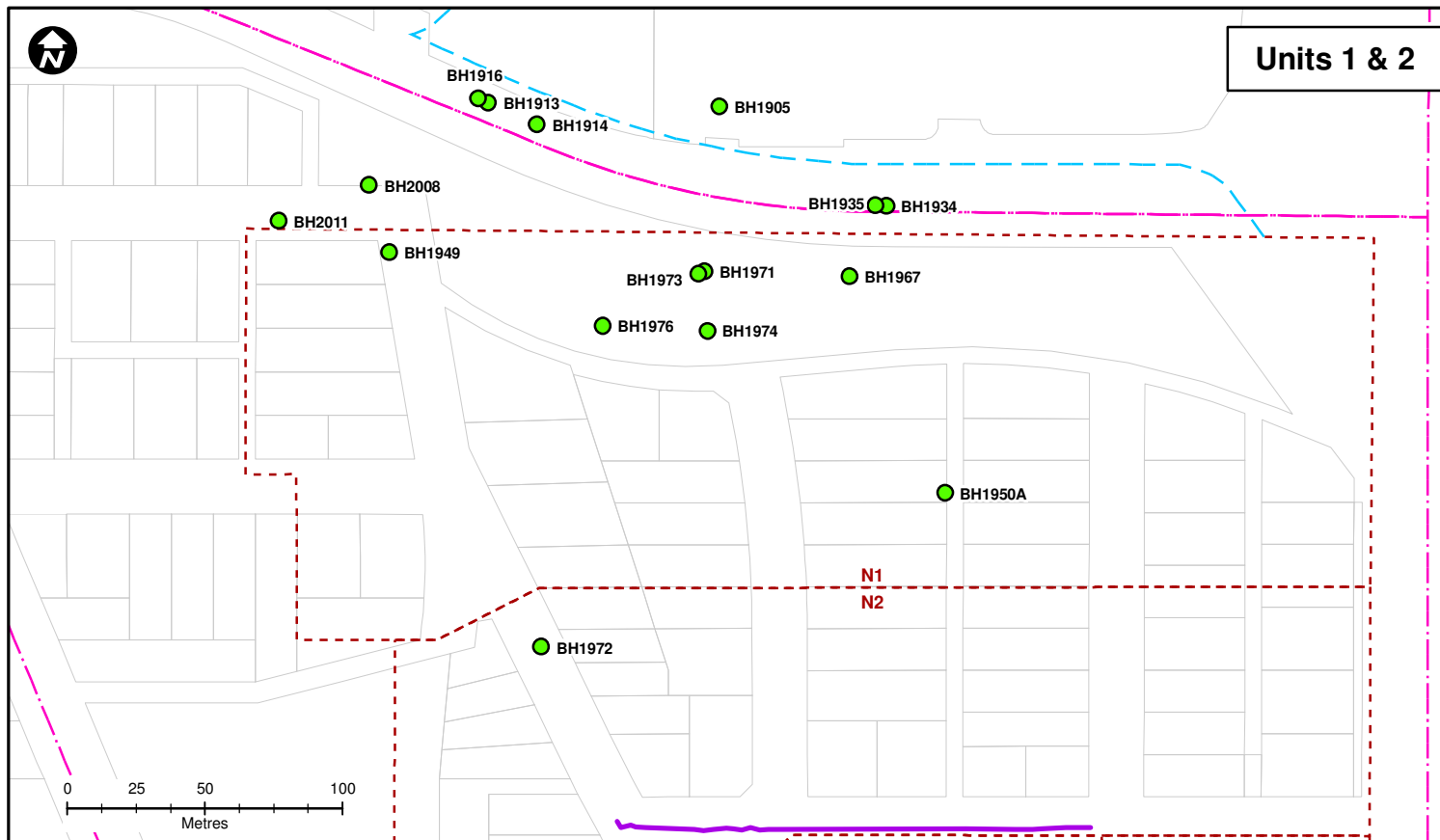
Summary of Hydraulic Conductivity Test Results (m/s)

Hounsfield Heights And Lion's Park
1620-14th Ave NW, Calgary, Alberta

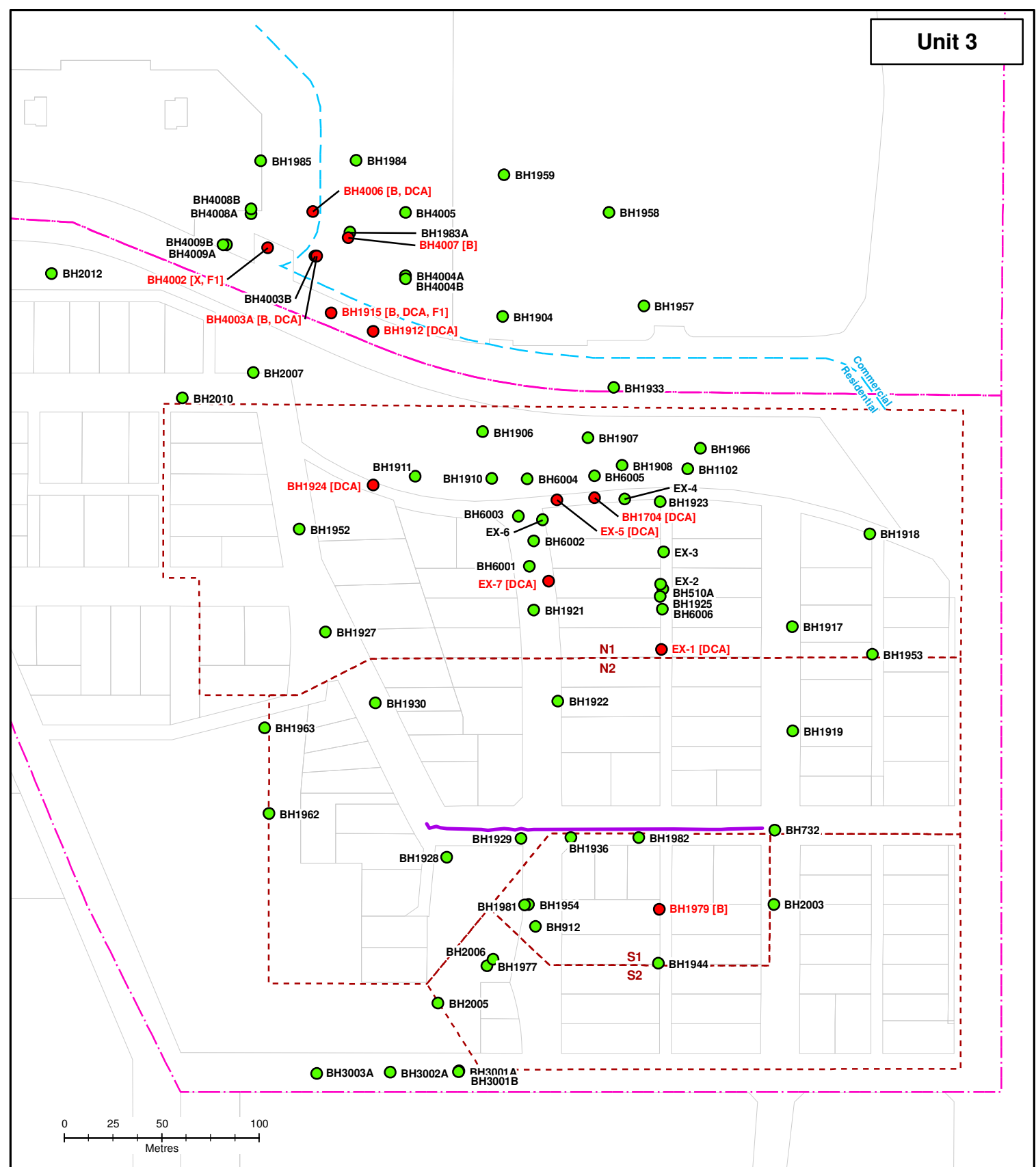
Drawn By: SLD	Ref. No.: 10-12832
Reviewed By: SLD	Date: 20-Mar-2024
Drawing No.:	

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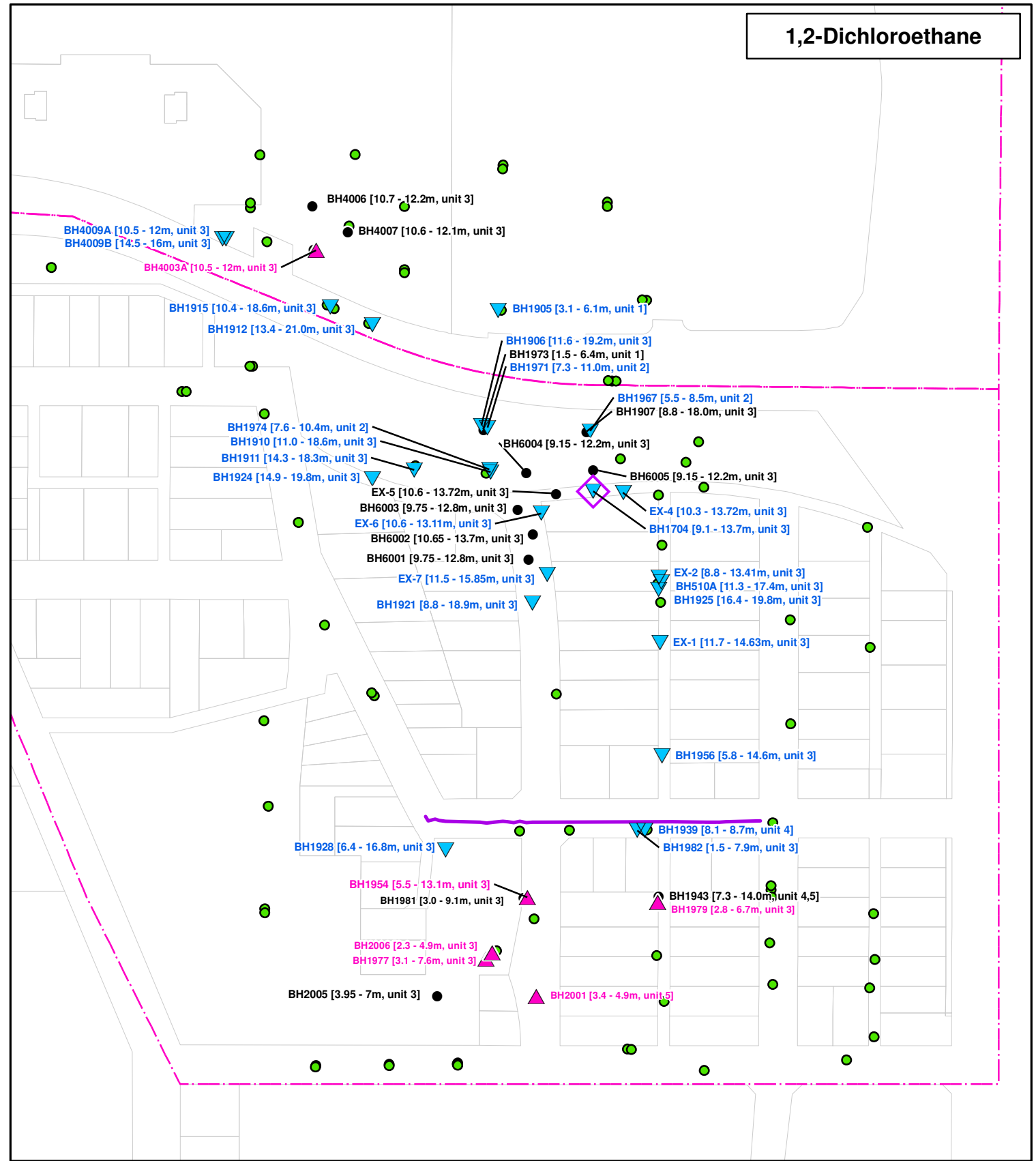
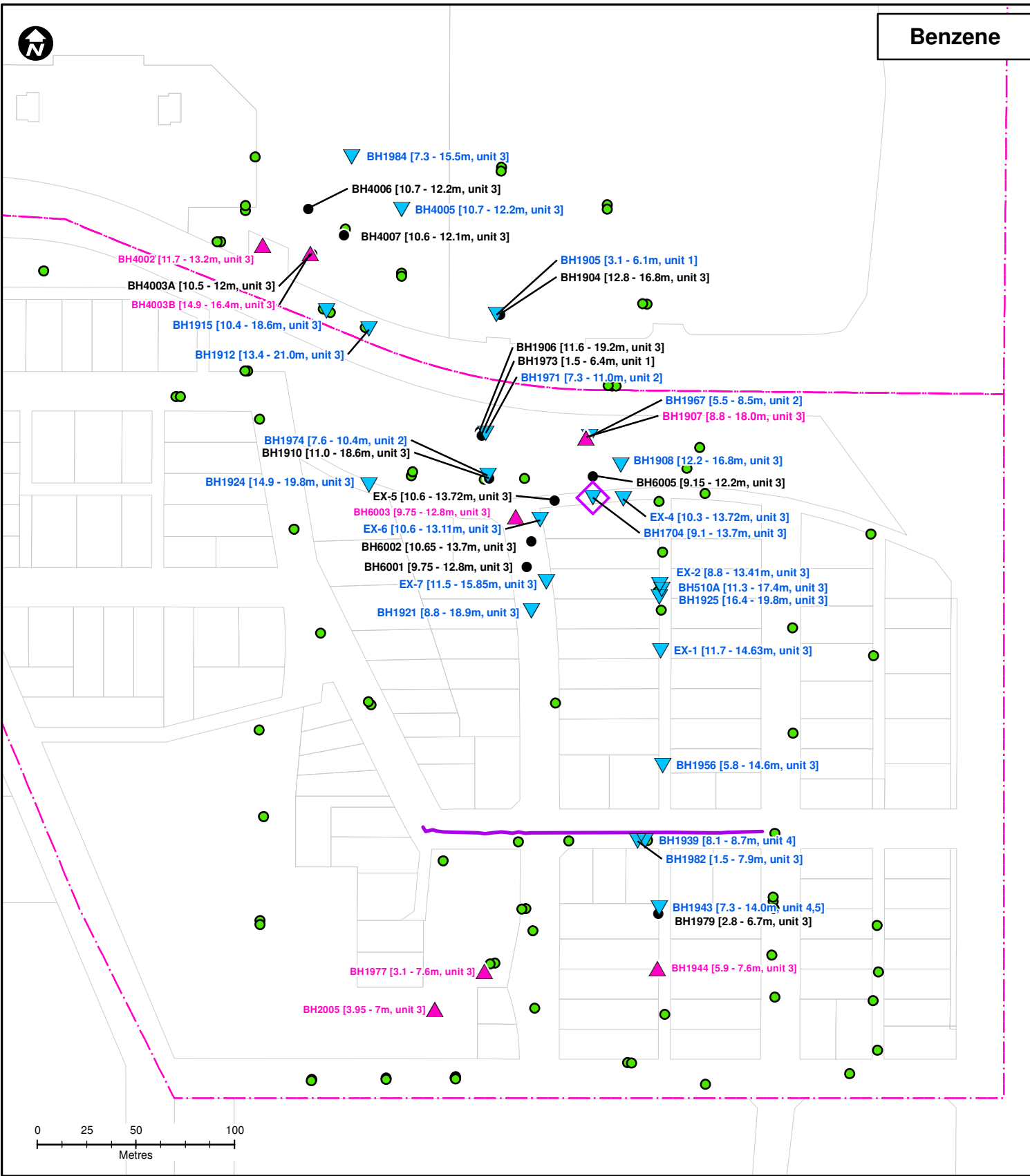
- LEGEND**
- Less than guidelines (DUA/FAL pathways excluded, ESC excluded where GW is deeper than 3 m)
 - Exceeds guideline for vapour inhalation pathway (guideline varies based on area)
 - ◇ Liquid-Phase Hydrocarbons Detected
 - Tier 2 vapour inhalation pathway guideline area (N1, N2, S1, S2)
 - Permeable Reactive Barrier (2019)
 - Residential/parkland 30 m buffer
 - Site Boundary
 - [] Analyte that exceeds vapour inhalation guideline



Notes:
 - Groundwater guideline(s) for the vapour inhalation pathway varies based on area; see report text for details.
 - Geological unit is as per the report May/June 2022 Monitoring and Sampling Event (Clifton, 2022).
 - B - Benzene, X - Xylenes, F1 - PHC fraction F1 minus BTEX, DCA - 1,2-Dichloroethane

<p>Summary of 2023 Groundwater Analytical Data (January, July, August, and October 2023) (BTEX, F1, F2, 1,2-DCA)</p> <p>Hounsfield Heights And Lion's Park, 1620-14th Ave NW Calgary, Alberta</p>	Drawn By: SLD Reviewed By: SLD	Ref. No.: 10-12832 Date: 21-Mar-2024

Document Path: C:\Z_Drive\10-12832\MXD\12832_GW_2023\trends_Feb2024.mxd Coordinate System: NAD83 UTM 114 Longitude Meter Province of Alberta Canada



LEGEND

- ▲ Increasing or Probably Increasing
- Stable or No Trend
- ▼ Decreasing or Probably Decreasing
- Data less than laboratory detection limits during last 3 and/or majority of events
- ◆ LPH (BH1704, last detected in May 2022)
- Site Boundary
- Permeable Reactive Barrier (2019)
- [1-8 m, unit 1] Screen interval (mbgs) and Geological Unit

**Trend Analysis Summary
Benzene and 1,2-Dichloroethane
Groundwater Analytical Data (2013-2023)**

Hounsfeld Heights And Lion's Park, 1620-14th Ave NW Calgary, Alberta

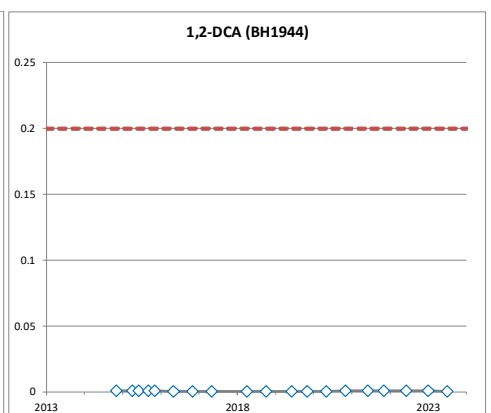
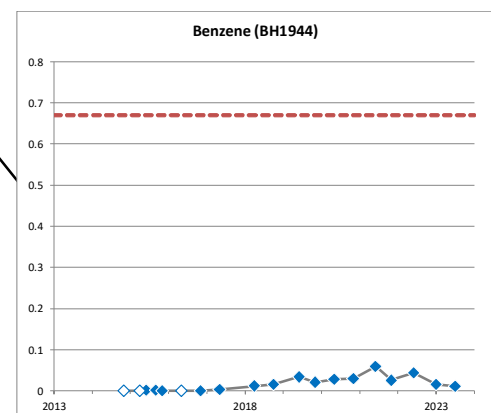
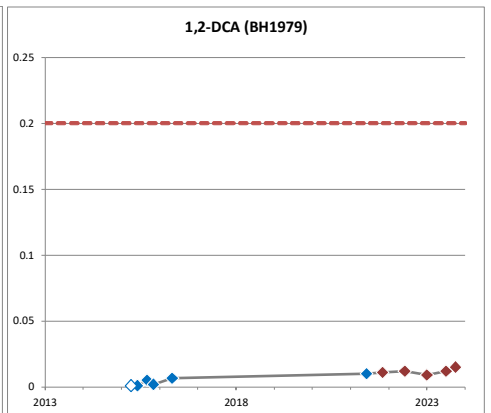
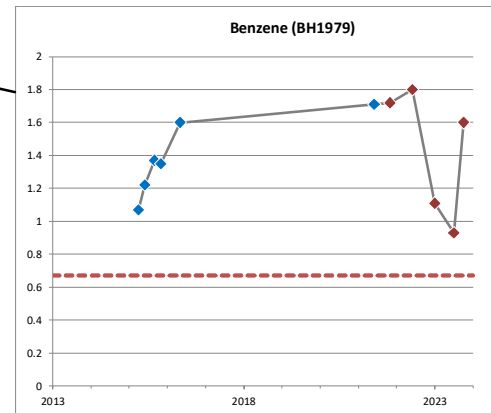
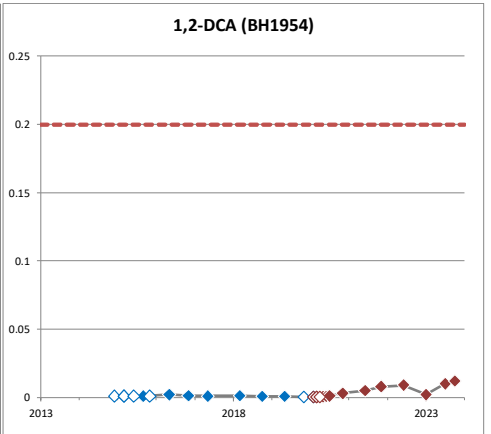
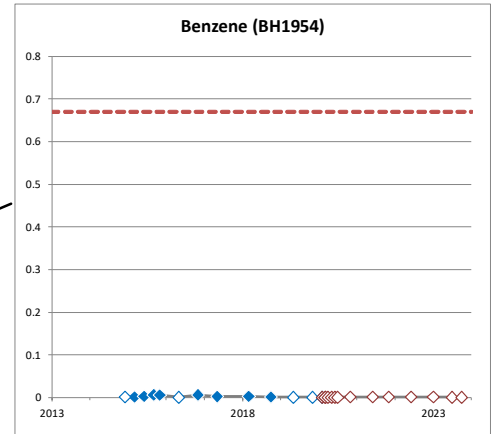
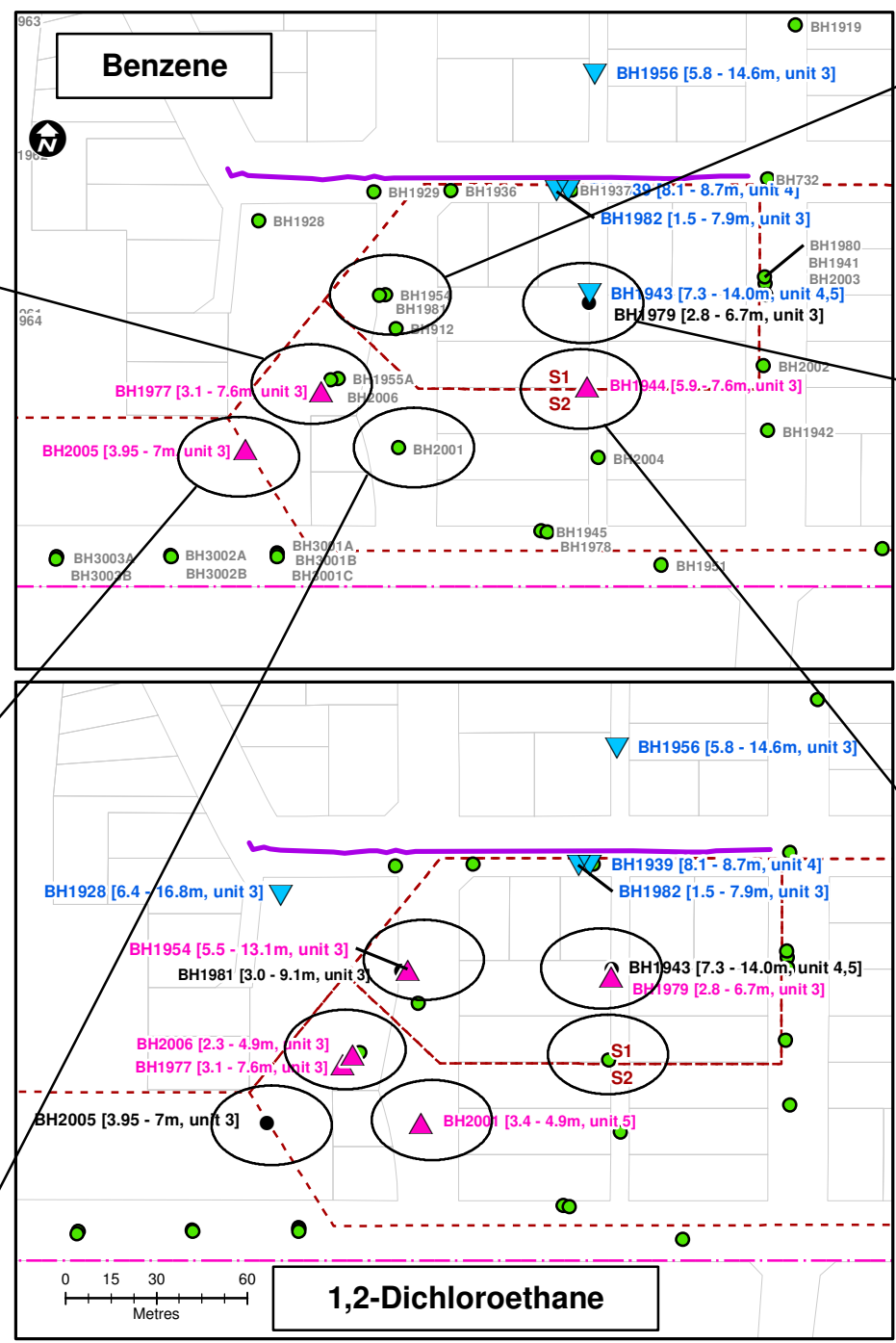
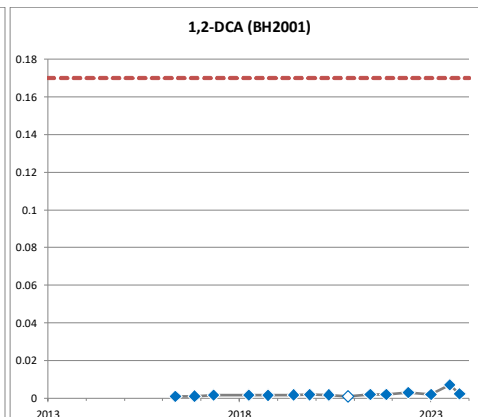
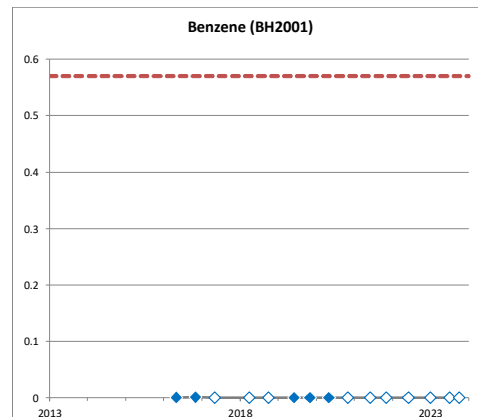
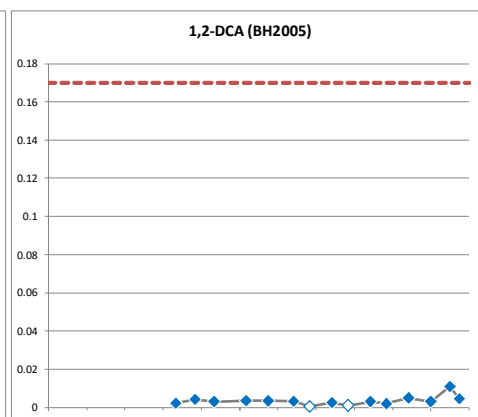
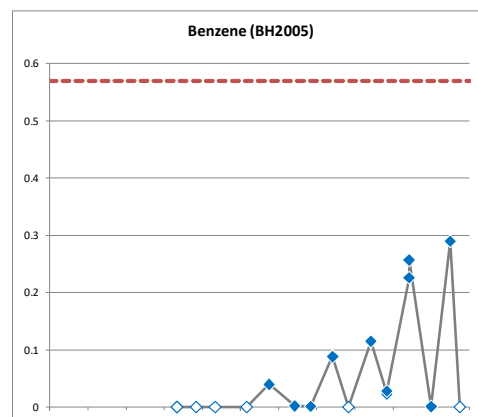
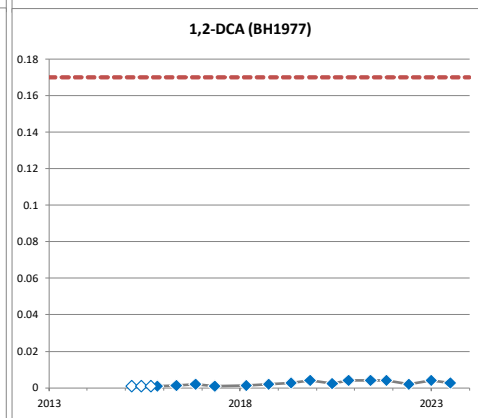
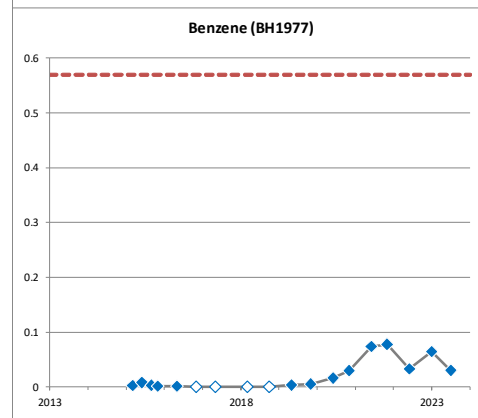
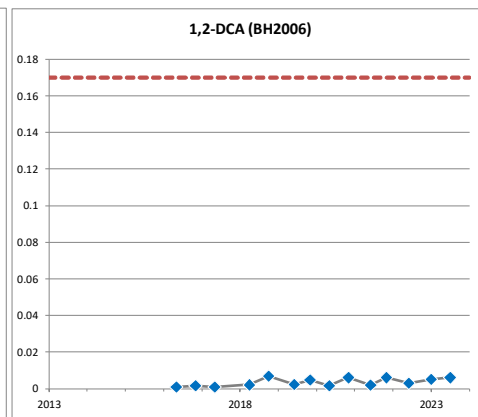
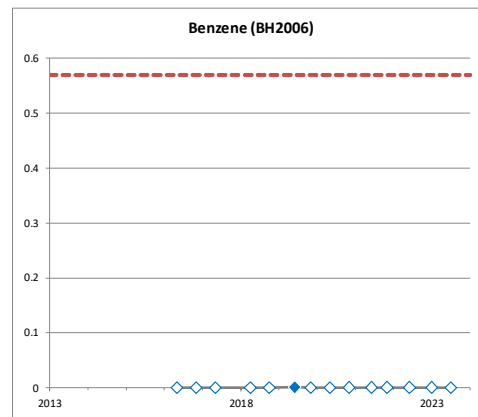
Drawn By: SLD Ref. No.: 10-12832

Reviewed By: SLD Date: 29-Feb-2024

Drawing No.:

PARSONS

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LEGEND

- ▲ Increasing or Probably Increasing Trend
- Stable or No Trend
- ▼ Decreasing or Probably Decreasing Trend
- Data less than laboratory detection limits during last 3 and/or majority of events
- Permeable Reactive Barrier (2019)
- Vapour Inhalation Guideline
- [1-8 m, unit 1] Screen interval (mbgs) and Geological Unit

Trend Analysis Summary - South of PRB/11th Avenue		Drawn By: SLD	Ref. No.: 10-12832
Benzene and 1,2-Dichloroethane		Reviewed By: SLD	Date: 26-Mar-2024
Groundwater Analytical Data (2013-2023)		PARSONS	
Hounsfeld Heights And Lion's Park, 1620-14th Ave NW Calgary, Alberta			

APPENDIX A

FIELD PROCEDURES

APPENDIX A FIELD PROCEDURES

HEALTH AND SAFETY

Consistent with Parsons' policy and Suncor's requirements, the completed work was carried out in accordance with a site-specific health and safety plan. This plan, as a minimum, complied with provincial requirements as well as Parsons' and Suncor's health and safety guidelines, whichever were more stringent.

APPROVALS

Prior to doing any site work, approval to proceed was obtained from the client. When monitoring or investigative work was required on public or third-party lands, the necessary approvals were obtained from the municipality or the property owner prior to commencing any work.

GROUNDWATER MONITORING EQUIPMENT MAINTENANCE - RKI EAGLE

RKI Eagle gas monitors are maintained as per the manufacturer's specifications and calibrated daily. The RKI units are calibrated as required for zero-point measurement and using a single hexane standard in the percent of the lower explosive limit (LEL) range. Prior to use, the RKI Eagle is checked for battery charge and presence of flow rate. Prior to measurement in the field, the RKI Eagle is activated for a minimum of 15 minutes. The RKI Eagle is operated in methane elimination mode.

GROUNDWATER MONITORING PROCEDURE

Groundwater monitoring and extraction wells were accessed to determine subsurface vapour concentrations using a hexane calibrated RKI Eagle with methane elimination. This was done by inserting the collection tube of the RKI Eagle into the riser pipe (approximately 0.5m below grade) and recording the peak instrument reading.

The depth to the water table and presence or absence of liquid-phase hydrocarbons (LPH) in the wells were determined with an oil/water interface probe that was cleaned with a solution of phosphate-free detergent and water and rinsed with distilled water between monitoring wells. If the interface probe indicated thicknesses of LPH less than 5 mm, the presence of product was confirmed with a clean disposable bailer. If measurable LPH is observed in any well, Parsons's protocol is not to collect a groundwater sample from that well. However, groundwater samples are collected from wells if a sheen is observed.

GROUNDWATER SAMPLING PROCEDURE, QUALITY ASSURANCE/QUALITY CONTROL AND SAMPLE PREPARATION

Groundwater samples were collected from the groundwater monitoring and extraction wells using either a disposable bailer or HydraSleeve during the semi-annual groundwater sampling events (January and July, 2023) or low flow sampling method using a bladder pump during the monitored

APPENDIX A FIELD PROCEDURES

natural attenuation (MNA) event (July 2023), as presented in Table A-1. The methodology for each sampling method is summarized below.

During the semi-annual sampling programs, a duplicate groundwater sample was prepared from one of the sampled monitoring wells for every 10 groundwater samples collected. In addition, equipment blanks were prepared by collecting the laboratory supplied ultra-pure water which was poured through either a disposable bailer or disposable HydraSleeve. A trip blank composed of laboratory supplied ultra-pure water was prepared to accompany each cooler of groundwater samples for quality assurance and quality control purposes.

Samples collected are immediately placed in an ice filled cooler. Samples for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), petroleum hydrocarbon fraction F1, and 1,2-dichloroethane (1,2-DCA), were collected in septum-topped 40 mL clear glass vials (with zero headspace), pre-charged with sodium bisulphate (NaHSO_4) preservative. Samples for analysis of petroleum hydrocarbon fraction F2 were collected in 100 mL amber glass bottles pre-charged with NaHSO_4 preservative. Samples for routine water chemistry were collected in 200 mL plastic bottles. Samples collected in July 2023 for dissolved ferrous iron, dissolved metals, and dissolved organic carbon were field filtered and preserved as per the laboratory requirement. Samples for microbial analysis were collected in a 1 L Poly bottle with a screw cap. All sample bottles were supplied by the laboratory. Collected samples were shipped in ice filled, security sealed coolers with the appropriate chain of custody documentation to the laboratory. During the July 2023 MNA event, samples were submitted on a daily basis to account for the hold times of ferrous iron as well as the microbial analyst.

GROUNDWATER SAMPLING BY BAILER

A minimum of three well casing volumes of water were purged from the monitoring/extraction well or the well was purged to dryness utilizing a new disposable bailer. Following the appropriate groundwater recovery in the wells, fresh groundwater samples were then recovered utilizing a disposable bailer and placed in appropriate sample containers supplied by the laboratory and kept cool in ice filled coolers. A fresh pair of nitrile gloves was worn for each groundwater sample collected.

GROUNDWATER SAMPLING BY HYDRASLEEVE

Groundwater samples were collected for hydrochemical analyses by lowering a new weighted HydraSleeve into the monitoring/extraction well so that the HydraSleeve is positioned within the well screen. The water pressure in the well keeps the bag collapsed and the check valve closed, preventing water from entering the HydraSleeve. The check valve is then opened and the HydraSleeve is allowed to fill with water. Groundwater samples were then recovered and placed in appropriate sample containers supplied by the laboratory and kept cool in ice filled coolers. A fresh pair of nitrile gloves was worn for each groundwater sample collected. The HydraSleeve weight was

APPENDIX A FIELD PROCEDURES

cleaned with a solution of phosphate-free detergent and water and rinsed with distilled water between monitoring wells.

LOW FLOW GROUNDWATER SAMPLING USING A BLADDER PUMP

A bladder pump was used to gently remove groundwater samples from the mid-point of the monitoring well screened zone. The bladder was lowered into the sample location, where hydrostatic pressure filled the central chamber. A surface pump is then used to pressurize the space around the central bladder causing it to collapse, pushing the groundwater up into the sample collection line. When the pressure is released, the bladder refills with water, and the cycle is repeated to ensure a steady flow of water up from the well. One-way valves are utilized to ensure that no backflow occurs from the sample line down into the well. The sample line was connected to a flow-through cell equipped with a YSI multimeter probe that measured pH, temperature, electrical conductivity, and dissolved oxygen (DO). The water level in each well was continually monitored and the purging rate was adjusted such that the overall drawdown from the static groundwater level did not exceed approximately 10 cm, thereby reducing turbidity. The groundwater sample was collected when the pH (± 0.1 pH Units), temperature ($\pm 3\%$), electrical conductivity ($\pm 3\%$) and DO ($\pm 10\%$) measurements stabilized, over three consecutive readings, taken at a minimum rate of at least one per every flow-through cell volume. The bladder pump and flow-through cell were connected to the wells with polyethylene and silicone tubing that was individually dedicated to each monitoring well. The groundwater samples were collected using the dedicated tubing.

HYDRAULIC CONDUCTIVITY (BAIL) TESTS

Prior to the conducting the bail test the initial depth to the water table was measured. The rising-head test was conducted in the monitoring well by removing approximately 1.0 L of water with a disposable bailer. Groundwater recovery was recorded throughout the test utilizing a Solinst Levelogger 5. The depth to the water table was also collected manually during the test. The hydraulic conductivity "K" values were calculated using the computer software AQTESOLV and the Bouwer-Rice method for unconfined aquifer conditions.

SOIL VAPOUR MONITORING WELL LEAK TESTING PROCEDURE

Prior to sampling, leak testing is conducted to evaluate the integrity of the monitoring well seal and sampling equipment. The leak testing is conducted a minimum of once per calendar year, and in addition, 10% of soil vapour wells sampled are leak tested during each soil vapour sampling event.

Soil vapour wells are leak tested immediately before sample collection. Leak testing consisted of placing a shroud with two valves (one with a connector that can be attached to the well and the other to the empty space within the shroud) over each well and flooding it with 99.999% Helium via the valve to the open space. The helium canister was connected to the shroud and the valve was opened fully for three seconds allowing the helium to saturate the space.

APPENDIX A FIELD PROCEDURES

Using an SKC pump and lung sampler, the pump was connected to the well via tubing connected inside the shroud and run for five minutes at a rate of 70 millilitres (mL) per minute to fill one clean new tedlar bag connected inside the lung sampler. A separate clean new tedlar bag was used for each well.

The pump was turned off and the well was closed. The tedlar bag was then removed from the lung sampler, and the end of the helium detector was inserted inside to take a reading to ensure that less than 5,000 parts per million (ppm) of helium had entered the bag through a leak in the well.

As a check that the helium detector was working, the helium detector end was placed in the shroud containing helium to ensure helium remained in the casing during the test. This was always confirmed; however, no numbers from this were recorded.

The shroud was then removed from the casing to release the helium to the atmosphere, and it was unscrewed/detached from the closed well.

As required, the bentonite seals were re-hydrated if leak testing was outside the acceptable range. Soil vapour samples were collected once the pre-sampling leak test indicated that the integrity of the soil vapour monitoring wells was adequate.

SOIL VAPOUR SAMPLING PROCEDURE

Soil vapour sampling and leak testing were completed in accordance with the guidelines outlined in the CCME Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment, Volume 3 (2016).

Soil vapour samples are collected using stainless steel vacuum canisters (1.4 L Summa canisters) provided by Bureau Veritas. The vacuum within each canister is checked prior to mobilization to the field. A shut-in leak test is performed to verify that leakage within the sampling train is within acceptable limits. The sampling train is then only used if the shut-in leak testing is found to be within the acceptable limits. The soil vapour wells were purged for 20 minutes, consistent with historical sampling procedure, using an air sampling pump prior to sampling. Following purging, the well shut-off valve is closed prior to sampling to allow any vacuum to dissipate. For sampling, the canisters are connected to the soil vapour monitoring well with a flow controller wherein the sample is collected directly into the canister over a pre-determined time interval by opening the valve at the wellhead. The sample is collected until the vacuum within the canister is depleted. Collected samples are then shipped to the laboratory utilizing the appropriate chain of custody documentation. A duplicate sample was collected subsequently once every 10 samples.

TABLE A-1
GROUNDWATER SAMPLING METHOD

Borehole ID	January 2023 Sampling Event	July 2023 Sampling Event	August 2023 Sampling	October 2023 Sampling	Borehole ID	January 2023 Sampling Event	July 2023 Sampling Event	August 2023 Sampling	October 2023 Sampling	Borehole ID	January 2023 Sampling Event	July 2023 Sampling Event	August 2023 Sampling	October 2023 Sampling
BH510A	Hydrasleeve	Hydrasleeve	-	-	BH1944	Bailer	Bladder Pump (Low Flow)	-	-	BH2002	Bailer	Bailer	-	-
BH732	Hydrasleeve	Hydrasleeve	-	-	BH1945	Bailer	Bailer	-	-	BH2003	Bailer	Bailer	-	-
BH912	Bailer	Bailer	-	-	BH1946	-	Bailer	-	-	BH2004	Bailer	Bailer	-	-
BH1102	Hydrasleeve	Bladder Pump (Low Flow)	-	-	BH1947	-	Bailer	-	-	BH2005	Hydrasleeve	Bladder Pump (Low Flow)	-	Hydrasleeve
BH1704	Bailer	Bailer	-	-	BH1948	-	-	-	-	BH2006	Bailer	Bailer	-	-
BH1901	-	Hydrasleeve	-	-	BH1949	-	Bailer	-	-	BH2007	Hydrasleeve	Hydrasleeve	-	-
BH1902	-	Hydrasleeve	-	-	BH1950A	Bailer	Bailer	-	-	BH2008	Bailer	Bailer	-	-
BH1903	-	Hydrasleeve	-	-	BH1951	Bailer	Bailer	-	-	BH2009	-	-	-	-
BH1904	Hydrasleeve	Hydrasleeve	-	-	BH1952	Hydrasleeve	Hydrasleeve	-	-	BH2010	Hydrasleeve	Bladder Pump (Low Flow)	-	-
BH1905	-	Bailer	-	-	BH1953	Hydrasleeve	Hydrasleeve	-	-	BH2011	Bailer	Bailer	-	-
BH1906	Hydrasleeve	Bladder Pump (Low Flow)	Hydrasleeve	-	BH1954	Hydrasleeve	Hydrasleeve	-	Hydrasleeve	BH2012	Hydrasleeve	Hydrasleeve	-	-
BH1907	Hydrasleeve	Hydrasleeve	-	-	BH1955A	Bailer	Bailer	-	-	BH3001A	Bailer	Bailer	-	Bailer
BH1908	Hydrasleeve	Hydrasleeve	-	-	BH1956	-	-	-	-	BH3001B	Bailer	Bailer	-	Bailer
BH1909	-	-	-	-	BH1957	Hydrasleeve	Hydrasleeve	-	-	BH3001C	Bailer	Bailer	-	-
BH1910	Hydrasleeve	Hydrasleeve	-	-	BH1958	Hydrasleeve	Bladder Pump (Low Flow)	-	-	BH3002A	Bailer	Bailer	-	-
BH1911	Hydrasleeve	Hydrasleeve	-	-	BH1959	-	Hydrasleeve	-	-	BH3002B	Bailer	Bailer	-	-
BH1912	Hydrasleeve	Hydrasleeve	-	-	BH1960	-	-	-	-	BH3003A	Bailer	-	-	-
BH1913	Hydrasleeve	Hydrasleeve	-	-	BH1961	Hydrasleeve	Hydrasleeve	-	-	BH3003B	Bailer	Bailer	-	-
BH1914	Bailer	Bailer	-	-	BH1962	Bailer	Bladder Pump (Low Flow)	-	-	BH4002	Bailer	Bailer	-	-
BH1915	Bailer	Bailer	-	-	BH1963	Hydrasleeve	Bladder Pump (Low Flow)	Hydrasleeve	Hydrasleeve	BH4003A	Bailer	Bailer	-	Bailer
BH1916	Bailer	Bailer	-	-	BH1964	Bailer	Bailer	-	-	BH4003B	Bailer	Bailer	-	Bailer
BH1917	-	Bladder Pump (Low Flow)	Hydrasleeve	-	BH1965	-	-	-	-	BH4004A	Bailer	Bailer	-	-
BH1918	Hydrasleeve	Hydrasleeve	-	-	BH1966	Hydrasleeve	Hydrasleeve	-	-	BH4004B	Bailer	Bailer	-	-
BH1919	Hydrasleeve	Bladder Pump (Low Flow)	-	-	BH1967	Bailer	Bailer	-	-	BH4005	Bailer	Bailer	-	-
BH1920	-	-	-	-	BH1968	-	-	-	-	BH4006	Bailer	Bailer	-	-
BH1921	-	Hydrasleeve	-	-	BH1969	-	-	-	-	BH4007	Bailer	Bailer	-	-
BH1922	Hydrasleeve	Hydrasleeve	-	-	BH1970	-	-	-	-	BH4008A	Bailer	Bladder Pump (Low Flow)	Hydrasleeve	-
BH1923	-	Hydrasleeve	-	-	BH1971	Hydrasleeve	Hydrasleeve	-	-	BH4008B	Bailer	Bailer	-	-
BH1924	-	Bladder Pump (Low Flow)	-	-	BH1972	Bailer	Bailer	-	-	BH4009A	Bailer	Bailer	-	-
BH1925	Hydrasleeve	Hydrasleeve	-	-	BH1973	Bailer	-	-	-	BH4009B	Bailer	Bailer	-	-
BH1927	-	Hydrasleeve	-	-	BH1974	Bailer	Bailer	-	-	BH5001	Bailer	Bailer	-	-
BH1928	Hydrasleeve	Hydrasleeve	-	-	BH1975	-	-	-	-	BH5002	Bailer	Bailer	-	-
BH1929	Hydrasleeve	Hydrasleeve	-	-	BH1976	Hydrasleeve	Hydrasleeve	-	-	BH6001	Bailer	Bailer	-	-
BH1930	Hydrasleeve	Hydrasleeve	-	-	BH1977	Hydrasleeve	Hydrasleeve	-	-	BH6002	Bailer	Bailer	-	-
BH1931	-	-	-	-	BH1978	Bailer	Bailer	-	-	BH6003	Bailer	Bailer	-	Bailer
BH1932	-	-	-	-	BH1979	Bailer	Bladder Pump (Low Flow)	-	Bailer	BH6004	Bailer	Bailer	-	-
BH1933	Hydrasleeve	Hydrasleeve	-	-	BH1980	Bailer	Bailer	-	Bailer	BH6005	Bailer	Bladder Pump (Low Flow)	-	-
BH1934	Bailer	Bailer	-	-	BH1981	Hydrasleeve	Hydrasleeve	-	-	BH6006	Bailer	Bailer	-	-
BH1935	Bailer	Bailer	-	-	BH1982	Bailer	Bladder Pump (Low Flow)	-	-	EX1	-	Bailer	-	-
BH1936	Hydrasleeve	Hydrasleeve	-	-	BH1983A	Hydrasleeve	Hydrasleeve	-	-	EX2	Bailer	Bailer	-	-
BH1937	Hydrasleeve	Hydrasleeve	-	-	BH1984	Hydrasleeve	Bladder Pump (Low Flow)	-	-	EX3	Bailer	Bailer	-	-
BH1938	-	-	-	-	BH1985	Hydrasleeve	Hydrasleeve	-	-	EX4	Bailer	Bailer	-	-
BH1939	Bailer	Bailer	-	-	BH1986	-	-	-	-	EX5	Hydrasleeve	Hydrasleeve	-	-
BH1941	-	Hydrasleeve	-	-	BH1987	-	-	-	-	EX6	Bailer	Bailer	-	-
BH1942	Hydrasleeve	Hydrasleeve	-	-	BH1988	-	-	-	-	EX7	Bailer	Bailer	-	-
BH1943	-	Hydrasleeve	-	Hydrasleeve	BH2001	Bailer	Bailer	-	Bailer					

APPENDIX B

GUIDELINE SUMMARY

TABLE B-1
SUMMARY OF GROUNDWATER GUIDELINES EFFECTIVE JANUARY 1, 2023

Pathway:	Tier 1 ^a								Tier 2 ^b				
	Protection of Domestic Use Aquifer	Ecological Direct Soil Contact	Ecological Direct Soil Contact	Ecological Direct Soil Contact	Ecological Direct Soil Contact	Vapour Inhalation Tier 1	Vapour Inhalation Tier 1	Vapour Inhalation Tier 1	Vapour Inhalation Tier 1	Vapour Inhalation Tier 2	Vapour Inhalation Tier 2	Vapour Inhalation Tier 2	Vapour Inhalation Tier 2
Grain Size:	N/A	Coarse	Coarse	Fine	Fine	Coarse	Coarse	Fine	Fine	N/A	N/A	N/A	N/A
Land Use:	N/A	Commercial	Residential	Commercial	Residential	Commercial	Residential	Commercial	Residential	N/A	N/A	N/A	N/A
Tier 2 Area for Vapour Inhalation Pathway:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N1	N2	S1	S2
Units:	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Benzene	0.005	350	61	540	100	0.37	0.03	3.9	0.57	15.6	12.4	0.667	0.57
Toluene	0.024	200	59	240	82	-	45	-	-	-	-	-	-
Ethylbenzene	0.0016	110	20	150	42	-	31	-	-	-	-	-	-
Xylenes	0.02	120	31	74	21	26	2.2	-	44	-	-	51.8	44
F1	2.2	11	7.1	9.9	6.5	9.1	0.81	-	19	544	420	23.3	19
F2	1.1	3.1	1.8	3.1	1.8	17	1.5	-	-	-	-	-	-
Naphthalene	0.47	-	-	-	-	31	2.7	-	-	-	-	-	-
1,2-Dichloroethane	0.005	-	-	-	-	0.13	0.01	1.2	0.17	0.0477	0.0384	0.199	0.17

a - Alberta Tier 1 and 2 Soil and Groundwater Remediation Guidelines (AEP, 2022a/b); freshwater aquatic life pathway excluded.

b - Calculated Tier 2 guidelines for the vapour inhalation pathway (Intrinsik, 2022), for BTEX, F1, F2, 1,2-DCA and Naphthalene.

"-" - No guideline or No Guideline Required (NGR - calculated values above compound solubility limit).

"--" - Not assessed via Tier 2

N/A - Not applicable.

APPENDIX C

GROUNDWATER MONITORING DATA (REPRODUCED FROM CLIFTON, 2022d)

Table 1A: Summary of Well Monitoring

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
BH1901	5	Monitoring well has been removed from monitoring and sampling program as it has always had non-detectable concentrations and is not required for delineation.									
		26-May-20	1090.30	1090.44	23.68	-	14.10	0.00	14.24	1076.20	0/0
		3-Jan-20	1090.30	1090.44	23.69	-	14.10	0.00	14.24	1076.20	0/0
		2-May-19	1090.30	1090.44	23.69	-	14.24	0.00	14.38	1076.07	0/0
		7-Nov-18	1090.30	1090.44	23.69	-	14.26	0.00	14.40	1076.05	0/0
		19-Mar-18	1090.30	1090.44	23.70	-	14.26	0.00	14.40	1076.05	0/0
		7-Sep-17	1090.30	1090.44	23.66	-	14.27	0.00	14.41	1076.03	0/0
		26-Apr-17	1090.30	1090.44	23.70	-	14.17	0.00	14.31	1076.14	0/0
		24-Feb-17	1090.30	1090.44	23.67	-	14.22	0.00	14.36	1076.07	0/3
		31-Oct-16	1090.30	1090.44	23.70	-	14.17	0.00	14.31	1076.13	0/1
		17-Aug-16	1090.30	1090.44	23.67	-	14.16	0.00	14.30	1076.14	20/0
		4-May-16	1090.30	1090.44	23.92	-	14.26	0.00	14.40	1076.04	0/1
		16-Feb-16	1090.30	1090.44	23.67	-	14.26	0.00	14.40	1076.04	0/0
		9-Nov-15	1090.30	1090.44	23.88	-	14.17	0.00	14.31	1076.13	0/0
		1-Sep-15	1090.30	1090.44	23.67	-	14.16	0.00	14.30	1076.14	0/1
9-Jun-15	1090.30	1090.44	24.06	-	14.23	0.00	14.37	1076.07	0/1		
23-Feb-15	1090.30	1090.44	23.24	-	14.14	0.00	14.28	1076.16	10/2		
BH1902	5	Monitoring well has been removed from monitoring and sampling program as it has always had non-detectable concentrations and is not required for delineation.									
		29-May-20	1089.74	1089.92	30.00	-	13.97	0.00	14.15	1075.77	0/0
		3-Jan-20	1089.74	1089.92	29.96	-	13.97	0.00	14.15	1075.77	0/0
		2-May-19	1089.74	1089.92	29.96	-	14.09	0.00	14.27	1075.66	0/0
		7-Nov-18	1089.74	1089.92	29.96	-	14.07	0.00	14.25	1075.68	0/0
		19-Mar-18	1089.74	1089.92	29.97	-	14.12	0.00	14.30	1075.62	0/0
		7-Sep-17	1089.74	1089.92	29.99	-	14.14	0.00	14.32	1075.61	35/0
		26-Apr-17	1089.74	1089.92	29.97	-	14.02	0.00	14.20	1075.72	0/1
		24-Feb-17	1089.74	1089.92	30.01	-	14.08	0.00	14.26	1075.66	0/2
		31-Oct-16	1089.74	1089.92	29.97	-	14.03	0.00	14.21	1075.72	0/1
		17-Aug-16	1089.74	1089.92	29.98	-	14.06	0.00	14.24	1075.68	10/0
		4-May-16	1089.74	1089.92	30.21	-	14.12	0.00	14.30	1075.62	30/0
		16-Feb-16	1089.74	1089.92	30.10	-	14.04	0.00	14.22	1075.70	50/1
		9-Nov-15	1089.74	1089.92	30.27	-	14.03	0.00	14.21	1075.71	1,750/1
		1-Sep-15	1089.74	1089.92	30.33	-	14.02	0.00	14.20	1075.72	>11,100/2
9-Jun-15	1089.74	1089.92	30.40	-	14.09	0.00	14.27	1075.65	11,100/100		
18-Feb-15	1089.74	1089.92	29.69	-	14.03	0.00	14.21	1075.71	11,100/10		
BH1903	5	Monitoring well has been removed from monitoring and sampling program as it has always had non-detectable concentrations and is not required for delineation.									
		29-May-20	1090.32	1090.42	26.49	-	12.86	0.00	12.96	1077.46	0/0
		3-Jan-20	1090.32	1090.42	26.48	-	12.87	0.00	12.97	1077.46	0/0
		2-May-19	1090.32	1090.42	26.48	-	13.07	0.00	13.17	1077.26	0/0

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)	
BH1904	3	7-Nov-18	1090.32	1090.42	26.48	-	12.94	0.00	13.04	1077.38	0/0	
		19-Mar-18	-	-	-	-	-	-	-	-	-	Could Not Locate
		7-Sep-17	1090.32	1090.42	26.46	-	13.10	0.00	13.20	1077.22	25/0	
		26-Apr-17	1090.32	1090.42	26.50	-	12.99	0.00	13.09	1077.33	0/1	
		24-Feb-17	1090.32	1090.42	26.71	-	12.99	0.00	13.09	1077.33	0/0	
		31-Oct-16	1090.32	1090.42	26.49	-	13.01	0.00	13.11	1077.31	0/0	
		17-Aug-16	1090.32	1090.42	26.50	-	12.99	0.00	13.09	1077.33	30/0	
		4-May-16	1090.32	1090.42	26.81	-	13.08	0.00	13.17	1077.25	5/0	
		16-Feb-16	1090.32	1090.42	26.53	-	12.98	0.00	13.08	1077.34	0/1	
		12-Nov-15	1090.32	1090.42	26.88	-	12.93	0.00	13.03	1077.39	0/1	
		1-Sep-15	1090.32	1090.42	26.83	-	12.95	0.00	13.05	1077.37	20/3	
		9-Jun-15	1090.32	1090.42	26.83	-	12.99	0.00	13.09	1077.33	15/1	
		19-Mar-15	1090.32	1090.42	26.63	-	12.97	0.00	13.07	1077.35	55/4	
		16-Jun-22	1090.49	1090.58	16.34	-	10.13	0.00	10.22	1080.36	20/1	
		20-Sep-21	1090.49	1090.58	16.35	-	10.27	0.00	10.36	1080.23	0/0	
		27-Nov-20	1090.49	1090.58	16.36	-	10.23	0.00	10.32	1080.26	0/0	
		27-May-20	1090.49	1090.58	16.35	-	10.33	0.00	10.42	1080.16	0/0	
		3-Jan-20	1090.49	1090.58	16.35	-	10.30	0.00	10.39	1080.19	0/0	
		2-May-19	1090.49	1090.58	16.35	-	10.48	0.00	10.56	1080.02	0/0	
		7-Nov-18	1090.49	1090.58	16.35	-	10.48	0.00	10.56	1080.02	0/0	
		19-Mar-18	1090.49	1090.58	16.39	-	10.42	0.00	10.51	1080.07	10/1	
		7-Sep-17	1090.49	1090.58	16.38	-	10.36	0.00	10.45	1080.13	10/0	
		26-Apr-17	1090.49	1090.58	16.39	-	10.26	0.00	10.35	1080.23	25/1	
		24-Feb-17	1090.49	1090.58	16.40	-	10.38	0.00	10.47	1080.11	0/3	
		31-Oct-16	1090.49	1090.58	16.39	-	10.18	0.00	10.27	1080.31	0/1	
		17-Aug-16	1090.49	1090.58	16.36	-	10.36	0.00	10.45	1080.13	1/0	
		4-May-16	1090.49	1090.58	16.43	-	10.28	0.00	10.38	1080.20	5/1	
		16-Feb-16	1090.49	1090.58	16.42	-	10.22	0.00	10.31	1080.26	20/1	
		9-Nov-15	1090.49	1090.58	16.60	-	10.28	0.00	10.37	1080.21	0/1	
		1-Sep-15	1090.49	1090.58	16.39	-	10.24	0.00	10.33	1080.25	0/2	
9-Jun-15	1090.49	1090.58	16.54	-	10.32	0.00	10.41	1080.16	25/9			
12-Mar-15	1090.49	1090.58	15.90	-	10.28	0.00	10.37	1080.21	-			
24-Feb-15	1090.49	1090.58	15.51	-	10.18	0.00	10.27	1080.31	110/43			
BH1905	1	16-Jun-22	1090.43	1090.57	5.51	-	3.83	0.00	3.97	1086.60	5/7	
		20-Sep-21	1090.43	1090.57	5.55	-	3.63	0.00	3.77	1086.80	0/8	
		26-Nov-20	1090.43	1090.57	5.60	-	3.83	0.00	3.97	1086.60	1300/248	
		1-Jun-20	1090.43	1090.57	5.68	-	3.89	0.00	4.03	1086.54	165/77	
		3-Jan-20	1090.43	1090.57	5.74	-	4.00	0.00	4.13	1086.44	310/147	
		2-May-19	1090.43	1090.57	5.64	-	4.41	0.00	4.55	1086.02	310/147	
		7-Nov-18	1090.43	1090.57	5.64	-	4.24	0.00	4.38	1086.19	550/166	

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
BH1906	3	19-Mar-18	1090.43	1090.57	5.55	-	4.40	0.00	4.54	1086.03	1,060/471
		7-Sep-17	1090.43	1090.57	5.54	-	4.13	0.00	4.27	1086.30	>11,100/>2,000
		26-Apr-17	1090.43	1090.57	5.59	-	4.24	0.00	4.38	1086.19	1,800/950
		24-Feb-17	1090.43	1090.57	5.59	-	4.33	0.00	4.47	1086.10	520/350
		31-Oct-16	1090.43	1090.57	5.75	-	4.00	0.00	4.14	1086.43	650/587
		17-Aug-16	1090.43	1090.57	5.73	-	4.12	0.00	4.26	1086.31	620/500
		4-May-16	1090.43	1090.57	5.72	-	4.37	0.00	4.51	1086.06	1,300/1,235
		16-Feb-16	1090.43	1090.57	5.74	-	4.23	0.00	4.37	1086.21	350/375
		9-Nov-15	1090.43	1090.57	5.80	-	4.06	0.00	4.20	1086.37	155/210
		1-Sep-15	1090.43	1090.57	5.83	-	4.02	0.00	4.16	1086.41	590/511
		9-Jun-15	1090.43	1090.57	5.91	-	4.29	0.00	4.42	1086.15	2,000/>2,000
		24-Feb-15	1090.43	1090.57	5.93	-	4.15	0.00	4.29	1086.28	570/443
		31-May-22	1090.95	1091.03	18.65	-	11.76	0.00	11.84	1079.19	25/14
		8-Nov-21	1090.95	1091.03	18.70	-	11.74	0.00	11.82	1079.21	35/12
		7-Jun-21	1090.95	1091.03	18.75	-	11.63	0.00	11.71	1079.32	50/55
		2-Nov-20	1090.95	1091.03	19.10	-	11.77	0.00	11.85	1079.18	120/112
		26-May-20	1090.95	1091.03	19.17	-	11.76	0.00	11.84	1079.19	0/78
		14-Nov-19	1090.95	1091.03	19.22	-	11.85	0.00	11.93	1079.10	35/74
		8-May-19	1090.95	1091.03	19.24	-	12.04	0.00	12.12	1078.91	35/74
		9-Oct-18	1090.95	1091.03	19.24	-	12.07	0.00	12.15	1078.88	110/54
		20-Mar-18	1090.95	1091.03	19.23	-	11.91	0.00	11.99	1079.04	330/130
		5-Sep-17	1090.95	1091.03	19.23	-	11.96	0.00	12.04	1078.99	450/231
		1-May-17	1090.95	1091.03	19.25	-	11.85	0.00	11.93	1079.10	200/50
		16-Feb-17	1090.95	1091.03	19.24	-	11.69	0.00	11.77	1079.26	350/200
		27-Oct-16	1090.95	1091.03	19.24	-	11.76	0.00	11.84	1079.19	520/310
		16-Aug-16	1090.95	1091.03	19.26	-	11.83	0.00	11.91	1079.12	350/200
4-May-16	1090.95	1091.03	19.24	-	11.80	0.00	11.88	1079.15	380/257		
16-Feb-16	1090.95	1091.03	19.26	-	11.80	0.00	11.88	1079.15	840/301		
9-Nov-15	1090.95	1091.03	19.43	-	11.83	0.00	11.91	1079.12	320/240		
1-Sep-15	1090.95	1091.03	19.28	-	11.78	0.00	11.86	1079.17	850/329		
9-Jun-15	1090.95	1091.03	19.32	-	11.85	0.00	11.93	1079.10	510/250		
6-Apr-15	1090.95	1091.03	19.39	-	11.80	0.00	11.88	1079.15	-		
25-Feb-15	1090.95	1091.03	18.54	-	11.95	0.00	12.03	1079.00	280/128		
BH1907	3	31-May-22	1090.14	1090.22	15.16	-	11.03	0.00	11.11	1079.11	5300/>2000
		8-Nov-21	1090.14	1090.22	15.32	-	11.03	0.00	11.12	1079.11	970/857
		7-Jun-21	1090.14	1090.22	16.34	-	10.95	0.00	11.04	1079.18	60/6
		2-Nov-20	1090.14	1090.22	16.35	-	11.02	0.00	11.11	1079.11	10200/2002
		6-May-20	1090.14	1090.22	16.35	-	11.19	0.00	11.27	1078.95	>11,100/570
		14-Nov-19	1090.14	1090.22	16.35	-	11.26	0.00	11.34	1078.88	>11,100/850
		8-May-19	1090.14	1090.22	16.46	-	11.44	0.00	11.52	1078.70	>11,100/725

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
BH1908	3	9-Oct-18	1090.14	1090.22	16.46	-	11.44	0.00	11.52	1078.70	60/41
		20-Mar-18	1090.14	1090.22	16.90	-	11.40	0.00	11.48	1078.74	>11,100/>2,000
		5-Sep-17	1090.14	1090.22	16.59	-	11.36	0.00	11.45	1078.78	>11,100/>2,000
		1-May-17	1090.14	1090.22	16.87	-	11.31	0.00	11.40	1078.83	>11,100/>2,000
		16-Feb-17	1090.14	1090.22	16.92	-	11.29	0.00	11.38	1078.85	>11,100/>5,000
		27-Oct-16	1090.14	1090.22	17.18	-	11.23	0.00	11.31	1078.91	>11,000/1,711
		16-Aug-16	1090.14	1090.22	17.19	-	11.29	0.00	11.38	1078.85	>11,100/>2,000
		4-May-16	1090.14	1090.22	16.26	-	11.26	0.00	11.34	1078.88	>11,100/>2,000
		17-Feb-16	1090.14	1090.22	16.28	-	11.18	0.00	11.27	1078.96	>11,100/>2,000
		9-Nov-15	1090.14	1090.22	16.40	-	11.26	0.00	11.34	1078.88	830/809
		1-Sep-15	1090.14	1090.22	16.45	-	11.21	0.00	11.30	1078.93	>11,100/>2,000
		9-Jun-15	1090.14	1090.22	16.78	-	11.28	0.00	11.37	1078.85	>11,100/>2,000
		28-Apr-15	1090.14	1090.22	18.10	-	11.21	0.00	11.29	1078.93	11,100/2,000
		25-Feb-15	1090.14	1090.22	17.51	-	11.22	0.00	11.31	1078.91	660/460
		31-May-22	1089.44	1089.55	15.40	-	10.67	0.00	10.78	1078.77	95/72
		8-Nov-21	1089.44	1089.55	15.48	-	10.66	0.00	10.77	1078.78	170/132
		7-Jun-21	1089.44	1089.55	15.48	-	10.63	0.00	10.74	1078.81	410/213
		2-Nov-20	1089.44	1089.55	15.51	-	10.62	0.00	10.73	1078.82	630/446
		6-May-20	1089.44	1089.55	15.50	-	10.74	0.00	10.85	1078.70	300/50
		14-Nov-19	1089.44	1089.55	15.55	-	10.80	0.00	10.91	1078.64	350/174
		8-May-19	1089.44	1089.55	15.58	-	10.96	0.00	11.07	1078.48	350/174
		9-Oct-18	1089.44	1089.55	15.58	-	10.96	0.00	11.07	1078.48	210/95
		20-Mar-18	1089.44	1089.55	15.60	-	10.90	0.00	11.01	1078.54	930/380
		5-Sep-17	1089.44	1089.55	15.57	-	10.90	0.00	11.00	1078.54	390/221
		1-May-17	1089.44	1089.55	15.59	-	10.84	0.00	10.95	1078.60	300/130
		16-Feb-17	1089.44	1089.55	15.64	-	10.84	0.00	10.95	1078.60	300/150
		27-Oct-16	1089.44	1089.55	15.78	-	10.81	0.00	10.92	1078.63	250/200
		16-Aug-16	1089.44	1089.55	15.73	-	10.83	0.00	10.93	1078.61	188/104
		4-May-16	1089.44	1089.55	14.98	-	10.79	0.00	10.90	1078.65	1,200/628
		17-Feb-16	1089.44	1089.55	15.03	-	10.74	0.00	10.85	1078.70	1,800/954
9-Nov-15	1089.44	1089.55	15.12	-	10.79	0.00	10.90	1078.65	450/382		
1-Sep-15	1089.44	1089.55	15.04	-	10.77	0.00	10.88	1078.67	1,600/754		
9-Jun-15	1089.44	1089.55	15.04	-	10.85	0.00	10.96	1078.59	200/149		
23-Apr-15	1089.44	1089.55	16.00	-	10.76	0.00	10.87	1078.68	1,450/1,000		
24-Feb-15	1089.44	1089.55	16.80	-	10.73	0.00	10.84	1078.71	0/1		
BH1909	1	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.									
		14-Nov-19	1089.48	1089.56	7.29	-	-	0.00	-	-	0/0 (DRY)
		8-May-19	1089.48	1089.56	7.29	-	-	0.00	-	-	0/0 (DRY)
		9-Oct-18	1089.48	1089.56	7.29	-	-	0.00	-	-	0/0 (DRY)
		20-Mar-18	1089.48	1089.56	7.28	-	-	0.00	-	-	0/0 (DRY)

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1910	3	5-Sep-17	1089.48	1089.56	7.27	-	-	0.00	-	-	15/0 (DRY)
		1-May-17	1089.48	1089.56	7.28	-	-	0.00	-	-	30/0 (DRY)
		21-Feb-17	1089.48	1089.56	7.28	-	-	0.00	-	-	30/0 (DRY)
		27-Oct-16	1089.48	1089.56	7.25	-	-	0.00	-	-	50/0 (DRY)
		16-Aug-16	1089.48	1089.56	7.26	-	-	0.00	-	-	0/0 (DRY)
		4-May-16	1089.48	1089.56	7.27	-	-	0.00	-	-	15/0 (DRY)
		17-Feb-16	1089.48	1089.56	7.24	-	-	0.00	-	-	0/0 (DRY)
		9-Nov-15	1089.48	1089.56	7.25	-	-	0.00	-	-	0/1 (DRY)
		1-Sep-15	1089.48	1089.56	7.25	-	-	0.00	-	-	0/1 (DRY)
		9-Jun-15	1089.48	1089.56	7.27	-	-	0.00	-	-	10/0 (DRY)
		24-Feb-15	1089.48	1089.56	7.25	-	-	0.00	-	-	0/0 (DRY)
		31-May-22	1090.08	1090.23	17.68	-	11.32	0.00	11.47	1078.75	45/13
		8-Nov-21	1090.08	1090.23	17.69	-	11.31	0.00	11.46	1078.76	40/7
		7-Jun-21	1090.08	1090.23	17.70	-	11.21	0.00	11.36	1078.87	0/10
		2-Nov-20	1090.08	1090.23	17.72	-	11.27	0.00	11.42	1078.81	10/2
		6-May-20	1090.08	1090.23	17.73	-	11.36	0.00	11.51	1078.72	0/3
		14-Nov-19	1090.08	1090.23	17.79	-	11.46	0.00	11.60	1078.62	0/0
		8-May-19	1090.08	1090.23	17.86	-	11.64	0.00	11.79	1078.44	0/0
		9-Oct-18	1090.08	1090.23	17.86	-	11.67	0.00	11.81	1078.41	0/0
		20-Mar-18	1090.08	1090.23	17.80	-	11.56	0.00	11.71	1078.52	0/0
		5-Sep-17	1090.08	1090.23	17.79	-	11.60	0.00	11.74	1078.48	0/1
		1-May-17	1090.08	1090.23	17.80	-	11.49	0.00	11.63	1078.59	0/1
		16-Feb-17	1090.08	1090.23	17.84	-	11.40	0.00	11.55	1078.68	0/1
		27-Oct-16	1090.08	1090.23	17.82	-	16.42	0.00	16.57	1073.65	0/1
		16-Aug-16	1090.08	1090.23	17.87	-	11.49	0.00	11.63	1078.59	40/2
		4-May-16	1090.08	1090.23	17.81	-	11.47	0.00	11.62	1078.61	0/6
		16-Feb-16	1090.08	1090.23	17.83	-	11.39	0.00	11.54	1078.69	0/1
		9-Nov-15	1090.08	1090.23	17.87	-	11.46	0.00	11.60	1078.62	25/8
		1-Sep-15	1090.08	1090.23	17.87	-	11.42	0.00	11.57	1078.66	-
		9-Jun-15	1090.08	1090.23	17.96	-	11.49	0.00	11.64	1078.59	85/27
		20-Apr-15	1090.08	1090.23	18.61	-	11.45	0.00	11.60	1078.63	5/1
		9-Apr-15	1090.08	1090.23	18.60	-	11.49	0.00	11.63	1078.59	0/1
		26-Feb-15	1090.08	1090.23	17.04	-	11.47	0.00	11.61	1078.61	2/3
BH1911	3	31-May-22	1092.86	1092.96	18.13	-	13.86	0.00	13.96	1079.00	25/0
		8-Nov-21	1092.86	1092.96	18.14	-	13.83	0.00	13.93	1079.03	20/2
		8-Jun-21	1092.86	1092.96	18.13	-	13.83	0.00	13.93	1079.03	55/1
		2-Nov-20	1092.86	1092.96	18.14	-	13.78	0.00	13.88	1079.08	55/24
		5-May-20	1092.86	1092.96	18.14	-	13.97	0.00	14.07	1078.88	55/24
		14-Nov-19	1092.86	1092.96	18.19	-	13.93	0.00	14.03	1078.93	0/0
		8-May-19	1092.86	1092.96	18.32	-	14.13	0.00	14.23	1078.73	35/90

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1912	3	9-Oct-18	1092.86	1092.96	18.32	-	14.16	0.00	14.26	1078.70	105/100
		20-Mar-18	1092.86	1092.96	18.64	-	14.06	0.00	14.16	1078.80	80/53
		5-Sep-17	1092.86	1092.96	18.20	-	14.06	0.00	14.16	1078.80	10/97
		1-May-17	1092.86	1092.96	18.21	-	13.93	0.00	14.03	1078.93	200/55
		16-Feb-17	1092.86	1092.96	18.20	-	13.81	0.00	13.91	1079.05	400/150
		27-Oct-16	1092.86	1092.96	18.19	-	13.85	0.00	13.95	1079.01	270/130
		16-Aug-16	1092.86	1092.96	18.19	-	13.90	0.00	14.00	1078.96	60/80
		4-May-16	1092.86	1092.96	18.18	-	13.89	0.00	13.99	1078.97	135/73
		17-Feb-16	1092.86	1092.96	18.22	-	13.82	0.00	13.92	1079.04	180/57
		9-Nov-15	1092.86	1092.96	18.48	-	13.91	0.00	14.01	1078.95	35/32
		1-Sep-15	1092.86	1092.96	18.22	-	13.84	0.00	13.94	1079.02	0/21
		9-Jun-15	1092.86	1092.96	18.24	-	13.94	0.00	14.04	1078.92	25/15
		8-Apr-15	1092.86	1092.96	17.64	-	13.90	0.00	14.00	1078.96	-
		24-Jun-22	1091.04	1091.09	20.82	-	10.49	0.00	10.54	1080.55	0/1
		16-Nov-21	1091.04	1091.09	20.80	-	10.46	0.00	10.51	1080.58	100/0
		16-Jun-21	1091.04	1091.09	20.82	-	10.58	0.00	10.63	1080.46	25/2
		6-Nov-20	1091.04	1091.09	20.82	-	10.59	0.00	10.64	1080.45	0/2
		25-May-20	1091.04	1091.09	20.87	-	10.70	0.00	10.76	1080.33	0/3
		9-Dec-19	1091.04	1091.09	20.85	-	10.72	0.00	10.77	1080.32	0/0
		30-Apr-19	1091.04	1091.09	21.11	-	10.84	0.00	10.89	1080.20	0/0
		29-Oct-18	1091.04	1091.09	21.11	-	10.79	0.00	10.85	1080.24	0/0
		5-Apr-18	1091.04	1091.09	21.16	-	10.89	0.00	10.94	1080.15	0/0
		13-Sep-17	1091.04	1091.09	20.89	-	10.75	0.00	10.80	1080.29	10/28
		17-May-17	1091.04	1091.09	20.89	-	10.76	0.00	10.81	1080.28	100/30
		24-Feb-17	1091.04	1091.09	20.91	-	10.78	0.00	10.83	1080.26	320/100
		3-Nov-16	1091.04	1091.09	20.92	-	10.64	0.00	10.69	1080.40	130/73
		17-Aug-16	1091.04	1091.09	20.93	-	10.70	0.00	10.75	1080.34	100/30
		10-May-16	1091.04	1091.09	20.68	-	10.78	0.00	10.83	1080.26	300/212
		16-Feb-16	1091.04	1091.09	20.93	-	10.62	0.00	10.67	1080.42	350/124
		12-Nov-15	1091.04	1091.09	20.69	-	10.64	0.00	10.70	1080.39	360/140
8-Sep-15	1091.04	1091.09	21.08	-	10.64	0.00	10.69	1080.40	520/192		
17-Jun-15	1091.04	1091.09	21.24	-	9.75	0.00	9.80	1081.29	400/250		
9-Mar-15	1091.04	1091.09	20.21	-	10.57	0.00	10.62	1080.47	310/97		
BH1913	2	24-Jun-22	1091.05	1091.11	10.15	-	5.04	0.00	5.10	1086.01	0/1
		16-Nov-21	1091.05	1091.11	10.17	-	5.08	0.00	5.14	1085.97	0/0
		16-Jun-21	1091.05	1091.11	10.16	-	5.88	0.00	5.94	1085.17	25/0
		6-Nov-20	1091.05	1091.11	10.15	-	5.43	0.00	5.49	1085.62	0/0
		25-May-20	1091.05	1091.11	10.17	-	6.18	0.00	6.23	1084.88	90/0
		9-Dec-19	1091.05	1091.11	10.19	-	5.90	0.00	5.96	1085.15	0/0
		30-Apr-19	1091.05	1091.11	10.24	-	6.59	0.00	6.64	1084.47	0/0

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1914	1	29-Oct-18	1091.05	1091.11	10.24	-	6.33	0.00	6.39	1084.72	0/0
		5-Apr-18	1091.05	1091.11	10.24	-	6.53	0.00	6.59	1084.52	0/0
		13-Sep-17	1091.05	1091.11	10.23	-	6.25	0.00	6.31	1084.80	0/0
		17-May-17	1091.05	1091.11	10.23	-	6.25	0.00	6.31	1084.80	0/0
		24-Feb-17	1091.05	1091.11	10.23	-	5.95	0.00	6.01	1085.10	10/3
		3-Nov-16	1091.05	1091.11	10.20	-	5.96	0.00	6.01	1085.10	0/0
		17-Aug-16	1091.05	1091.11	10.26	-	5.87	0.00	5.93	1085.18	5/0
		10-May-16	1091.05	1091.11	9.15	-	6.32	0.00	6.38	1084.73	5/0
		16-Feb-16	1091.05	1091.11	9.17	-	6.07	0.00	6.13	1084.98	10/0
		12-Nov-15	1091.05	1091.11	9.15	-	5.84	0.00	5.90	1085.22	15/0
		8-Sep-15	1091.05	1091.11	9.20	-	5.90	0.00	5.96	1085.15	0/5
		17-Jun-15	1091.05	1091.11	9.18	-	6.22	0.00	6.28	1084.83	0/1
		25-Feb-15	1091.05	1091.11	9.71	-	6.07	0.00	6.12	1084.99	0/0
		24-Jun-22	1091.03	1091.08	7.12	-	4.77	0.00	4.81	1086.27	0/0
		16-Nov-21	1091.03	1091.08	7.11	-	4.87	0.00	4.91	1086.17	0/0
		16-Jun-21	1091.03	1091.08	7.12	-	5.44	0.00	5.48	1085.60	15/0
		6-Nov-20	1091.03	1091.08	7.14	-	5.08	0.00	5.12	1085.96	0/0
		25-May-20	1091.03	1091.08	7.18	-	5.79	0.00	5.83	1085.25	0/0
		9-Dec-19	1091.03	1091.08	7.23	-	5.52	0.00	5.56	1085.52	0/0
		30-Apr-19	1091.03	1091.08	7.31	-	6.22	0.00	6.27	1084.81	0/0
		29-Oct-18	1091.03	1091.08	7.31	-	5.91	0.00	5.95	1085.12	0/0
		5-Apr-18	1091.03	1091.08	7.40	-	6.21	0.00	6.25	1084.83	0/0
		13-Sep-17	1091.03	1091.08	7.42	-	5.86	0.00	5.90	1085.17	0/0
		17-May-17	1091.03	1091.08	7.42	-	5.94	0.00	5.99	1085.09	0/0
		24-Feb-17	1091.03	1091.08	7.41	-	5.61	0.00	5.65	1085.43	0/3
		3-Nov-16	1091.03	1091.08	7.42	-	5.44	0.00	5.49	1085.59	0/0
		17-Aug-16	1091.03	1091.08	7.43	-	5.43	0.00	5.47	1085.60	5/0
		10-May-16	1091.03	1091.08	7.44	-	6.01	0.00	6.05	1085.02	5/0
16-Feb-16	1091.03	1091.08	7.44	-	5.76	0.00	5.80	1085.27	0/0		
12-Nov-15	1091.03	1091.08	7.46	-	5.48	0.00	5.52	1085.55	0/0		
8-Sep-15	1091.03	1091.08	7.55	-	5.49	0.00	5.53	1085.54	0/2		
17-Jun-15	1091.03	1091.08	7.59	-	5.83	0.00	5.87	1085.20	0/1		
25-Feb-15	1091.03	1091.08	7.67	-	5.56	0.00	5.61	1085.47	0/0		
BH1915	3	24-Jun-22	1091.06	1091.10	14.45	-	10.21	0.00	10.26	1080.84	716/1228
		16-Nov-21	1091.06	1091.10	14.54	-	10.35	0.00	10.39	1080.71	6950/1571
		16-Jun-21	1091.06	1091.10	13.71	-	10.35	0.00	10.39	1080.71	6950/1571
		6-Nov-20	1091.06	1091.10	13.70	-	10.39	0.00	10.44	1080.66	8500/1604
		25-May-20	1091.06	1091.10	13.73	-	10.43	0.00	10.47	1080.63	>11,100/872
		9-Dec-19	1091.06	1091.10	15.75	-	10.79	0.00	10.84	1080.26	8,400/123
		30-Apr-19	1091.06	1091.10	16.72	-	10.69	0.00	10.73	1080.37	8,400/123

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1916	1	29-Oct-18	1091.06	1091.10	16.72	-	10.54	0.00	10.58	1080.52	8,400/123
		5-Apr-18	1091.06	1091.10	17.57	-	10.53	0.00	10.57	1080.53	10,200/64
		13-Sep-17	1091.06	1091.10	18.61	-	10.51	0.00	10.55	1080.55	>11,100/>2,000
		17-May-17	1091.06	1091.10	18.61	-	10.51	0.00	10.56	1080.54	500/150
		24-Feb-17	1091.06	1091.10	17.58	-	10.51	0.00	10.55	1080.55	1,100/620
		3-Nov-16	1091.06	1091.10	18.67	-	10.73	0.00	10.78	1080.32	>11,100/1,717
		17-Aug-16	1091.06	1091.10	18.72	-	10.49	0.00	10.53	1080.57	>11,100/>2,000
		10-May-16	1091.06	1091.10	15.93	-	10.54	0.00	10.58	1080.52	>11,100/>2,000
		16-Feb-16	1091.06	1091.10	16.42	-	10.39	0.00	10.43	1080.67	>11,100/1,880
		12-Nov-15	1091.06	1091.10	16.65	-	10.44	0.00	10.49	1080.61	>11,100/895
		8-Sep-15	1091.06	1091.10	16.91	-	10.44	0.00	10.48	1080.62	>11,100/>2,000
		17-Jun-15	1091.06	1091.10	17.70	-	10.53	0.00	10.57	1080.53	>11,100/1,800
		25-Feb-15	1091.06	1091.10	18.53	-	10.51	0.00	10.55	1080.55	11,100/1,450
		24-Jun-22	1091.06	1091.12	6.80	-	4.83	0.00	4.89	1086.23	0/0
	16-Nov-21	1091.06	1091.12	6.79	-	4.80	0.00	4.86	1086.26	0/0	
	16-Jun-21	1091.06	1091.12	6.79	-	5.80	0.00	5.85	1085.27	45/0	
	6-Nov-20	1091.06	1091.12	6.80	-	5.35	0.00	5.41	1085.71	0/0	
	25-May-20	1091.06	1091.12	6.80	-	6.29	0.00	6.34	1084.78	25/0	
	9-Dec-19	1091.06	1091.12	6.79	-	5.74	0.00	5.79	1085.33	0/0	
	30-Apr-19	1091.06	1091.12	6.80	-	6.68	0.00	6.74	1084.38	0/0	
	29-Oct-18	1091.06	1091.12	6.83	-	6.40	0.00	6.45	1084.67	0/0	
	5-Apr-18	1091.06	1091.12	6.83	-	6.59	0.00	6.64	1084.48	0/0	
	13-Sep-17	1091.06	1091.12	6.82	-	6.31	0.00	6.37	1084.75	0/0	
	17-May-17	1091.06	1091.12	6.82	-	6.24	0.00	6.29	1084.83	0/0	
	24-Feb-17	1091.06	1091.12	6.81	-	5.33	0.00	5.39	1085.73	0/7	
	3-Nov-16	1091.06	1091.12	6.79	-	5.50	0.00	5.56	1085.56	0/0	
	17-Aug-16	1091.06	1091.12	6.78	-	5.62	0.00	5.67	1085.45	1/0	
	10-May-16	1091.06	1091.12	6.79	-	6.36	0.00	6.41	1084.71	0/1	
16-Feb-16	1091.06	1091.12	6.80	-	5.98	0.00	6.03	1085.09	0/0		
12-Nov-15	1091.06	1091.12	6.88	-	5.64	0.00	5.70	1085.42	55/1		
8-Sep-15	1091.06	1091.12	6.77	-	5.70	0.00	5.76	1085.36	0/0		
17-Jun-15	1091.06	1091.12	6.79	-	6.21	0.00	6.27	1084.86	0/0		
23-Feb-15	1091.06	1091.12	6.79	-	5.82	0.00	5.88	1085.24	0/0		
BH1917	3	31-May-22	1089.39	1089.55	15.97	-	12.55	0.00	12.70	1076.84	5/0
		8-Nov-21	1089.39	1089.55	15.96	-	12.50	0.00	12.66	1076.89	5/0
		8-Jun-21	1089.39	1089.55	15.98	-	12.49	0.00	12.64	1076.90	5/0
		2-Nov-20	1089.39	1089.55	15.98	-	12.44	0.00	12.60	1076.95	5/0
		6-May-20	1089.39	1089.55	15.97	-	12.57	0.00	12.73	1076.82	0/0
		13-Nov-19	1089.39	1089.55	16.01	-	12.57	0.00	12.73	1076.82	0/0
		8-May-19	1089.39	1089.55	16.04	-	12.73	0.00	12.89	1076.66	0/0

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1918	3	5-Oct-18	1089.39	1089.55	16.04	-	12.70	0.00	12.85	1076.69	0/0
		20-Mar-18	1089.39	1089.55	16.27	-	12.72	0.00	12.88	1076.67	0/0
		7-Sep-17	1089.39	1089.55	16.02	-	12.71	0.00	12.86	1076.68	5/0
		2-May-17	1089.39	1089.55	16.05	-	12.72	0.00	12.88	1076.67	5/0
		24-Feb-17	1089.39	1089.55	16.05	-	12.76	0.00	12.92	1076.62	10/0
		27-Oct-16	1089.39	1089.55	16.02	-	12.72	0.00	12.88	1076.67	35/1
		18-Aug-16	1089.39	1089.55	16.03	-	12.78	0.00	12.94	1076.61	0/0
		3-May-16	1089.39	1089.55	16.06	-	12.77	0.00	12.93	1076.62	15/1
		18-Feb-16	1089.39	1089.55	16.09	-	12.64	0.00	12.80	1076.75	0/1
		10-Nov-15	1089.39	1089.55	16.15	-	12.70	0.00	12.85	1076.69	5/1
		2-Sep-15	1089.39	1089.55	16.33	-	12.70	0.00	12.86	1076.69	0/0
		9-Jun-15	1089.39	1089.55	16.16	-	12.74	0.00	12.90	1076.64	0/0
		7-May-15	1089.39	1089.55	16.13	-	12.74	0.00	12.89	1076.65	0/0
		31-May-22	1087.23	1087.27	12.89	-	9.41	0.00	9.44	1077.83	45/1
		8-Nov-21	1087.23	1087.27	12.94	-	9.25	0.00	9.29	1077.98	85/1
		8-Jun-21	1087.23	1087.27	12.94	-	9.34	0.00	9.37	1077.90	40/0
		5-Nov-20	1087.23	1087.27	12.96	-	9.18	0.00	9.22	1078.05	0/0
		6-May-20	1087.23	1087.27	12.97	-	9.40	0.00	9.44	1077.83	0/0
		13-Nov-19	1087.23	1087.27	13.01	-	9.40	0.00	9.43	1077.83	0/0
		8-May-19	1087.23	1087.27	13.04	-	9.53	0.00	9.56	1077.71	0/0
		5-Oct-18	1087.23	1087.27	13.04	-	9.52	0.00	9.56	1077.71	0/0
		22-Mar-18	1087.23	1087.27	13.19	-	9.55	0.00	9.59	1077.68	0/0
		7-Sep-17	1087.23	1087.27	13.03	-	9.51	0.00	9.55	1077.72	0/0
		2-May-17	1087.23	1087.27	13.05	-	9.53	0.00	9.57	1077.70	35/0
		23-Feb-17	1087.23	1087.27	13.04	-	9.56	0.00	9.60	1077.67	70/0
		27-Oct-16	1087.23	1087.27	13.06	-	9.45	0.00	9.49	1077.78	0/0
		16-Aug-16	1087.23	1087.27	13.06	-	9.48	0.00	9.52	1077.75	0/1
		5-May-16	1087.23	1087.27	13.08	-	9.54	0.00	9.58	1077.69	0/0
		18-Feb-16	1087.23	1087.27	13.13	-	9.36	0.00	9.39	1077.88	15/0
		10-Nov-15	1087.23	1087.27	13.13	-	9.41	0.00	9.45	1077.82	10/0
2-Sep-15	1087.23	1087.27	13.22	-	9.44	0.00	9.48	1077.79	0/0		
9-Jun-15	1087.23	1087.27	13.39	-	9.45	0.00	9.49	1077.78	0/0		
27-Mar-15	1087.23	1087.27	13.40	-	9.43	0.00	9.46	1077.80	0/1		
BH1919	3	31-May-22	1085.47	1085.52	15.44	-	9.74	0.00	9.79	1075.73	30/0
		8-Nov-21	1085.47	1085.52	14.33	-	9.73	0.00	9.78	1075.73	15/1
		8-Jun-21	1085.47	1085.52	15.45	-	9.75	0.00	9.80	1075.72	10/0
		2-Nov-20	1085.47	1085.52	15.44	-	9.69	0.00	9.74	1075.77	0/2
		6-May-20	1085.47	1085.52	15.44	-	9.77	0.00	9.82	1075.70	0/1
		13-Nov-19	1085.47	1085.52	15.47	-	9.77	0.00	9.82	1075.70	0/1
		8-May-19	1085.47	1085.52	15.60	-	9.98	0.00	10.03	1075.49	0/1

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)		
BH1920	1	5-Oct-18	1085.47	1085.52	15.60	-	9.92	0.00	9.97	1075.55	0/1		
		22-Mar-18	1085.47	1085.52	15.59	-	10.01	0.00	10.06	1075.46	10/0		
		7-Sep-17	1085.47	1085.52	15.48	-	10.00	0.00	10.06	1075.46	0/0		
		2-May-17	1085.47	1085.52	15.47	-	10.10	0.00	10.15	1075.37	15/0		
		21-Feb-17	1085.47	1085.52	15.49	-	10.18	0.00	10.23	1075.29	0/1		
		27-Oct-16	1085.47	1085.52	15.51	-	10.21	0.00	10.26	1075.26	45/0		
		18-Aug-16	1085.47	1085.52	15.48	-	10.23	0.00	10.28	1075.24	0/1		
		3-May-16	1085.47	1085.52	15.50	-	10.28	0.00	10.33	1075.19	0/0		
		18-Feb-16	1085.47	1085.52	15.49	-	10.16	0.00	10.21	1075.31	0/1		
		10-Nov-15	1085.47	1085.52	15.66	-	10.17	0.00	10.22	1075.30	0/1		
		2-Sep-15	1085.47	1085.52	15.70	-	10.17	0.00	10.22	1075.30	0/0		
		9-Jun-15	1085.47	1085.52	15.31	-	10.25	0.00	10.30	1075.22	0/0		
		5-May-15	1085.47	1085.52	15.54	-	10.19	0.00	10.25	1075.27	25/1		
				As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.									
				13-Nov-19	1087.16	1087.27	4.81	-	-	0.00	-	-	0/0 (DRY)
		8-May-19	1087.16	1087.27	4.81	-	-	0.00	-	-	0/0 (DRY)		
		5-Oct-18	1087.16	1087.27	4.81	-	-	0.00	-	-	0/0 (DRY)		
		22-Mar-18	1087.16	1087.27	4.81	-	-	0.00	-	-	0/0 (DRY)		
		7-Sep-17	1087.16	1087.27	4.83	-	-	0.00	-	-	0/0 (DRY)		
		2-May-17	1087.16	1087.27	4.81	-	-	0.00	-	-	25/0 (DRY)		
		23-Feb-17	1087.16	1087.27	4.84	-	-	0.00	-	-	30/0 (DRY)		
		27-Oct-16	1087.16	1087.27	4.80	-	-	0.00	-	-	25/0 (DRY)		
		16-Aug-16	1087.16	1087.27	4.79	-	-	0.00	-	-	0/2 (DRY)		
		5-May-16	1087.16	1087.27	4.83	-	-	0.00	-	-	0/0 (DRY)		
		18-Feb-16	1087.16	1087.27	4.80	-	-	0.00	-	-	0/0 (DRY)		
		10-Nov-15	1087.16	1087.27	4.79	-	-	0.00	-	-	5/0 (DRY)		
		2-Sep-15	1087.16	1087.27	4.90	-	-	0.00	-	-	0/10 (DRY)		
		9-Jun-15	1087.16	1087.27	4.79	-	-	0.00	-	-	0/0 (DRY)		
		27-Mar-15	1087.16	1087.27	4.81	-	-	0.00	-	-	0/0 (DRY)		
BH1921	3	31-May-22	1088.92	1089.11	18.67	-	11.32	0.00	11.51	1077.60	15/0		
		8-Nov-21	1088.92	1089.11	18.67	-	11.34	0.00	11.53	1077.58	25/1		
		7-Jun-21	1088.92	1089.11	18.67	-	11.23	0.00	11.42	1077.69	10/2		
		2-Nov-20	1088.92	1089.11	18.68	-	11.33	0.00	11.52	1077.59	0/0		
		7-May-20	1088.92	1089.11	18.67	-	11.45	0.00	11.63	1077.48	0/0		
		13-Nov-19	1088.92	1089.11	18.70	-	11.47	0.00	11.66	1077.45	0/0		
		25-Apr-19	1088.92	1089.11	18.71	-	11.56	0.00	11.74	1077.37	0/0		
		5-Oct-18	1088.92	1089.11	18.71	-	11.60	0.00	11.78	1077.33	0/0		
		22-Mar-18	1088.92	1089.11	18.96	-	11.57	0.00	11.76	1077.35	10/1		
		6-Sep-17	1088.92	1089.11	18.73	-	11.52	0.00	11.71	1077.40	20/0		
		3-May-17	1088.92	1089.11	18.72	-	11.44	0.00	11.63	1077.48	35/0		

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1922	3	21-Feb-17	1088.92	1089.11	18.72	-	11.47	0.00	11.65	1077.46	0/4
		31-Oct-16	1088.92	1089.11	18.71	-	11.42	0.00	11.60	1077.51	0/1
		18-Aug-16	1088.92	1089.11	18.74	-	11.47	0.00	11.66	1077.45	0/1
		5-May-16	1088.92	1089.11	18.74	-	11.51	0.00	11.70	1077.41	0/0
		18-Feb-16	1088.92	1089.11	18.76	-	11.40	0.00	11.59	1077.52	0/1
		10-Nov-15	1088.92	1089.11	18.91	-	11.41	0.00	11.59	1077.52	0/1
		1-Sep-15	1088.92	1089.11	19.08	-	11.46	0.00	11.65	1077.46	0/1
		9-Jun-15	1088.92	1089.11	18.85	-	11.49	0.00	11.68	1077.43	15/8
		28-Apr-15	1088.92	1089.11	18.88	-	11.43	0.00	11.62	1077.49	0/1
		31-May-22	1087.65	1087.76	18.40	-	10.96	0.00	11.07	1076.69	0/0
		8-Nov-21	1087.65	1087.76	18.55	-	10.89	0.00	11.00	1076.76	15/1
		7-Jun-21	1087.65	1087.76	18.41	-	10.84	0.00	10.95	1076.81	0/0
		2-Nov-20	1087.65	1087.76	18.41	-	10.84	0.00	10.95	1076.81	0/2
		7-May-20	1087.65	1087.76	18.47	-	10.94	0.00	11.05	1076.71	0/0
		13-Nov-19	1087.65	1087.76	18.47	-	10.90	0.00	11.00	1076.75	0/0
		25-Apr-19	1087.65	1087.76	18.51	-	11.11	0.00	11.21	1076.54	0/0
		5-Oct-18	1087.65	1087.76	18.51	-	11.10	0.00	11.21	1076.55	0/0
		22-Mar-18	1087.65	1087.76	18.72	-	11.09	0.00	11.20	1076.56	0/0
		5-Sep-17	1087.65	1087.76	18.50	-	11.01	0.00	11.11	1076.64	0/1
		3-May-17	1087.65	1087.76	18.51	-	11.02	0.00	11.12	1076.63	0/0
		21-Feb-17	1087.65	1087.76	18.51	-	11.06	0.00	11.17	1076.59	0/3
		31-Oct-16	1087.65	1087.76	18.52	-	10.95	0.00	11.06	1076.70	40/0
		18-Aug-16	1087.65	1087.76	18.49	-	11.04	0.00	11.15	1076.61	0/0
		5-May-16	1087.65	1087.76	18.55	-	11.05	0.00	11.15	1076.60	0/0
		18-Feb-16	1087.65	1087.76	18.51	-	10.93	0.00	11.04	1076.72	0/1
		10-Nov-15	1087.65	1087.76	18.67	-	11.05	0.00	11.16	1076.60	0/2
		1-Sep-15	1087.65	1087.76	18.57	-	11.03	0.00	11.14	1076.62	0/2
		9-Jun-15	1087.65	1087.76	17.72	-	11.20	0.00	11.31	1076.45	5/0
5-May-15	1087.65	1087.76	17.72	-	11.08	0.00	11.19	1076.57	0/0		
BH1923	3	30-May-22	1088.64	1088.70	15.23	-	10.05	0.00	10.43	1078.60	0/0
		9-Nov-21	1088.64	1088.70	15.23	-	10.03	0.00	10.43	1078.62	0/0
		7-Jun-21	1088.64	1088.70	15.23	-	9.97	0.00	10.43	1078.67	15/0
		2-Nov-20	1088.64	1088.70	15.23	-	10.07	0.00	10.43	1078.58	0/0
		6-May-20	1088.64	1088.70	15.24	-	10.16	0.00	10.43	1078.48	10/3
		14-Nov-19	1088.64	1088.70	15.24	-	10.26	0.00	10.43	1078.38	0/1
		25-Apr-19	1088.64	1088.70	15.26	-	10.39	0.00	10.43	1078.25	0/1
		5-Oct-18	1088.64	1088.70	15.26	-	10.38	0.00	10.43	1078.27	0/1
		22-Mar-18	1088.64	1088.70	15.26	-	10.38	0.00	10.43	1078.27	0/3
		5-Sep-17	1088.64	1088.70	15.25	-	10.35	0.00	10.41	1078.29	25/0
		2-May-17	1088.64	1088.70	15.26	-	10.30	0.00	10.35	1078.35	0/3

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1924	3	23-Feb-17	1088.64	1088.70	15.26	-	10.34	0.00	10.40	1078.30	110/11
		31-Oct-16	1088.64	1088.70	15.26	-	10.26	0.00	10.31	1078.39	0/3
		16-Aug-16	1088.64	1088.70	15.23	-	10.32	0.00	10.37	1078.33	5/31
		5-May-16	1088.64	1088.70	15.23	-	10.25	0.00	10.30	1078.40	45/45
		17-Feb-16	1088.64	1088.70	15.26	-	10.21	0.00	10.27	1078.43	260/113
		10-Nov-15	1088.64	1088.70	15.41	-	10.23	0.00	10.29	1078.41	80/85
		2-Sep-15	1088.64	1088.70	15.19	-	10.25	0.00	10.30	1078.39	0/23
		9-Jun-15	1088.64	1088.70	15.54	-	10.30	0.00	10.35	1078.35	25/6
		2-Apr-15	1088.64	1088.70	15.83	-	10.18	0.00	10.23	1078.46	165/8
		30-May-22	1093.31	1093.39	17.58	-	14.20	0.00	14.28	1079.11	5500/1217
		8-Nov-21	1093.31	1093.39	17.58	-	14.23	0.00	14.31	1079.08	9650/933
		8-Jun-21	1093.31	1093.39	17.61	-	14.26	0.00	14.34	1079.06	>11,100/637
		2-Nov-20	1093.31	1093.39	17.68	-	14.24	0.00	14.32	1079.07	>11,100/1150
		6-May-20	1093.31	1093.39	17.67	-	14.28	0.00	14.36	1079.03	>11,100/280
		14-Nov-19	1093.31	1093.39	17.82	-	14.31	0.00	14.39	1079.00	3,000/250
		8-May-19	1093.31	1093.39	17.95	-	14.53	0.00	14.61	1078.78	3,500/326
		9-Oct-18	1093.31	1093.39	17.95	-	14.57	0.00	14.65	1078.74	3,800/384
		20-Mar-18	1093.31	1093.39	18.40	-	14.30	0.00	14.38	1079.01	6,700/1,200
		5-Sep-17	1093.31	1093.39	18.15	-	14.47	0.00	14.54	1078.85	>11,100/1,074
		1-May-17	1093.31	1093.39	18.41	-	14.30	0.00	14.38	1079.01	>11,100/>2,000
21-Feb-17	1093.31	1093.39	18.48	-	14.30	0.00	14.37	1079.02	8,200/520		
31-Oct-16	1093.31	1093.39	19.18	-	14.17	0.00	14.25	1079.15	4,100/1,414		
17-Aug-16	1093.31	1093.39	19.21	-	14.31	0.00	14.39	1079.01	>11,100/>2,000		
4-May-16	1093.31	1093.39	18.36	-	14.28	0.00	14.36	1079.04	>11,100/848		
17-Feb-16	1093.31	1093.39	18.39	-	14.21	0.00	14.29	1079.10	6,800/850		
9-Nov-15	1093.31	1093.39	18.62	-	14.30	0.00	14.38	1079.02	8,350/1,305		
1-Sep-15	1093.31	1093.39	18.86	-	14.22	0.00	14.30	1079.09	>11,100/1,130		
9-Jun-15	1093.31	1093.39	17.65	-	14.31	0.00	14.39	1079.01	2,950/508		
6-May-15	1093.31	1093.39	17.60	-	14.30	0.00	14.38	1079.01	2,760/830		
BH1925	3	30-May-22	1091.15	1091.24	18.62	-	13.63	0.00	13.73	1077.52	0/0
		9-Nov-21	1091.15	1091.24	18.56	-	13.58	0.00	13.68	1077.57	10/1
		7-Jun-21	1091.15	1091.24	18.63	-	13.54	0.00	13.63	1077.61	270/17
		2-Nov-20	1091.15	1091.24	18.71	-	13.56	0.00	13.66	1077.59	155/40
		6-May-20	1091.15	1091.24	18.71	-	13.64	0.00	13.74	1077.51	0/0
		14-Nov-19	1091.15	1091.24	18.73	-	13.70	0.00	13.80	1077.45	0/0
		25-Apr-19	1091.15	1091.24	18.88	-	13.83	0.00	13.93	1077.32	0/0
		5-Oct-18	1091.15	1091.24	18.88	-	13.84	0.00	13.93	1077.31	0/0
		22-Mar-18	1091.15	1091.24	19.07	-	13.82	0.00	13.91	1077.33	0/0
		5-Sep-17	1091.15	1091.24	18.85	-	13.82	0.00	13.91	1077.33	15/0
2-May-17	1091.15	1091.24	18.87	-	13.76	0.00	13.85	1077.39	0/1		

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵		
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)		
BH1926*	2,3,4	27-Feb-17	1091.15	1091.24	18.86	-	13.76	0.00	13.85	1077.39	25/5		
		31-Oct-16	1091.15	1091.24	18.90	-	13.73	0.00	13.83	1077.42	150/79		
		16-Aug-16	1091.15	1091.24	18.89	-	13.77	0.00	13.87	1077.38	145/20		
		5-May-16	1091.15	1091.24	18.93	-	13.82	0.00	13.91	1077.33	185/145		
		18-Feb-16	1091.15	1091.24	18.94	-	13.64	0.00	13.73	1077.51	160/110		
		10-Nov-15	1091.15	1091.24	19.08	-	13.73	0.00	13.83	1077.42	520/329		
		2-Sep-15	1091.15	1091.24	19.37	-	13.73	0.00	13.82	1077.42	130/105		
		9-Jun-15	1091.15	1091.24	17.40	-	13.79	0.00	13.88	1077.36	180/119		
		6-May-15	1091.15	1091.24	17.41	-	13.75	0.00	13.84	1077.40	185/73		
		Well decommissioned on 14 April 2016.											
				14-Apr-16	-	-	-	-	-	0.00	-	-	
				17-Feb-16	1091.01	1091.13	14.49	-	10.22	0.00	10.34	1080.78	0/2
				9-Nov-15	1091.01	1091.13	-	-	10.32	0.00	10.44	1080.68	25/1
				1-Sep-15	1091.01	1091.13	-	-	10.46	0.00	10.58	1080.55	0/1
				9-Jun-15	1091.01	1091.13	15.80	-	10.60	0.00	10.72	1080.41	25/2
		29-Apr-15	1091.01	1091.13	16.53	-	10.08	0.00	10.20	1080.92	0/1		
		31-Mar-15	1091.01	1091.13	-	-	9.97	0.00	10.09	1081.04	60/1		
BH1927	3	30-May-22	1090.31	1090.45	21.41	-	12.41	0.00	12.92	1077.90	30/0		
		9-Nov-21	1090.31	1090.45	21.42	-	12.75	0.00	12.92	1077.56	30/1		
		8-Jun-21	1090.31	1090.45	21.46	-	12.46	0.00	12.92	1077.85	0/1		
		2-Nov-20	1090.31	1090.45	21.48	-	12.47	0.00	12.92	1077.84	0/2		
		6-May-20	1090.31	1090.45	21.48	-	12.47	0.00	12.92	1077.84	0/0		
		13-Nov-19	1090.31	1090.45	21.52	-	12.59	0.00	12.92	1077.72	0/1		
		3-May-19	1090.31	1090.45	21.54	-	12.63	0.00	12.92	1077.69	0/1		
		4-Oct-18	1090.31	1090.45	21.54	-	12.90	0.00	12.92	1077.41	0/1		
		21-Mar-18	-	-	-	-	-	0.00	-	-	-	Could Not Locate	
		6-Sep-17	1090.31	1090.45	21.52	-	12.79	0.00	12.92	1077.52	0/1		
		1-May-17	1090.31	1090.45	21.52	-	12.62	0.00	12.75	1077.69	0/1		
		17-Feb-17	1090.31	1090.45	21.56	-	12.50	0.00	12.63	1077.81	40/2		
		27-Oct-16	1090.31	1090.45	21.51	-	12.73	0.00	12.87	1077.58	30/1		
		18-Aug-16	1090.31	1090.45	21.52	-	12.65	0.00	12.79	1077.66	0/1		
		4-May-16	1090.31	1090.45	21.15	-	12.57	0.00	12.71	1077.74	0/1		
		17-Feb-16	1090.31	1090.45	21.17	-	12.50	0.00	12.64	1077.81	580/5		
		9-Nov-15	1090.31	1090.45	21.46	-	12.60	0.00	12.74	1077.71	180/67		
		1-Sep-15	1090.31	1090.45	21.49	-	12.52	0.00	12.66	1077.79	300/97		
		9-Jun-15	1090.31	1090.45	21.77	-	12.68	0.00	12.81	1077.63	30/27		
30-Apr-15	1090.31	1090.45	22.35	-	12.57	0.00	12.70	1077.74	270/71				
BH1928	3,4	1-Jun-22	1083.60	1083.72	10.66	-	8.00	0.00	8.11	1075.61	95/0		
		9-Nov-21	1083.60	1083.72	10.65	-	8.04	0.00	8.15	1075.57	120/0		

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1929	3	8-Jun-21	1083.60	1083.72	10.69	-	8.05	0.00	8.17	1075.55	640/0
		2-Nov-20	1083.60	1083.72	10.72	-	7.96	0.00	8.08	1075.64	1100/0
		4-May-20	1083.60	1083.72	16.14	-	7.97	0.00	8.08	1075.64	0/1
		13-Nov-19	1083.60	1083.72	16.14	-	8.56	0.00	8.67	1075.05	0/1
		25-Apr-19	1083.60	1083.72	16.28	-	8.73	0.00	8.84	1074.88	0/1
		4-Oct-18	1083.60	1083.72	16.28	-	8.77	0.00	8.88	1074.83	0/0
		21-Mar-18	1083.60	1083.72	16.51	-	8.68	0.00	8.80	1074.92	55/0
		6-Sep-17	1083.60	1083.72	16.37	-	8.78	0.00	8.90	1074.82	1,000/314
		3-May-17	1083.60	1083.72	16.51	-	8.55	0.00	8.66	1075.06	140/80
		17-Feb-17	1083.60	1083.72	16.53	-	8.65	0.00	8.76	1074.96	15/2
		27-Oct-16	1083.60	1083.72	16.74	-	8.52	0.00	8.64	1075.08	6,200/520
		17-Aug-16	1083.60	1083.72	16.77	-	8.52	0.00	8.64	1075.08	860/300
		3-May-16	1083.60	1083.72	15.14	-	8.65	0.00	8.77	1074.95	730/212
		17-Feb-16	1083.60	1083.72	15.17	-	8.61	0.00	8.72	1074.99	0/1
		9-Nov-15	1083.60	1083.72	15.30	-	8.69	0.00	8.80	1074.92	260/146
		1-Sep-15	1083.60	1083.72	16.69	-	8.63	0.00	8.75	1074.97	630/235
		9-Jun-15	1083.60	1083.72	14.53	-	8.70	0.00	8.82	1074.90	500/200
		4-May-15	1083.60	1083.72	14.57	-	8.68	0.00	8.79	1074.93	230/52
		1-Jun-22	1082.55	1082.67	14.50	-	7.87	0.00	7.99	1074.68	760/0
		9-Nov-21	1082.55	1082.67	14.55	-	7.78	0.00	7.90	1074.77	720/0
		8-Jun-21	1082.55	1082.67	14.52	-	8.14	0.00	8.26	1074.41	1350/0
		2-Nov-20	1082.55	1082.67	14.51	-	7.73	0.00	7.85	1074.82	2050/0
		4-May-20	1082.55	1082.67	14.56	-	7.36	0.00	7.47	1075.20	0/0
		13-Nov-19	1082.55	1082.67	13.21	-	7.62	0.00	7.74	1074.93	0/0
		25-Apr-19	1082.55	1082.67	13.33	-	7.78	0.00	7.89	1074.78	0/0
		15-Oct-18	1082.55	1082.67	13.33	-	7.81	0.00	7.93	1074.74	0/0
		21-Mar-18	1082.55	1082.67	14.89	-	7.75	0.00	7.87	1074.80	15/0
6-Sep-17	1082.55	1082.67	14.88	-	7.90	0.00	8.02	1074.65	0/1		
3-May-17	1082.55	1082.67	14.89	-	7.68	0.00	7.79	1074.88	25/1		
22-Feb-17	1082.55	1082.67	14.92	-	7.82	0.00	7.94	1074.73	60/0		
27-Oct-16	1082.55	1082.67	14.90	-	7.66	0.00	7.77	1074.90	65/0		
17-Aug-16	1082.55	1082.67	14.99	-	7.66	0.00	7.78	1074.89	10/0		
3-May-16	1082.55	1082.67	14.93	-	7.74	0.00	7.86	1074.81	5/0		
17-Feb-16	1082.55	1082.67	14.91	-	7.73	0.00	7.85	1074.83	0/0		
9-Nov-15	1082.55	1082.67	14.88	-	7.80	0.00	7.92	1074.75	5/2		
1-Sep-15	1082.55	1082.67	14.88	-	7.75	0.00	7.87	1074.80	0/2		
9-Jun-15	1082.55	1082.67	14.11	-	7.77	0.00	7.89	1074.78	0/1		
1-May-15	1082.55	1082.67	14.31	-	7.72	0.00	7.84	1074.84	0/0		
BH1930	2,3	1-Jun-22	1088.51	1088.73	17.41	-	11.21	0.00	11.42	1077.31	5/0
		9-Nov-21	1088.51	1088.73	17.40	-	11.15	0.00	11.36	1077.37	0/1

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
BH1931	2	8-Jun-21	1088.51	1088.73	17.40	-	11.19	0.00	11.40	1077.32	65/0
		2-Nov-20	1088.51	1088.73	17.41	-	11.19	0.00	11.41	1077.32	0/2
		6-May-20	1088.51	1088.73	17.40	-	11.17	0.00	11.39	1077.34	0/0
		13-Nov-19	1088.51	1088.73	17.69	-	11.20	0.00	11.42	1077.31	0/0
		3-May-19	1088.51	1088.73	17.61	-	11.27	0.00	11.49	1077.24	0/0
		5-Oct-18	1088.51	1088.73	17.61	-	11.47	0.00	11.68	1077.05	0/0
		19-Mar-18	1088.51	1088.73	17.61	-	11.44	0.00	11.66	1077.07	0/0
		6-Sep-17	1088.51	1088.73	17.51	-	11.95	0.00	12.16	1076.57	0/3
		1-May-17	1088.51	1088.73	17.50	-	11.82	0.00	12.04	1076.69	0/2
		17-Feb-17	1088.51	1088.73	17.51	-	11.44	0.00	11.66	1077.07	60/2
		27-Oct-16	1088.51	1088.73	17.49	-	11.32	0.00	11.54	1077.19	55/3
		17-Aug-16	1088.51	1088.73	17.47	-	11.29	0.00	11.51	1077.22	0/1
		5-May-16	1088.51	1088.73	17.54	-	11.57	0.00	11.79	1076.94	0/2
		17-Feb-16	1088.51	1088.73	17.54	-	11.66	0.00	11.88	1076.85	0/3
		9-Nov-15	1088.51	1088.73	17.67	-	11.64	0.00	11.85	1076.88	0/2
		1-Sep-15	1088.51	1088.73	17.66	-	11.41	0.00	11.63	1077.10	0/4
		9-Jun-15	1088.51	1088.73	17.70	-	11.68	0.00	11.90	1076.83	0/2
		30-Apr-15	1088.51	1088.73	18.31	-	11.55	0.00	11.77	1076.96	0/2
		6-Apr-15	1088.51	1088.73	17.08	-	11.86	0.00	12.07	1076.66	0/8
				As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.							
		14-Nov-19	1088.64	1088.74	7.39	-	-	0.00	-	-	0/0 (DRY)
		25-Apr-19	1088.64	1088.74	7.39	-	-	0.00	-	-	0/0 (DRY)
		5-Oct-18	1088.64	1088.74	7.39	-	-	0.00	-	-	0/0 (DRY)
		22-Mar-18	1088.64	1088.74	7.38	-	-	0.00	-	-	0/0 (DRY)
		5-Sep-17	1088.64	1088.74	7.38	-	-	0.00	-	-	15/0 (DRY)
		2-May-17	1088.64	1088.74	7.36	-	-	0.00	-	-	0/1 (DRY)
		23-Feb-17	1088.64	1088.74	7.38	-	-	0.00	-	-	35/0 (DRY)
		31-Oct-16	1088.64	1088.74	7.36	-	-	0.00	-	-	0/2 (DRY)
		16-Aug-16	1088.64	1088.74	7.36	-	-	0.00	-	-	15/1 (DRY)
		5-May-16	1088.64	1088.74	7.39	-	-	0.00	-	-	0/0 (DRY)
		17-Feb-16	1088.64	1088.74	7.36	-	-	0.00	-	-	5/2 (DRY)
		10-Nov-15	1088.64	1088.74	7.35	-	-	0.00	-	-	0/1 (DRY)
		2-Sep-15	1088.64	1088.74	7.36	-	-	0.00	-	-	0/1 (DRY)
		9-Jun-15	1088.64	1088.74	7.41	-	-	0.00	-	-	10/0 (DRY)
		30-Mar-15	1088.64	1088.74	7.35	-	-	0.00	-	-	0/0 (DRY)
BH1932	1	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.									
		14-Nov-19	1088.61	1088.69	4.20	-	-	0.00	-	-	0/0 (DRY)
		25-Apr-19	1088.61	1088.69	4.20	-	-	0.00	-	-	0/0 (DRY)
		5-Oct-18	1088.61	1088.69	4.20	-	-	0.00	-	-	0/0 (DRY)
		22-Mar-18	1088.61	1088.69	4.20	-	-	0.00	-	-	0/0 (DRY)

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1933	3	5-Sep-17	1088.61	1088.69	4.21	-	-	0.00	-	-	10/0 (DRY)
		2-May-17	1088.61	1088.69	4.17	-	-	0.00	-	-	0/1 (DRY)
		23-Feb-17	1088.61	1088.69	4.21	-	-	0.00	-	-	65/3 (DRY)
		31-Oct-16	1088.61	1088.69	4.17	-	-	0.00	-	-	0/1 (DRY)
		16-Aug-16	1088.61	1088.69	4.16	-	-	0.00	-	-	5/0 (DRY)
		5-May-16	1088.61	1088.69	4.19	-	-	0.00	-	-	0/0 (DRY)
		17-Feb-16	1088.61	1088.69	4.18	-	-	0.00	-	-	45/0 (DRY)
		10-Nov-15	1088.61	1088.69	4.18	-	-	0.00	-	-	0/1 (DRY)
		2-Sep-15	1088.61	1088.69	4.16	-	-	0.00	-	-	0/1 (DRY)
		9-Jun-15	1088.61	1088.69	4.21	-	-	0.00	-	-	10/0 (DRY)
		30-Mar-15	1088.61	1088.69	4.18	-	-	0.00	-	-	0/0 (DRY)
		30-May-22	1090.41	1090.53	17.15	-	11.02	0.00	11.14	1079.39	0/0
		9-Nov-21	1090.41	1090.53	17.17	-	11.01	0.00	10.92	1079.40	0/0
		8-Jun-21	1090.41	1090.53	17.18	-	11.01	0.00	11.13	1079.40	0/0
		4-Nov-20	1090.41	1090.53	17.18	-	11.01	0.00	11.14	1079.40	0/0
		7-May-20	1090.41	1090.53	17.17	-	11.18	0.00	11.30	1079.23	110/7
		26-Nov-19	1090.41	1090.53	17.25	-	11.17	0.00	11.30	1079.24	30/16
		2-May-19	1090.41	1090.53	17.23	-	11.25	0.00	11.37	1079.16	30/16
		11-Oct-18	1090.41	1090.53	17.23	-	11.30	0.00	11.42	1079.11	5/49
		23-Mar-18	1090.41	1090.53	17.23	-	11.33	0.00	11.46	1079.08	120/107
		7-Sep-17	1090.41	1090.53	17.23	-	11.23	0.00	11.35	1079.18	380/376
		26-Apr-17	1090.41	1090.53	17.22	-	11.15	0.00	11.28	1079.26	120/107
		27-Feb-17	1090.41	1090.53	17.22	-	11.16	0.00	11.28	1079.25	400/250
		31-Oct-16	1090.41	1090.53	17.19	-	11.10	0.00	11.22	1079.31	250/277
		17-Aug-16	1090.41	1090.53	17.22	-	11.25	0.00	11.37	1079.16	0/5
		4-May-16	1090.41	1090.53	17.23	-	11.19	0.00	11.31	1079.22	1,750/842
		16-Feb-16	1090.41	1090.53	17.30	-	11.12	0.00	11.24	1079.29	1,100/755
9-Nov-15	1090.41	1090.53	17.45	-	11.19	0.00	11.31	1079.22	15/52		
1-Sep-15	1090.41	1090.53	17.22	-	11.18	0.00	11.30	1079.23	1,650/225		
9-Jun-15	1090.41	1090.53	17.50	-	11.26	0.00	11.38	1079.15	0/14		
6-Mar-15	1090.41	1090.53	17.31	-	11.13	0.00	11.26	1079.28	135/121		
BH1934	2	30-May-22	1090.47	1090.55	8.32	-	6.63	0.00	6.71	1083.85	0/0
		9-Nov-21	1090.47	1090.55	8.35	-	6.28	0.00	6.36	1084.19	10/1
		8-Jun-21	1090.47	1090.55	8.34	-	6.46	0.00	6.54	1084.01	50/0
		4-Nov-20	1090.47	1090.55	8.38	-	5.68	0.00	5.76	1084.79	0/0
		7-May-20	1090.47	1090.55	8.39	-	5.99	0.00	6.07	1084.48	0/0
		26-Nov-19	1090.47	1090.55	8.40	-	5.86	0.00	5.94	1084.61	0/0
		2-May-19	1090.47	1090.55	8.44	-	6.35	0.00	6.43	1084.13	0/0
		11-Oct-18	1090.47	1090.55	8.44	-	5.95	0.00	6.03	1084.52	0/0
		23-Mar-18	1090.47	1090.55	8.44	-	6.72	0.00	6.80	1083.75	20/1

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1935	1	7-Sep-17	1090.47	1090.55	8.44	-	6.62	0.00	6.70	1083.85	0/1
		26-Apr-17	1090.47	1090.55	8.43	-	6.55	0.00	6.63	1083.92	0/1
		27-Feb-17	1090.47	1090.55	8.45	-	6.85	0.00	6.93	1083.62	0/3
		31-Oct-16	1090.47	1090.55	8.42	-	6.37	0.00	6.45	1084.11	0/2
		17-Aug-16	1090.47	1090.55	8.42	-	6.31	0.00	6.39	1084.16	0/1
		4-May-16	1090.47	1090.55	8.45	-	6.74	0.00	6.82	1083.73	0/1
		16-Feb-16	1090.47	1090.55	8.45	-	6.88	0.00	6.96	1083.60	0/1
		9-Nov-15	1090.47	1090.55	8.48	-	6.11	0.00	6.19	1084.36	0/1
		1-Sep-15	1090.47	1090.55	8.45	-	5.91	0.00	5.99	1084.56	15/1
		9-Jun-15	1090.47	1090.55	8.51	-	6.25	0.00	6.33	1084.22	0/1
		20-Feb-15	1090.47	1090.55	8.46	-	6.19	0.00	6.27	1084.28	0/2
		30-May-22	1090.48	1090.60	5.12	-	4.66	0.00	4.78	1085.82	0/0
		9-Nov-21	1090.48	1090.60	5.14	-	4.41	0.00	4.53	1086.07	10/0
		8-Jun-21	1090.48	1090.60	5.12	-	4.46	0.00	4.58	1086.02	0/0
		4-Nov-20	1090.48	1090.60	5.12	-	4.35	0.00	4.47	1086.13	0/0
		7-May-20	1090.48	1090.60	5.13	-	4.55	0.00	4.67	1085.94	0/0
		26-Nov-19	1090.48	1090.60	5.12	-	4.32	0.00	4.44	1086.17	0/0
		2-May-19	1090.48	1090.60	5.13	-	4.79	0.00	4.91	1085.70	0/0
		11-Oct-18	1090.48	1090.60	5.15	-	4.45	0.00	4.57	1086.03	0/0
		23-Mar-18	1090.48	1090.60	5.16	-	4.65	0.00	4.77	1085.83	5/1
		7-Sep-17	1090.48	1090.60	5.15	-	4.58	0.00	4.70	1085.90	40/1
		26-Apr-17	1090.48	1090.60	5.17	-	4.71	0.00	4.83	1085.77	10/1
		27-Feb-17	1090.48	1090.60	5.15	-	4.61	0.00	4.73	1085.87	0/2
		31-Oct-16	1090.48	1090.60	5.13	-	4.35	0.00	4.47	1086.13	0/0
		17-Aug-16	1090.48	1090.60	5.12	-	4.39	0.00	4.51	1086.09	0/0
		4-May-16	1090.48	1090.60	5.10	-	4.77	0.00	4.89	1085.71	10/0
16-Feb-16	1090.48	1090.60	5.11	-	4.56	0.00	4.68	1085.92	0/4		
9-Nov-15	1090.48	1090.60	5.15	-	4.43	0.00	4.55	1086.06	0/1		
1-Sep-15	1090.48	1090.60	5.12	-	4.44	0.00	4.56	1086.04	0/1		
9-Jun-15	1090.48	1090.60	5.16	-	4.74	0.00	4.86	1085.74	0/1		
20-Feb-15	1090.48	1090.60	5.13	-	4.59	0.00	4.71	1085.90	0/0		
BH1936	3	31-May-22	1082.18	1082.26	10.77	-	7.57	0.00	7.65	1074.61	260/0
		9-Nov-21	1082.18	1082.26	10.77	-	7.52	0.00	7.61	1074.65	180/0
		8-Jun-21	1082.18	1082.26	10.76	-	7.51	0.00	7.60	1074.66	1200/0
		2-Nov-20	1082.18	1082.26	10.77	-	7.40	0.00	7.48	1074.78	0/0
		4-May-20	1082.18	1082.26	10.79	-	7.50	0.00	7.58	1074.68	0/0
		12-Nov-19	1082.18	1082.26	10.06	-	7.33	0.00	7.42	1074.85	0/0
		25-Apr-19	1082.18	1082.26	14.68	-	7.58	0.00	7.66	1074.60	0/0
		4-Oct-18	1082.18	1082.26	14.68	-	7.57	0.00	7.65	1074.61	0/0
21-Mar-18	1082.18	1082.26	14.88	-	7.56	0.00	7.65	1074.62	25/0		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)		
BH1937	4,5	6-Sep-17	1082.18	1082.26	14.69	-	7.56	0.00	7.64	1074.62	5/0		
		3-May-17	1082.18	1082.26	14.68	-	7.50	0.00	7.59	1074.67	0/0		
		22-Feb-17	1082.18	1082.26	14.71	-	7.62	0.00	7.71	1074.56	0/0		
		27-Oct-16	1082.18	1082.26	14.67	-	7.46	0.00	7.55	1074.72	15/1		
		18-Aug-16	1082.18	1082.26	14.69	-	7.53	0.00	7.62	1074.65	0/0		
		3-May-16	1082.18	1082.26	14.70	-	7.57	0.00	7.66	1074.61	5/0		
		17-Feb-16	1082.18	1082.26	14.88	-	7.55	0.00	7.64	1074.62	0/1		
		10-Nov-15	1082.18	1082.26	14.89	-	7.59	0.00	7.67	1074.59	0/1		
		1-Sep-15	1082.18	1082.26	14.88	-	7.59	0.00	7.68	1074.59	0/3		
		9-Jun-15	1082.18	1082.26	13.68	-	7.60	0.00	7.69	1074.57	0/19		
		1-May-15	1082.18	1082.26	13.92	-	7.54	0.00	7.63	1074.64	0/1		
		31-May-22	1080.60	1080.75	10.62	-	6.08	0.00	6.23	1074.52	15/0		
		9-Nov-21	1080.60	1080.75	10.61	-	6.06	0.00	6.21	1074.54	35/0		
		8-Jun-21	1080.60	1080.75	10.64	-	6.01	0.00	6.17	1074.59	50/0		
		2-Nov-20	1080.60	1080.75	10.63	-	5.95	0.00	6.11	1074.65	230/0		
		4-May-20	1080.60	1080.75	10.64	-	6.01	0.00	6.16	1074.59	0/0		
		12-Nov-19	1080.60	1080.75	10.71	-	5.89	0.00	6.04	1074.71	0/0		
		25-Apr-19	1080.60	1080.75	11.66	-	6.25	0.00	6.40	1074.35	0/0		
		4-Oct-18	1080.60	1080.75	11.66	-	6.28	0.00	6.43	1074.32	0/0		
		21-Mar-18	1080.60	1080.75	11.75	-	6.28	0.00	6.43	1074.32	0/0		
		6-Sep-17	1080.60	1080.75	11.60	-	6.34	0.00	6.49	1074.26	5/0		
		3-May-17	1080.60	1080.75	11.63	-	6.32	0.00	6.47	1074.28	0/0		
		22-Feb-17	1080.60	1080.75	11.66	-	6.36	0.00	6.51	1074.24	0/1		
		27-Oct-16	1080.60	1080.75	11.75	-	6.31	0.00	6.46	1074.30	0/0		
		18-Aug-16	1080.60	1080.75	11.85	-	6.34	0.00	6.49	1074.27	0/1		
		3-May-16	1080.60	1080.75	11.50	-	6.41	0.00	6.56	1074.19	0/0		
		17-Feb-16	1080.60	1080.75	11.63	-	6.36	0.00	6.51	1074.24	0/1		
		10-Nov-15	1080.60	1080.75	11.67	-	6.34	0.00	6.50	1074.26	0/1		
		2-Sep-15	1080.60	1080.75	11.72	-	6.38	0.00	6.53	1074.22	0/1		
		9-Jun-15	1080.60	1080.75	11.73	-	6.40	0.00	6.55	1074.20	0/1		
		7-Apr-15	1080.60	1080.75	12.51	-	6.36	0.00	6.51	1074.25	130/1		
		BH1938	2	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.									
				12-Nov-19	1082.20	1082.30	5.10	-	-	0.00	-	-	0/0 (DRY)
		25-Apr-19	1082.20	1082.30	5.10	-	-	0.00	-	-	0/0 (DRY)		
		4-Oct-18	1082.20	1082.30	5.10	-	-	0.00	-	-	0/0 (DRY)		
		21-Mar-18	1082.20	1082.30	5.10	-	-	0.00	-	-	0/1 (DRY)		
		6-Sep-17	1082.20	1082.30	5.11	-	-	0.00	-	-	0/0 (DRY)		
		3-May-17	1082.20	1082.30	5.09	-	-	0.00	-	-	10/0 (DRY)		
		3-May-17	1082.20	1082.30	5.10	-	-	0.00	-	-	0/1 (DRY)		
		22-Feb-17	1082.20	1082.30	5.11	-	-	0.00	-	-	0/0 (DRY)		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
BH1939	4	27-Oct-16	1082.20	1082.30	5.09	-	-	0.00	-	-	60/1 (DRY)
		18-Aug-16	1082.20	1082.30	5.08	-	-	0.00	-	-	0/0 (DRY)
		3-May-16	1082.20	1082.30	5.11	-	-	0.00	-	-	0/0 (DRY)
		17-Feb-16	1082.20	1082.30	5.09	-	-	0.00	-	-	0/1 (DRY)
		10-Nov-15	1082.20	1082.30	5.08	-	-	0.00	-	-	0/0 (DRY)
		1-Sep-15	1082.20	1082.30	5.08	-	-	0.00	-	-	0/1 (DRY)
		9-Jun-15	1082.20	1082.30	5.08	-	-	0.00	-	-	0/1 (DRY)
		8-Apr-15	1082.20	1082.30	5.07	-	-	0.00	-	-	0/0 (DRY)
		31-May-22	1080.66	1080.75	8.70	-	6.16	0.00	6.26	1074.50	5/0
		9-Nov-21	1080.66	1080.75	8.70	-	6.09	0.00	6.18	1074.57	0/0
		8-Jun-21	1080.66	1080.75	8.71	-	6.03	0.00	6.13	1074.63	75/0
		2-Nov-20	1080.66	1080.75	8.69	-	5.86	0.00	5.95	1074.80	15/0
		4-May-20	1080.66	1080.75	8.70	-	6.04	0.00	6.13	1074.62	0/1
		12-Nov-19	1080.66	1080.75	8.70	-	5.88	0.00	5.98	1074.78	0/0
		25-Apr-19	1080.66	1080.75	8.73	-	6.21	0.00	6.31	1074.45	0/0
		4-Oct-18	1080.66	1080.75	8.73	-	6.24	0.00	6.33	1074.42	0/0
		21-Mar-18	1080.66	1080.75	8.73	-	6.24	0.00	6.33	1074.42	0/10
		6-Sep-17	1080.66	1080.75	8.73	-	6.25	0.00	6.35	1074.41	25/18
		3-May-17	1080.66	1080.75	8.73	-	6.26	0.00	6.35	1074.40	250/10
		22-Feb-17	1080.66	1080.75	8.70	-	6.31	0.00	6.40	1074.35	50/38
		27-Oct-16	1080.66	1080.75	8.75	-	6.52	0.00	6.61	1074.14	115/91
		18-Aug-16	1080.66	1080.75	8.70	-	6.36	0.00	6.45	1074.30	200/150
		3-May-16	1080.66	1080.75	8.71	-	6.39	0.00	6.48	1074.27	210/89
		17-Feb-16	1080.66	1080.75	8.70	-	6.59	0.00	6.68	1074.07	165/104
		10-Nov-15	1080.66	1080.75	8.73	-	6.44	0.00	6.54	1074.22	280/136
		2-Sep-15	1080.66	1080.75	8.70	-	6.41	0.00	6.50	1074.25	180/127
		9-Jun-15	1080.66	1080.75	8.70	-	6.35	0.00	6.45	1074.31	230/230
		7-Apr-15	1080.66	1080.75	8.69	-	6.30	0.00	6.39	1074.36	830/110
31-Mar-15	1080.66	1080.75	8.65	-	6.38	0.00	6.47	1074.28	450/180		
BH1940*	3	Decommissioned on 13 April 2016.									
		13-Apr-16	-	-	-	-	-	0.00	-	-	
		16-Feb-16	1090.45	1090.58	16.08	-	10.19	0.00	10.32	1080.26	20/8
		9-Nov-15	1090.45	1090.58	-	-	10.28	0.00	10.41	1080.17	70/7
		1-Sep-15	1090.45	1090.58	-	-	10.20	0.00	10.33	1080.25	580/15
		9-Jun-15	1090.45	1090.58	16.08	-	10.30	0.00	10.43	1080.15	720/12
		24-Feb-15	1090.45	1090.58	16.08	-	10.15	0.00	10.27	1080.30	2,700/23
BH1941	4,5	31-May-22	1073.80	1073.95	10.49	-	1.85	0.00	1.99	1071.95	11100/4
		9-Nov-21	1073.80	1073.95	10.50	-	1.91	0.00	2.06	1071.89	310/0
		7-Jun-21	1073.80	1073.95	10.56	-	1.86	0.00	2.00	1071.94	15/0

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
BH1942	5	2-Nov-20	1073.80	1073.95	10.56	-	2.02	0.00	2.16	1071.78	3800/1
		6-May-20	1073.80	1073.95	10.61	-	1.91	0.00	2.05	1071.89	0/0
		12-Nov-19	1073.80	1073.95	10.64	-	1.91	0.00	2.06	1071.89	0/0
		25-Apr-19	1073.80	1073.95	10.71	-	2.02	0.00	2.16	1071.78	0/0
		3-Oct-18	1073.80	1073.95	10.71	-	2.02	0.00	2.16	1071.78	0/0
		21-Mar-18	1073.80	1073.95	10.77	-	2.15	0.00	2.29	1071.65	0/1
		7-Sep-17	1073.80	1073.95	10.73	-	2.21	0.00	2.36	1071.59	15/2
		3-May-17	1073.80	1073.95	10.78	-	2.23	0.00	2.38	1071.57	0/1
		21-Feb-17	1073.80	1073.95	10.80	-	2.24	0.00	2.39	1071.56	10/3
		28-Oct-16	1073.80	1073.95	10.82	-	2.15	0.00	2.30	1071.65	0/1
		18-Aug-16	1073.80	1073.95	10.75	-	2.19	0.00	2.34	1071.61	15/1
		3-May-16	1073.80	1073.95	10.17	-	2.31	0.00	2.46	1071.49	25/0
		17-Feb-16	1073.80	1073.95	10.19	-	2.29	0.00	2.43	1071.51	0/1
		10-Nov-15	1073.80	1073.95	10.16	-	2.24	0.00	2.38	1071.56	5/0
		2-Sep-15	1073.80	1073.95	10.37	-	2.04	0.00	2.19	1071.76	0/3
		9-Jun-15	1073.80	1073.95	10.35	-	2.20	0.00	2.35	1071.60	0/1
		10-Apr-15	1073.80	1073.95	11.15	-	2.35	0.00	2.49	1071.45	90/1
		31-May-22	1068.37	1068.54	8.29	-	1.47	0.00	1.64	1066.90	25/1
		9-Nov-21	1068.37	1068.54	8.29	-	1.51	0.00	1.69	1066.86	5/0
		7-Jun-21	1068.37	1068.54	8.29	-	1.51	0.00	1.68	1066.86	3200/1
		2-Nov-20	1068.37	1068.54	8.29	-	1.46	0.00	1.63	1066.91	0/0
		6-May-20	1068.37	1068.54	8.30	-	1.45	0.00	1.63	1066.91	0/0
		12-Nov-19	1068.37	1068.54	8.31	-	1.38	0.00	1.55	1066.99	0/0
		25-Apr-19	1068.37	1068.54	8.33	-	1.66	0.00	1.84	1066.70	0/0
		3-Oct-18	1068.37	1068.54	8.33	-	1.28	0.00	1.45	1067.09	0/0
		21-Mar-18	1068.37	1068.54	8.31	-	1.44	0.00	1.62	1066.92	0/0
		7-Sep-17	1068.37	1068.54	8.34	-	1.50	0.00	1.68	1066.87	10/2
		3-May-17	1068.37	1068.54	8.34	-	1.54	0.00	1.72	1066.83	5/0
21-Feb-17	1068.37	1068.54	8.34	-	1.63	0.00	1.81	1066.74	0/4		
28-Oct-16	1068.37	1068.54	8.32	-	1.36	0.00	1.54	1067.01	0/1		
18-Aug-16	1068.37	1068.54	8.31	-	1.40	0.00	1.57	1066.97	20/0		
11-May-16	1068.37	1068.54	8.31	-	1.60	0.00	1.78	1066.77	5/0		
17-Feb-16	1068.37	1068.54	8.31	-	1.65	0.00	1.82	1066.72	0/1		
10-Nov-15	1068.37	1068.54	8.31	-	1.52	0.00	1.70	1066.85	10/1		
2-Sep-15	1068.37	1068.54	8.33	-	1.74	0.00	1.92	1066.63	0/1		
9-Jun-15	1068.37	1068.54	8.34	-	1.35	0.00	1.53	1067.01	70/1		
30-Mar-15	1068.37	1068.54	8.50	-	1.30	0.00	1.48	1067.07	7,850 Hex		
BH1943	4,5	30-May-22	1078.72	1078.91	13.46	-	6.24	0.00	6.43	1072.48	0/0
		8-Nov-21	1078.72	1078.91	13.44	-	6.32	0.00	6.51	1072.40	25/1
		7-Jun-21	1078.72	1078.91	13.44	-	6.21	0.00	6.51	1072.40	75/0

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
		2018-2019									
		6-Sep-17	1078.72	1078.91	13.26	-	6.32	0.00	6.51	1072.40	30/0
		2-May-17	1078.72	1078.91	13.29	-	6.04	0.00	6.23	1072.68	20/32
		23-Feb-17	1078.72	1078.91	13.28	-	6.21	0.00	6.40	1072.52	30/2
		31-Oct-16	1078.72	1078.91	13.28	-	6.13	0.00	6.32	1072.59	0/1
		19-Aug-16	1078.72	1078.91	13.28	-	6.07	0.00	6.26	1072.65	0/0
		3-May-16	1078.72	1078.91	13.30	-	6.27	0.00	6.46	1072.46	10/3
		17-Feb-16	1078.72	1078.91	13.30	-	6.22	0.00	6.41	1072.51	270/1
		13-Nov-15	1078.72	1078.91	13.36	-	6.20	0.00	6.39	1072.53	0/1
		2-Sep-15	1078.72	1078.91	13.37	-	6.21	0.00	6.40	1072.51	0/1
		9-Jun-15	1078.72	1078.91	13.46	-	6.31	0.00	6.50	1072.42	0/2
		9-Jun-15	1078.72	1078.91	13.46	-	6.31	0.00	6.50	1072.42	0/2
		13-Apr-15	1078.72	1078.91	13.06	-	6.22	0.00	6.41	1072.51	70/1
		Well could not be located.									
BH1944	3	30-May-22	1077.12	1077.33	7.12	-	5.55	0.00	5.76	1071.58	5/0
		8-Nov-21	1077.12	1077.33	7.22	-	5.61	0.00	5.82	1071.52	0/0
		7-Jun-21	1077.12	1077.33	7.17	-	5.41	0.00	5.62	1071.71	40/0
		2-Nov-20	1077.12	1077.33	7.19	-	5.30	0.00	5.51	1071.82	0/0
		6-May-20	1077.12	1077.33	7.23	-	5.32	0.00	5.53	1071.80	0/1
		12-Nov-19	1077.12	1077.33	7.31	-	5.62	0.00	5.83	1071.50	0/1
		25-Apr-19	1077.12	1077.33	7.34	-	5.71	0.00	5.92	1071.42	0/1
		3-Oct-18	1077.12	1077.33	7.34	-	5.78	0.00	5.99	1071.35	0/1
		22-Mar-18	1077.12	1077.33	7.35	-	5.71	0.00	5.92	1071.42	0/2
		6-Sep-17	1077.12	1077.33	7.33	-	5.80	0.00	6.02	1071.32	60/0
		2-May-17	1077.12	1077.33	7.34	-	5.51	0.00	5.72	1071.61	0/1
		23-Feb-17	1077.12	1077.33	7.34	-	5.82	0.00	6.04	1071.30	0/4
		31-Oct-16	1077.12	1077.33	7.35	-	5.54	0.00	5.75	1071.59	0/1
		18-Aug-16	1077.12	1077.33	7.35	-	5.47	0.00	5.68	1071.65	0/0
		3-May-16	1077.12	1077.33	7.43	-	6.02	0.00	6.23	1071.10	0/0
		17-Feb-16	1077.12	1077.33	7.35	-	6.25	0.00	6.46	1070.88	0/0
		10-Nov-15	1077.12	1077.33	7.38	-	5.69	0.00	5.90	1071.43	10/1
		2-Sep-15	1077.12	1077.33	7.40	-	5.99	0.00	6.20	1071.13	0/2
		9-Jun-15	1077.12	1077.33	7.56	-	6.23	0.00	6.44	1070.89	0/2
		10-Apr-15	1077.12	1077.33	7.47	-	5.92	0.00	6.13	1071.21	10/0
BH1945	5	31-May-22	1069.27	1069.36	5.19	-	2.88	0.00	2.97	1066.39	20/0
		8-Nov-21	1069.27	1069.36	5.40	-	2.81	0.00	2.90	1066.46	0/0
		7-Jun-21	1069.27	1069.36	5.33	-	2.86	0.00	2.95	1066.41	20/0
		2-Nov-20	1069.27	1069.36	5.34	-	2.68	0.00	2.77	1066.58	0/0
		5-May-20	1069.27	1069.36	5.40	-	2.46	0.00	2.55	1066.81	0/0
		12-Nov-19	1069.27	1069.36	5.60	-	2.74	0.00	2.83	1066.52	0/0
		24-Apr-19	1069.27	1069.36	5.95	-	2.84	0.00	2.93	1066.43	0/0

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1946	5	3-Oct-18	1069.27	1069.36	5.95	-	3.18	0.00	3.27	1066.09	0/0
		21-Mar-18	1069.27	1069.36	5.99	-	3.00	0.00	3.09	1066.27	0/0
		6-Sep-17	1069.27	1069.36	5.99	-	3.33	0.00	3.42	1065.94	40/0
		3-May-17	1069.27	1069.36	6.09	-	2.63	0.00	2.72	1066.64	20/0
		21-Feb-17	1069.27	1069.36	6.08	-	3.03	0.00	3.12	1066.24	0/2
		28-Oct-16	1069.27	1069.36	6.12	-	2.91	0.00	3.00	1066.36	5/1
		17-Aug-16	1069.27	1069.36	6.12	-	2.72	0.00	2.81	1066.55	0/1
		3-May-16	1069.27	1069.36	6.21	-	3.02	0.00	3.11	1066.25	0/0
		17-Feb-16	1069.27	1069.36	6.18	-	2.92	0.00	3.01	1066.35	0/1
		9-Nov-15	1069.27	1069.36	6.22	-	2.95	0.00	3.04	1066.31	0/0
		2-Sep-15	1069.27	1069.36	6.28	-	2.91	0.00	3.00	1066.36	0/0
		9-Jun-15	1069.27	1069.36	6.28	-	3.11	0.00	3.20	1066.16	0/2
		26-Mar-15	1069.27	1069.36	6.34	-	2.83	0.00	2.92	1066.44	160 Hex
		31-May-22	1064.57	1064.66	5.98	-	2.17	0.00	2.26	1062.40	45/0
		8-Nov-21	1064.57	1064.66	6.01	-	2.90	0.00	2.99	1061.67	0/0
	7-Jun-21	1064.57	1064.66	6.03	-	2.26	0.00	2.35	1062.31	60/1	
	2-Nov-20	1064.57	1064.66	6.07	-	2.98	0.00	3.07	1061.59	60/0	
	5-May-20	1064.57	1064.66	6.07	-	2.05	0.00	2.14	1062.52	0/0	
	12-Nov-19	1064.57	1064.66	6.11	-	2.50	0.00	2.59	1062.07	0/1	
	24-Apr-19	1064.57	1064.66	6.16	-	2.29	0.00	2.38	1062.28	0/1	
	3-Oct-18	1064.57	1064.66	6.16	-	3.28	0.00	3.37	1061.29	0/1	
	23-Mar-18	1064.57	1064.66	6.18	-	2.97	0.00	3.06	1061.60	0/1	
	7-Sep-17	1064.57	1064.66	6.16	-	3.26	0.00	3.35	1061.31	15/0	
	3-May-17	1064.57	1064.66	6.19	-	2.28	0.00	2.37	1062.29	0/0	
	22-Feb-17	1064.57	1064.66	6.18	-	3.19	0.00	3.28	1061.38	0/1	
	28-Oct-16	1064.57	1064.66	6.18	-	2.55	0.00	2.64	1062.02	0/0	
	18-Aug-16	1064.57	1064.66	6.19	-	2.58	0.00	2.67	1061.99	0/0	
	3-May-16	1064.57	1064.66	6.20	-	2.87	0.00	2.97	1061.69	0/1	
	17-Feb-16	1064.57	1064.66	6.19	-	3.02	0.00	3.11	1061.55	55/1	
	9-Nov-15	1064.57	1064.66	6.23	-	2.51	0.00	2.60	1062.06	10/1	
	2-Sep-15	1064.57	1064.66	6.23	-	2.28	0.00	2.37	1062.29	0/1	
	9-Jun-15	1064.57	1064.66	6.31	-	2.84	0.00	2.93	1061.73	0/1	
	30-Mar-15	1064.57	1064.66	6.33	-	2.66	0.00	2.75	1061.91	35 Hex	
BH1947	5	30-May-22	1067.72	1067.83	5.58	-	1.54	0.00	1.64	1066.19	10/0
		8-Nov-21	1067.72	1067.83	5.59	-	1.51	0.00	1.79	1066.21	15/1
		7-Jun-21	1067.72	1067.83	5.59	-	1.52	0.00	1.79	1066.20	70/0
		2-Nov-20	1067.72	1067.83	5.58	-	1.50	0.00	1.79	1066.22	0/0
		7-May-20	1067.72	1067.83	5.83	-	1.31	0.00	1.79	1066.42	0/0
		12-Nov-19	1067.72	1067.83	5.88	-	1.49	0.00	1.79	1066.24	0/1
		24-Apr-19	1067.72	1067.83	5.91	-	1.41	0.00	1.79	1066.31	0/1

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵	
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)	
BH1948	5	3-Oct-18	1067.72	1067.83	5.91	-	1.65	0.00	1.79	1066.07	0/1	
		22-Mar-18	1067.72	1067.83	5.92	-	1.69	0.00	1.79	1066.03	0/1	
		7-Sep-17	1067.72	1067.83	5.91	-	1.83	0.00	1.93	1065.89	25/2	
		2-May-17	1067.72	1067.83	5.92	-	1.36	0.00	1.46	1066.36	5,900/1	
		22-Feb-17	1067.72	1067.83	5.90	-	1.64	0.00	1.74	1066.08	66/0	
		28-Oct-16	1067.72	1067.83	5.89	-	1.72	0.00	1.82	1066.01	0/1	
		18-Aug-16	1067.72	1067.83	5.89	-	1.84	0.00	1.94	1065.89	170/1	
		3-May-16	1067.72	1067.83	5.92	-	1.58	0.00	1.68	1066.15	0/1	
		17-Feb-16	1067.72	1067.83	5.89	-	1.51	0.00	1.62	1066.21	0/0	
		9-Nov-15	1067.72	1067.83	5.92	-	1.39	0.00	1.50	1066.33	0/1	
		2-Sep-15	1067.72	1067.83	5.89	-	1.43	0.00	1.53	1066.29	0/1	
		9-Jun-15	1067.72	1067.83	5.93	-	1.44	0.00	1.54	1066.29	45/0	
		9-Apr-15	1067.72	1067.83	5.90	-	1.50	0.00	1.61	1066.22	0/1	
									Well could not be located.			
			24-Apr-19	1072.45	1072.58	7.08	-	1.81	0.00	1.94	1070.64	5/0
			3-Oct-18	1072.45	1072.58	7.08	-	1.72	0.00	1.84	1070.74	5/0
			22-Mar-18	1072.45	1072.58	7.10	-	1.78	0.00	1.90	1070.68	85/0
			7-Sep-17	1072.45	1072.58	7.09	-	2.01	0.00	2.13	1070.45	5/1
			2-May-17	1072.45	1072.58	7.09	-	1.70	0.00	1.82	1070.76	0/1
			22-Feb-17	1072.45	1072.58	7.07	-	1.87	0.00	1.99	1070.59	0/1
			28-Oct-16	1072.45	1072.58	7.08	-	1.83	0.00	1.96	1070.62	0/0
			18-Aug-16	1072.45	1072.58	7.06	-	1.67	0.00	1.80	1070.78	0/1
			3-May-16	1072.45	1072.58	7.69	-	1.90	0.00	2.03	1070.55	0/1
			17-Feb-16	1072.45	1072.58	7.70	-	1.77	0.00	1.90	1070.68	5/1
			9-Nov-15	1072.45	1072.58	7.71	-	1.79	0.00	1.91	1070.67	0/0
			2-Sep-15	1072.45	1072.58	7.71	-	1.77	0.00	1.90	1070.68	0/2
			9-Jun-15	1072.45	1072.58	7.80	-	1.89	0.00	2.02	1070.56	0/1
		9-Apr-15	1072.45	1072.58	7.81	-	1.68	0.00	1.81	1070.77	0/1	
BH1949	2		As this monitoring well has been dry over the last four sampling event it has been removed from the monitoring and sampling program.									
		13-Nov-19	1091.06	1091.10	7.43	-	-	0.00	-	-	-	0/0 (DRY)
		3-May-19	1091.06	1091.10	7.43	-	-	0.00	-	-	-	0/0 (DRY)
		4-Oct-18	1091.06	1091.10	7.43	-	-	0.00	-	-	-	0/0 (DRY)
		20-Mar-18	1091.06	1091.10	7.43	-	-	0.00	-	-	-	0/2 (DRY)
		6-Sep-17	1091.06	1091.10	7.43	-	7.43	0.00	7.46	1083.64	25/19	
		26-Apr-17	1091.06	1091.10	7.41	-	7.37	0.00	7.41	1083.69	5/7	
		21-Feb-17	1091.06	1091.10	7.44	-	-	0.00	-	-	-	0/8 (DRY)
		27-Oct-16	1091.06	1091.10	7.30	-	-	0.00	-	-	-	0/9 (DRY)
		17-Aug-16	1091.06	1091.10	7.41	-	-	0.00	-	-	-	15/46 (DRY)
		10-Jun-16	1091.06	1091.10	-	-	-	0.00	-	-	-	(DRY)
4-May-16	1091.06	1091.10	7.43	-	7.42	0.00	7.46	1083.65	30/71			

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵	
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)	
BH1950A	2	17-Feb-16	1091.06	1091.10	7.41	-	7.05	0.00	7.09	1084.01	0/21	
		9-Nov-15	1091.06	1091.10	7.44	-	6.98	0.00	7.01	1084.09	45/49	
		1-Sep-15	1091.06	1091.10	7.40	-	-	0.00	-	-	190/255 (DRY)	
		9-Jun-15	1091.06	1091.10	7.41	-	-	0.00	-	-	600/450 (DRY)	
		31-Mar-15	1091.06	1091.10	7.41	-	7.00	0.00	7.04	1084.06	810/537	
		30-May-22	1091.04	1091.15	11.03	-	9.83	0.00	9.94	1081.21	0/1	
		8-Nov-21	1091.04	1091.15	11.05	-	9.74	0.00	9.85	1081.30	0/0	
		7-Jun-21	1091.04	1091.15	11.04	-	9.59	0.00	9.70	1081.45	0/0	
		2-Nov-20	1091.04	1091.15	11.04	-	9.66	0.00	9.77	1081.39	0/0	
		6-May-20	1091.04	1091.15	11.04	-	10.03	0.00	10.14	1081.02	110/0	
		14-Nov-19	1091.04	1091.15	11.07	-	10.15	0.00	10.26	1080.90	0/1	
		25-Apr-19	1091.04	1091.15	11.07	-	10.74	0.00	10.85	1080.31	0/1	
		5-Oct-18	1091.04	1091.15	11.07	-	10.78	0.00	10.89	1080.26	0/1	
		22-Mar-18	-	-	-	-	-	0.00	-	-	-	Could Not Locate
		5-Sep-17	1091.04	1091.15	11.06	-	10.30	0.00	10.41	1080.74	10/1	
		2-May-17	1091.04	1091.15	11.07	-	10.18	0.00	10.28	1080.87	0/2	
		27-Feb-17	1091.04	1091.15	11.03	-	10.19	0.00	10.29	1080.86	35/2	
		31-Oct-16	1091.04	1091.15	11.06	-	10.23	0.00	10.33	1080.81	0/1	
		16-Aug-16	1091.04	1091.15	11.05	-	10.49	0.00	10.59	1080.56	40/0	
		4-May-16	1091.04	1091.15	11.45	-	10.22	0.00	10.32	1080.82	5/0	
18-Feb-16	1091.04	1091.15	11.06	-	10.00	0.00	10.10	1081.04	60/1			
10-Nov-15	1091.04	1091.15	11.11	-	10.14	0.00	10.24	1080.90	0/1			
2-Sep-15	1091.04	1091.15	11.02	-	10.22	0.00	10.32	1080.82	0/1			
9-Jun-15	1091.04	1091.15	11.08	-	10.31	0.00	10.42	1080.73	15/0			
5-May-15	1091.04	1091.15	11.05	-	10.30	0.00	10.40	1080.75	35/0			
BH1951	5	31-May-22	1068.02	1068.12	3.54	-	2.71	0.00	2.81	1065.31	30/0	
		28-Nov-21	1068.02	1068.12	3.55	-	2.88	0.00	2.98	1065.14	0/0	
		7-Jun-21	1068.02	1068.12	3.59	-	2.63	0.00	2.72	1065.39	45/0	
		2-Nov-20	1068.02	1068.12	3.62	-	2.60	0.00	2.70	1065.42	0/0	
		5-May-20	1068.02	1068.12	3.66	-	2.24	0.00	2.34	1065.78	0/0	
		12-Nov-19	1068.02	1068.12	3.71	-	2.59	0.00	2.69	1065.43	0/0	
		24-Apr-19	1068.02	1068.12	3.71	-	2.36	0.00	2.45	1065.66	0/0	
		3-Oct-18	1068.02	1068.12	3.71	-	2.96	0.00	3.06	1065.06	0/0	
		21-Mar-18	1068.02	1068.12	3.82	-	2.92	0.00	3.01	1065.11	0/1	
		6-Sep-17	1068.02	1068.12	3.80	-	3.12	0.00	3.22	1064.90	0/1	
		3-May-17	1068.02	1068.12	3.85	-	2.08	0.00	2.18	1065.94	0/1	
		22-Feb-17	1068.02	1068.12	3.86	-	1.93	0.00	2.03	1066.09	0/1	
		28-Oct-16	1068.02	1068.12	3.84	-	2.58	0.00	2.67	1065.44	0/1	
		18-Aug-16	1068.02	1068.12	3.83	-	1.87	0.00	1.97	1066.15	0/0	
3-May-16	1068.02	1068.12	3.55	-	2.78	0.00	2.88	1065.24	0/0			

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵	
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)	
BH1952	2,3	17-Feb-16	1068.02	1068.12	3.53	-	2.72	0.00	2.82	1065.30	0/1	
		9-Nov-15	1068.02	1068.12	3.58	-	2.64	0.00	2.74	1065.38	20/0	
		2-Sep-15	1068.02	1068.12	3.48	-	2.12	0.00	2.22	1065.90	0/2	
		9-Jun-15	1068.02	1068.12	4.08	-	2.86	0.00	2.96	1065.16	0/1	
		30-Mar-15	1068.02	1068.12	4.10	-	2.52	0.00	2.62	1065.50	0/0	
		31-May-22	1090.81	1090.99	18.19	-	11.64	0.00	11.82	1079.17	65/1	
		9-Nov-21	1090.81	1090.99	18.21	-	11.50	0.00	11.68	1079.31	20/1	
		8-Jun-21	1090.81	1090.99	18.24	-	11.72	0.00	11.89	1079.10	0/1	
		2-Nov-20	1090.81	1090.99	18.26	-	11.78	0.00	11.96	1079.03	0/2	
		6-May-20	1090.81	1090.99	18.31	-	11.84	0.00	12.01	1078.98	0/1	
		13-Nov-19	1090.81	1090.99	18.45	-	11.76	0.00	11.94	1079.05	10/1	
		3-May-19	1090.81	1090.99	18.67	-	11.86	0.00	12.03	1078.96	10/1	
		4-Oct-18	1090.81	1090.99	18.67	-	12.09	0.00	12.27	1078.72	10/1	
		19-Mar-18	1090.81	1090.99	18.67	-	11.93	0.00	12.10	1078.89	420/0	
		6-Sep-17	1090.81	1090.99	18.48	-	11.95	0.00	12.13	1078.86	0/1	
		1-May-17	1090.81	1090.99	18.48	-	11.79	0.00	11.97	1079.02	0/1	
		17-Feb-17	1090.81	1090.99	18.50	-	11.73	0.00	11.91	1079.08	0/4	
		27-Oct-16	1090.81	1090.99	18.49	-	11.88	0.00	12.05	1078.94	0/2	
		17-Aug-16	1090.81	1090.99	18.53	-	11.78	0.00	11.96	1079.03	0/2	
		4-May-16	1090.81	1090.99	18.58	-	11.83	0.00	12.01	1078.98	0/0	
		17-Feb-16	1090.81	1090.99	18.58	-	11.88	0.00	12.05	1078.93	0/2	
		9-Nov-15	1090.81	1090.99	18.74	-	11.85	0.00	12.03	1078.96	25/1	
1-Sep-15	1090.81	1090.99	18.89	-	11.77	0.00	11.95	1079.04	0/1			
9-Jun-15	1090.81	1090.99	16.52	-	11.83	0.00	12.01	1078.98	0/1			
4-May-15	1090.81	1090.99	16.86	-	11.79	0.00	11.96	1079.03	35/2			
BH1953	3	31-May-22	1091.28	1091.34	18.63	-	14.84	0.00	14.90	1076.44	30/0	
		9-Nov-21	1091.28	1091.34	18.64	-	14.72	0.00	14.78	1076.56	0/0	
		8-Jun-21	1091.28	1091.34	18.64	-	14.76	0.00	14.82	1076.52	0/1	
		5-Nov-20	1091.28	1091.34	18.64	-	14.65	0.00	14.71	1076.63	0/0	
		6-May-20	1091.28	1091.34	18.64	-	14.79	0.00	14.85	1076.49	500/0	
		13-Nov-19	1091.28	1091.34	18.18	-	14.81	0.00	14.87	1076.47	0/1	
		8-May-19	1091.28	1091.34	18.68	-	14.99	0.00	15.05	1076.29	0/1	
		5-Oct-18	1091.28	1091.34	18.68	-	14.94	0.00	14.99	1076.35	0/1	
		23-Mar-18	-	-	-	-	-	0.00	-	-	-	Could Not Locate
		7-Sep-17	1091.28	1091.34	18.67	-	14.96	0.00	15.02	1076.32	0/1	
		2-May-17	1091.28	1091.34	18.68	-	15.01	0.00	15.07	1076.28	20/0	
		23-Feb-17	1091.28	1091.34	18.68	-	15.07	0.00	15.13	1076.21	0/1	
		27-Oct-16	1091.28	1091.34	18.68	-	14.96	0.00	15.02	1076.32	20/0	
		16-Aug-16	1091.28	1091.34	18.65	-	15.01	0.00	15.07	1076.27	0/1	
		5-May-16	1091.28	1091.34	18.78	-	15.05	0.00	15.11	1076.24	0/0	

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
BH1954	3,4,5	18-Feb-16	1091.28	1091.34	18.69	-	14.90	0.00	14.96	1076.39	0/1
		10-Nov-15	1091.28	1091.34	18.77	-	14.94	0.00	15.00	1076.34	0/1
		2-Sep-15	1091.28	1091.34	19.02	-	14.94	0.00	15.00	1076.34	0/1
		9-Jun-15	1091.28	1091.34	18.87	-	14.97	0.00	15.03	1076.32	0/1
		26-Mar-15	1091.28	1091.34	18.90	-	14.95	0.00	15.01	1076.34	0/2
		31-May-22	1076.76	1076.90	10.70	-	3.30	0.00	3.44	1073.46	20/0
		8-Nov-21	1076.76	1076.90	10.69	-	3.36	0.00	3.49	1073.40	0/0
		8-Jun-21	1076.76	1076.90	10.71	-	3.29	0.00	3.43	1073.47	15/0
		2-Nov-20	1076.76	1076.90	10.68	-	3.24	0.00	3.38	1073.52	0/0
		4-May-20	1076.76	1076.90	10.68	-	3.23	0.00	3.36	1073.53	0/0
		13-Nov-19	1076.76	1076.90	10.94	-	3.23	0.00	3.37	1073.53	0/0
		24-Apr-19	1076.76	1076.90	11.78	-	3.52	0.00	3.65	1073.25	0/0
		4-Oct-18	1076.76	1076.90	11.78	-	3.52	0.00	3.65	1073.25	0/0
		21-Mar-18	1076.76	1076.90	12.07	-	3.46	0.00	3.59	1073.30	0/0
		6-Sep-17	1076.76	1076.90	12.07	-	3.58	0.00	3.72	1073.18	0/0
		3-May-17	1076.76	1076.90	12.16	-	3.33	0.00	3.46	1073.43	0/0
		22-Feb-17	1076.76	1076.90	12.19	-	3.46	0.00	3.59	1073.31	230/3
		28-Oct-16	1076.76	1076.90	12.24	-	3.36	0.00	3.49	1073.40	0/0
		17-Aug-16	1076.76	1076.90	12.24	-	3.31	0.00	3.45	1073.45	0/0
		3-May-16	1076.76	1076.90	9.36	-	3.25	0.00	3.38	1073.51	5/1
17-Feb-16	1076.76	1076.90	9.36	-	3.27	0.00	3.40	1073.50	0/1		
9-Nov-15	1076.76	1076.90	9.30	-	3.29	0.00	3.42	1073.47	0/0		
1-Sep-15	1076.76	1076.90	9.40	-	3.23	0.00	3.37	1073.53	0/1		
9-Jun-15	1076.76	1076.90	9.43	-	3.25	0.00	3.39	1073.51	0/1		
19-Mar-15	1076.76	1076.90	13.42	-	3.48	0.00	3.62	1073.28	0/0		
BH1955	5	Well decommissioned on 31 March 2016.									
		17-Feb-16	1074.04	1074.15	5.94	-	2.53	0.00	2.63	1071.51	0/1
		9-Nov-15	1074.04	1074.15	-	-	2.62	0.00	2.73	1071.42	0/1
		1-Sep-15	1074.04	1074.15	-	-	2.77	0.00	2.88	1071.27	0/1
		9-Jun-15	1074.04	1074.15	7.39	-	4.44	0.00	4.55	1069.60	0/1
		19-Mar-15	1074.04	1074.15	8.89	-	2.39	0.00	2.49	1071.66	20 Hex
BH1955A	5	1-Jun-22	1073.95	1074.13	8.37	-	2.13	0.00	2.32	1071.82	0/0
		8-Nov-21	1073.95	1074.13	8.52	-	2.24	0.00	2.42	1071.71	0/0
		8-Jun-21	1073.95	1074.13	8.46	-	2.15	0.00	2.33	1071.80	55/0
		2-Nov-20	1073.95	1074.13	8.23	-	2.18	0.00	2.37	1071.76	15/0
		6-May-20	1073.95	1074.13	8.08	-	2.04	0.00	2.22	1071.91	0/0
		13-Nov-19	1073.95	1074.13	8.38	-	2.08	0.00	2.27	1071.86	0/1
		24-Apr-19	1073.95	1074.13	8.68	-	2.13	0.00	2.31	1071.82	0/1
		4-Oct-18	1073.95	1074.13	8.68	-	2.28	0.00	2.46	1071.67	0/1

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵		
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)		
BH1956	3	21-Mar-18	1073.95	1074.13	9.24	-	2.28	0.00	2.47	1071.66	10/1		
		6-Sep-17	1073.95	1074.13	9.23	-	2.43	0.00	2.62	1071.52	15/0		
		3-May-17	1073.95	1074.13	9.69	-	2.03	0.00	2.21	1071.92	0/1		
		22-Feb-17	1073.95	1074.13	9.73	-	2.18	0.00	2.36	1071.77	0/2		
		27-Oct-16	1073.95	1074.13	10.54	-	2.10	0.00	2.28	1071.85	0/1		
		17-Aug-16	1073.95	1074.13	10.51	-	2.06	0.00	2.24	1071.89	0/1		
		3-May-16	1073.95	1074.13	9.41	-	2.54	0.00	2.72	1071.41	15/1		
		1-Apr-16											
		Installed to replace BH1955 on 1 April 2016.											
				30-May-22	1084.76	1084.92	13.12	-	10.60	0.00	10.76	1074.16	0/1
				9-Nov-21	1084.76	1084.92	13.20	-	9.04	0.00	9.19	1075.73	35/0
				7-Jun-21	1084.76	1084.92	13.28	-	9.03	0.00	9.19	1075.73	40/0
				2-Nov-20	1084.76	1084.92	13.30	-	8.90	0.00	9.06	1075.86	0/0
				6-May-20	1084.76	1084.92	13.47	-	9.02	0.00	9.18	1075.74	0/0
				12-Dec-19	1084.76	1084.92	13.64	-	8.89	0.00	9.04	1075.88	10/1
				25-Apr-19	1084.76	1084.92	14.32	-	9.18	0.00	9.33	1075.59	10/1
				5-Oct-18	1084.76	1084.92	14.31	-	9.15	0.00	9.31	1075.61	10/1
				22-Mar-18	1084.76	1084.92	14.31	-	9.20	0.00	9.36	1075.56	10/0
				6-Sep-17	1084.76	1084.92	14.06	-	9.12	0.00	9.28	1075.64	10/0
				2-May-17	1084.76	1084.92	14.12	-	9.21	0.00	9.37	1075.55	0/0
				27-Feb-17	1084.76	1084.92	14.13	-	9.29	0.00	9.45	1075.47	0/1
				31-Oct-16	1084.76	1084.92	14.14	-	9.24	0.00	9.40	1075.52	80/0
		16-Aug-16	1084.76	1084.92	14.10	-	9.33	0.00	9.49	1075.43	6/0		
		3-May-16	1084.76	1084.92	14.18	-	9.38	0.00	9.54	1075.38	10/1		
		18-Feb-16	1084.76	1084.92	14.21	-	9.30	0.00	9.46	1075.46	0/1		
		10-Nov-15	1084.76	1084.92	14.33	-	9.29	0.00	9.44	1075.48	0/1		
		2-Sep-15	1084.76	1084.92	14.37	-	9.33	0.00	9.49	1075.43	0/1		
		9-Jun-15	1084.76	1084.92	13.55	-	9.38	0.00	9.54	1075.38	5/0		
		5-May-15	1084.76	1084.92	13.58	-	9.32	0.00	9.48	1075.44	20/0		
BH1957	3	16-Jun-22	1089.87	1089.98	13.94	-	9.96	0.00	10.07	1079.91	20/0		
		20-Sep-21	1089.87	1089.98	13.95	-	9.98	0.00	10.09	1079.89	70/0		
		20-Sep-21	1089.87	1089.98	13.95	-	9.98	0.00	10.09	1079.89	70/0		
		27-Nov-20	1089.87	1089.98	13.95	-	9.97	0.00	10.08	1079.90	0/0		
		29-May-20	1089.87	1089.98	13.96	-	10.10	0.00	10.20	1079.78	0/0		
		3-Jan-20	1089.87	1089.98	13.96	-	10.05	0.00	10.16	1079.82	0/0		
		2-May-19	1089.87	1089.98	13.96	-	10.25	0.00	10.35	1079.63	0/0		
		7-Nov-18	1089.87	1089.98	13.96	-	10.25	0.00	10.35	1079.63	0/0		
		19-Mar-18	1089.87	1089.98	14.01	-	10.24	0.00	10.35	1079.63	0/0		
		7-Sep-17	1089.87	1089.98	13.97	-	10.18	0.00	10.29	1079.69	0/1		
		26-Apr-17	1089.87	1089.98	14.00	-	10.12	0.00	10.23	1079.75	0/1		
		24-Feb-17	1089.87	1089.98	13.99	-	10.18	0.00	10.29	1079.69	0/3		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
BH1958	3	31-Oct-16	1089.87	1089.98	13.97	-	10.08	0.00	10.19	1079.79	0/2
		17-Aug-16	1089.87	1089.98	14.00	-	10.17	0.00	10.28	1079.70	10/0
		4-May-16	1089.87	1089.98	14.02	-	10.13	0.00	10.23	1079.75	15/1
		16-Feb-16	1089.87	1089.98	14.00	-	10.05	0.00	10.16	1079.82	0/1
		9-Nov-15	1089.87	1089.98	13.99	-	10.09	0.00	10.20	1079.78	0/0
		1-Sep-15	1089.87	1089.98	14.05	-	10.06	0.00	10.17	1079.81	15/2
		9-Jun-15	1089.87	1089.98	14.22	-	10.15	0.00	10.25	1079.73	0/1
		17-Mar-15	1089.87	1089.98	13.26	-	10.04	0.00	10.15	1079.83	0/1
		16-Jun-22	1090.26	1090.41	14.49	-	9.70	0.00	9.85	1080.55	15/0
		20-Sep-21	1090.26	1090.41	14.73	-	9.68	0.00	9.83	1080.57	0/0
		26-Nov-20	1090.26	1090.41	14.55	-	9.72	0.00	9.88	1080.53	0/0
		26-May-20	1090.26	1090.41	14.73	-	9.80	0.00	9.95	1080.46	0/0
		3-Jan-20	1090.26	1090.41	14.73	-	9.80	0.00	9.95	1080.45	0/0
		2-May-19	1090.26	1090.41	14.73	-	9.99	0.00	10.14	1080.27	0/0
		7-Nov-18	1090.26	1090.41	14.73	-	9.99	0.00	10.14	1080.27	0/0
		19-Mar-18	1090.26	1090.41	15.26	-	9.99	0.00	10.14	1080.27	50/1
		7-Sep-17	1090.26	1090.41	14.74	-	9.92	0.00	10.07	1080.34	0/0
		26-Apr-17	1090.26	1090.41	15.26	-	9.87	0.00	10.02	1080.39	0/0
		24-Feb-17	1090.26	1090.41	14.77	-	9.96	0.00	10.12	1080.29	0/3
		31-Oct-16	1090.26	1090.41	14.79	-	9.83	0.00	9.98	1080.42	0/1
		17-Aug-16	1090.26	1090.41	14.77	-	9.93	0.00	10.08	1080.33	10/0
		4-May-16	1090.26	1090.41	12.61	-	9.84	0.00	10.00	1080.41	10/1
		16-Feb-16	1090.26	1090.41	12.54	-	9.75	0.00	9.90	1080.50	0/2
		9-Nov-15	1090.26	1090.41	12.57	-	9.80	0.00	9.95	1080.45	0/0
		1-Sep-15	1090.26	1090.41	12.56	-	9.77	0.00	9.92	1080.49	0/2
		9-Jun-15	1090.26	1090.41	12.70	-	9.89	0.00	10.05	1080.36	5/0
		14-Mar-15	1090.26	1090.41	14.90	-	9.93	0.00	10.08	1080.33	0/0
		23-Feb-15	1090.26	1090.41	14.05	-	9.90	0.00	10.05	1080.36	0/2
BH1959	3	The monitoring well was located beneath a staging area and could not be measured or tested.									
		20-Sep-21	1090.27	1090.42	15.22	-	9.17	0.00	9.32	1081.10	145/0
		27-Nov-20	1090.27	1090.42	15.19	-	9.24	0.00	9.39	1081.03	0/0
		29-May-20	1090.27	1090.42	15.22	-	9.40	0.00	9.55	1080.87	0/0
		3-Jan-20	1090.27	1090.42	15.21	-	9.38	0.00	9.53	1080.89	0/0
		2-May-19	1090.27	1090.42	15.21	-	9.51	0.00	9.66	1080.76	0/0
		7-Nov-18	1090.27	1090.42	15.24	-	9.51	0.00	9.66	1080.76	0/0
		19-Mar-18	-	-	-	-	-	0.00	-	-	Could Not Locate
		7-Sep-17	1090.27	1090.42	15.25	-	9.49	0.00	9.64	1080.78	25/0
		26-Apr-17	1090.27	1090.42	14.77	-	9.41	0.00	9.56	1080.86	45/1
		24-Feb-17	1090.27	1090.42	15.24	-	9.48	0.00	9.62	1080.79	0/2
		31-Oct-16	1090.27	1090.42	15.26	-	9.40	0.00	9.55	1080.87	90/2

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵	
											HEX/IBL (ppm)	
BH1960	1	17-Aug-16	1090.27	1090.42	15.23	-	9.47	0.00	9.62	1080.80	10/0	
		4-May-16	1090.27	1090.42	15.29	-	9.48	0.00	9.63	1080.79	15/1	
		16-Feb-16	1090.27	1090.42	15.30	-	9.41	0.00	9.55	1080.86	0/0	
		12-Nov-15	1090.27	1090.42	15.46	-	9.44	0.00	9.59	1080.83	0/0	
		1-Sep-15	1090.27	1090.42	15.43	-	9.41	0.00	9.56	1080.86	25/2	
		9-Jun-15	1090.27	1090.42	15.62	-	9.50	0.00	9.65	1080.76	15/0	
		19-Mar-15	1090.27	1090.42	15.40	-	9.48	0.00	9.63	1080.79	105/1	
		As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.										
		3-Jan-20	1090.26	1090.42	3.28	-	-	0.00	-	-	-	0/0 (DRY)
		2-May-19	1090.26	1090.42	3.28	-	-	0.00	-	-	-	0/0 (DRY)
		7-Nov-18	1090.26	1090.42	3.28	-	-	0.00	-	-	-	0/0 (DRY)
		19-Mar-18	-	-	-	-	-	0.00	-	-	-	Could Not Locate
		7-Sep-17	1090.26	1090.42	3.31	-	-	0.00	-	-	-	25/0 (DRY)
		26-Apr-17	1090.26	1090.42	3.28	-	-	0.00	-	-	-	0/0 (DRY)
		24-Feb-17	1090.26	1090.42	3.30	-	-	0.00	-	-	-	0/2 (DRY)
		31-Oct-16	1090.26	1090.42	3.28	-	-	0.00	-	-	-	0/0 (DRY)
		17-Aug-16	1090.26	1090.42	3.27	-	-	0.00	-	-	-	20/0 (DRY)
		4-May-16	1090.26	1090.42	3.29	-	-	0.00	-	-	-	0/1 (DRY)
		16-Feb-16	1090.26	1090.42	3.27	-	-	0.00	-	-	-	20/0 (DRY)
		12-Nov-15	1090.26	1090.42	3.28	-	-	0.00	-	-	-	0/0 (DRY)
1-Sep-15	1090.26	1090.42	3.27	-	-	0.00	-	-	-	0/1 (DRY)		
9-Jun-15	1090.26	1090.42	3.29	-	-	0.00	-	-	-	15/0 (DRY)		
19-Mar-15	1090.26	1090.42	3.40	-	-	0.00	-	-	-	0/0 (DRY)		
BH1961	3,4	1-Jun-22	1076.67	1076.79	11.20	-	4.19	0.00	4.31	1072.48	0/0	
		9-Nov-21	1076.67	1076.79	11.17	-	4.37	0.00	4.49	1072.30	0/0	
		8-Jun-21	1076.67	1076.79	11.21	-	4.28	0.00	4.40	1072.39	45/0	
		2-Nov-20	1076.67	1076.79	11.25	-	4.39	0.00	4.50	1072.28	0/0	
		6-May-20	1076.67	1076.79	11.33	-	4.09	0.00	4.21	1072.58	0/0	
		13-Nov-19	1076.67	1076.79	11.33	-	4.27	0.00	4.39	1072.40	0/0	
		25-Apr-19	1076.67	1076.79	11.44	-	4.16	0.00	4.28	1072.51	0/0	
		19-Oct-18	1076.67	1076.79	11.44	-	4.43	0.00	4.55	1072.24	0/0	
		21-Mar-18	1076.67	1076.79	11.52	-	4.48	0.00	4.60	1072.19	0/0	
		6-Sep-17	1076.67	1076.79	11.44	-	4.76	0.00	4.88	1071.91	25/0	
		1-May-17	1076.67	1076.79	11.51	-	4.10	0.00	4.21	1072.58	0/1	
		23-Feb-17	1076.67	1076.79	11.53	-	4.28	0.00	4.39	1072.40	0/4	
		27-Oct-16	1076.67	1076.79	11.59	-	4.55	0.00	4.67	1072.12	10/1	
		18-Aug-16	1076.67	1076.79	11.61	-	4.83	0.00	4.94	1071.85	0/2	
		3-May-16	1076.67	1076.79	10.71	-	4.22	0.00	4.33	1072.46	0/0	
		18-Feb-16	1076.67	1076.79	10.73	-	4.23	0.00	4.35	1072.44	0/1	
9-Nov-15	1076.67	1076.79	10.76	-	4.30	0.00	4.42	1072.37	0/1			

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
BH1962	3	1-Sep-15	1076.67	1076.79	10.94	-	4.40	0.00	4.52	1072.27	0/1
		9-Jun-15	1076.67	1076.79	10.94	-	4.37	0.00	4.49	1072.30	0/1
		21-Apr-15	1076.67	1076.79	11.82	-	4.24	0.00	4.35	1072.44	20/1
		1-Jun-22	1078.36	1078.48	9.41	-	3.05	0.00	3.17	1075.31	0/0
		9-Nov-21	1078.36	1078.48	9.35	-	3.09	0.00	3.21	1075.27	0/0
		8-Jun-21	1078.36	1078.48	9.37	-	2.90	0.00	3.02	1075.46	25/0
		2-Nov-20	1078.36	1078.48	9.64	-	3.11	0.00	3.23	1075.25	0/0
		6-May-20	1078.36	1078.48	9.55	-	3.00	0.00	3.12	1075.36	0/0
		13-Nov-19	1078.36	1078.48	9.38	-	3.11	0.00	3.22	1075.26	0/1
		25-Apr-19	1078.36	1078.48	9.96	-	3.07	0.00	3.19	1075.29	0/1
		5-Oct-18	1078.36	1078.48	9.95	-	3.26	0.00	3.37	1075.11	0/1
		21-Mar-18	1078.36	1078.48	9.85	-	3.17	0.00	3.29	1075.19	0/0
		6-Sep-17	1078.36	1078.48	9.82	-	3.34	0.00	3.46	1075.02	20/0
		1-May-17	1078.36	1078.48	10.66	-	3.01	0.00	3.13	1075.35	0/0
		23-Feb-17	1078.36	1078.48	10.68	-	3.14	0.00	3.26	1075.22	0/4
		27-Oct-16	1078.36	1078.48	11.25	-	3.10	0.00	3.22	1075.26	10/1
		18-Aug-16	1078.36	1078.48	11.23	-	3.03	0.00	3.14	1075.34	0/2
		3-May-16	1078.36	1078.48	9.81	-	3.18	0.00	3.30	1075.18	5/0
		18-Feb-16	1078.36	1078.48	9.91	-	3.02	0.00	3.14	1075.34	0/0
		9-Nov-15	1078.36	1078.48	9.93	-	3.08	0.00	3.20	1075.28	0/1
1-Sep-15	1078.36	1078.48	10.42	-	3.12	0.00	3.24	1075.24	0/1		
9-Jun-15	1078.36	1078.48	12.32	-	3.19	0.00	3.31	1075.17	0/1		
9-Apr-15	1078.36	1078.48	12.41	-	3.11	0.00	3.23	1075.25	20/0		
BH1963	3	1-Jun-22	1080.84	1080.96	10.74	-	3.83	0.00	3.95	1077.01	0/0
		9-Nov-21	1080.84	1080.96	10.77	-	3.84	0.00	3.97	1076.99	5/1
		8-Jun-21	1080.84	1080.96	10.77	-	3.83	0.00	3.95	1077.01	60/0
		2-Nov-20	1080.84	1080.96	10.80	-	3.84	0.00	3.96	1077.00	0/0
		6-May-20	1080.84	1080.96	10.82	-	3.76	0.00	3.88	1077.08	0/0
		13-Nov-19	1080.84	1080.96	10.83	-	3.85	0.00	3.98	1076.98	5/1
		25-Apr-19	1080.84	1080.96	10.92	-	3.88	0.00	4.00	1076.96	5/1
		5-Oct-18	1080.84	1080.96	10.92	-	4.00	0.00	4.12	1076.84	10/0
		21-Mar-18	1080.84	1080.96	10.98	-	3.95	0.00	4.08	1076.88	0/0
		6-Sep-17	1080.84	1080.96	10.92	-	4.04	0.00	4.16	1076.80	35/0
		1-May-17	1080.84	1080.96	10.94	-	3.74	0.00	3.86	1077.10	0/0
		23-Feb-17	1080.84	1080.96	10.96	-	3.87	0.00	3.99	1076.97	60/4
		27-Oct-16	1080.84	1080.96	10.95	-	3.81	0.00	3.94	1077.02	10/0
		18-Aug-16	1080.84	1080.96	10.92	-	3.30	0.00	3.42	1077.54	0/1
		3-May-16	1080.84	1080.96	10.21	-	3.88	0.00	4.01	1076.95	0/0
		18-Feb-16	1080.84	1080.96	10.21	-	3.82	0.00	3.94	1077.02	0/1
9-Nov-15	1080.84	1080.96	10.24	-	3.86	0.00	3.98	1076.98	0/5		

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1964	4	1-Sep-15	1080.84	1080.96	10.29	-	3.79	0.00	3.91	1077.05	0/1
		9-Jun-15	1080.84	1080.96	10.10	-	3.89	0.00	4.01	1076.95	0/1
		9-Apr-15	1080.84	1080.96	10.90	-	3.83	0.00	3.95	1077.01	0/0
		1-Jun-22	1076.77	1076.90	8.45	-	4.11	0.00	4.24	1072.66	0/0
		9-Nov-21	1076.77	1076.90	8.46	-	4.15	0.00	4.27	1072.63	0/0
		8-Jun-21	1076.77	1076.90	8.45	-	4.09	0.00	4.22	1072.68	40/0
		2-Nov-20	1076.77	1076.90	8.45	-	4.15	0.00	4.28	1072.62	0/0
		6-May-20	1076.77	1076.90	8.26	-	3.85	0.00	3.98	1072.92	0/0
		13-Nov-19	1076.77	1076.90	8.41	-	4.04	0.00	4.17	1072.73	0/0
		25-Apr-19	1076.77	1076.90	8.44	-	4.01	0.00	4.14	1072.76	0/0
		19-Oct-18	1076.77	1076.90	8.44	-	4.21	0.00	4.34	1072.56	0/0
		21-Mar-18	1076.77	1076.90	8.46	-	4.06	0.00	4.19	1072.71	0/0
		6-Sep-17	1076.77	1076.90	8.47	-	4.64	0.00	4.77	1072.13	25/0
		1-May-17	1076.77	1076.90	8.46	-	3.92	0.00	4.05	1072.85	0/0
		23-Feb-17	1076.77	1076.90	8.48	-	4.06	0.00	4.19	1072.71	0/3
		27-Oct-16	1076.77	1076.90	8.44	-	4.15	0.00	4.28	1072.62	15/0
		18-Aug-16	1076.77	1076.90	8.42	-	4.14	0.00	4.27	1072.63	0/0
		3-May-16	1076.77	1076.90	8.46	-	4.03	0.00	4.16	1072.74	0/0
		18-Feb-16	1076.77	1076.90	8.42	-	4.04	0.00	4.17	1072.73	0/0
		9-Nov-15	1076.77	1076.90	8.44	-	4.20	0.00	4.33	1072.57	0/1
1-Sep-15	1076.77	1076.90	8.45	-	4.16	0.00	4.29	1072.61	0/0		
9-Jun-15	1076.77	1076.90	8.46	-	4.23	0.00	4.36	1072.54	0/1		
22-Apr-15	1076.77	1076.90	8.46	-	4.03	0.00	4.15	1072.75	1,350/1		
BH1965	2	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.									
		13-Nov-19	1091.27	1091.37	10.90	-	-	0.00	-	-	0/0 (DRY)
		8-May-19	1091.27	1091.37	10.90	-	-	0.00	-	-	0/0 (DRY)
		5-Oct-18	1091.27	1091.37	10.90	-	-	0.00	-	-	0/0 (DRY)
		23-Mar-18	-	-	-	-	-	0.00	-	-	Could Not Locate
		7-Sep-17	1091.27	1091.37	10.94	-	-	0.00	-	-	10/1 (DRY)
		2-May-17	1091.27	1091.37	10.90	-	-	0.00	-	-	10/0 (DRY)
		23-Feb-17	1091.27	1091.37	10.92	-	-	0.00	-	-	0/1 (DRY)
		27-Oct-16	1091.27	1091.37	10.91	-	-	0.00	-	-	0/1 (DRY)
		16-Aug-16	1091.27	1091.37	10.90	-	-	0.00	-	-	0/1 (DRY)
		5-May-16	1091.27	1091.37	10.96	-	-	0.00	-	-	0/1 (DRY)
		18-Feb-16	1091.27	1091.37	10.91	-	-	0.00	-	-	0/1 (DRY)
		10-Nov-15	1091.27	1091.37	10.90	-	-	0.00	-	-	0/0 (DRY)
		2-Sep-15	1091.27	1091.37	10.99	-	-	0.00	-	-	0/0 (DRY)
		9-Jun-15	1091.27	1091.37	10.88	-	-	0.00	-	-	0/1 (DRY)
		25-Mar-15	1091.27	1091.37	10.90	-	-	0.00	-	-	0/0 (DRY)

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
BH1966	3	31-May-22	1089.42	1089.52	16.51	-	10.52	0.00	10.62	1078.90	0/0
		9-Nov-21	1089.42	1089.52	16.52	-	10.58	0.00	10.68	1078.84	15/0
		7-Jun-21	1089.42	1089.52	16.51	-	10.53	0.00	10.63	1078.89	25/0
		2-Nov-20	1089.42	1089.52	16.52	-	10.49	0.00	10.59	1078.93	10/0
		6-May-20	1089.42	1089.52	16.50	-	10.65	0.00	10.75	1078.77	0/1
		14-Nov-19	1089.42	1089.52	16.53	-	10.68	0.00	10.78	1078.74	0/0
		8-May-19	1089.42	1089.52	16.57	-	10.89	0.00	10.99	1078.53	0/0
		9-Oct-18	1089.42	1089.52	16.57	-	10.88	0.00	10.98	1078.54	0/0
		20-Mar-18	1089.42	1089.52	16.52	-	10.81	0.00	10.91	1078.61	0/0
		5-Sep-17	1089.42	1089.52	16.54	-	10.81	0.00	10.91	1078.61	5/0
		1-May-17	1089.42	1089.52	16.55	-	10.78	0.00	10.88	1078.64	0/0
		19-Feb-17	1089.42	1089.52	16.57	-	10.75	0.00	10.85	1078.67	0/1
		27-Oct-16	1089.42	1089.52	16.57	-	10.69	0.00	10.79	1078.73	25/0
		16-Aug-16	1089.42	1089.52	16.63	-	10.77	0.00	10.87	1078.65	0/0
		4-May-16	1089.42	1089.52	16.57	-	10.73	0.00	10.83	1078.69	0/0
		17-Feb-16	1089.42	1089.52	16.57	-	10.66	0.00	10.76	1078.76	0/0
		9-Nov-15	1089.42	1089.52	16.79	-	10.70	0.00	10.80	1078.72	0/0
		1-Sep-15	1089.42	1089.52	10.57	-	10.70	0.00	10.80	1078.72	0/0
		9-Jun-15	1089.42	1089.52	16.61	-	10.74	0.00	10.84	1078.68	5/0
		27-Apr-15	1089.42	1089.52	16.69	-	10.72	0.00	10.82	1078.70	0/0
24-Feb-15	1089.42	1089.52	16.20	-	10.62	0.00	10.72	1078.80	0/1		
BH1967	2	31-May-22	1090.10	1090.21	8.59	-	7.15	0.00	7.25	1082.96	25/0
		8-Nov-21	1090.10	1090.21	8.60	-	7.04	0.00	7.15	1083.06	15/1
		7-Jun-21	1090.10	1090.21	8.59	-	6.61	0.00	6.72	1083.49	15/0
		2-Nov-20	1090.10	1090.21	8.60	-	6.86	0.00	6.97	1083.24	0/0
		6-May-20	1090.10	1090.21	8.61	-	6.88	0.00	6.98	1083.22	0/3
		14-Nov-19	1090.10	1090.21	8.60	-	6.89	0.00	7.00	1083.21	0/0
		8-May-19	1090.10	1090.21	8.62	-	7.70	0.00	7.80	1082.41	0/0
		9-Oct-18	1090.10	1090.21	8.62	-	7.67	0.00	7.78	1082.43	0/0
		20-Mar-18	1090.10	1090.21	8.62	-	7.68	0.00	7.78	1082.43	0/0
		5-Sep-17	1090.10	1090.21	8.64	-	7.70	0.00	7.80	1082.41	0/0
		1-May-17	1090.10	1090.21	8.62	-	7.43	0.00	7.54	1082.67	0/0
		16-Feb-17	1090.10	1090.21	8.62	-	7.33	0.00	7.44	1082.77	0/3
		27-Oct-16	1090.10	1090.21	8.60	-	7.05	0.00	7.16	1083.05	20/0
		16-Aug-16	1090.10	1090.21	8.60	-	7.50	0.00	7.61	1082.60	0/0
		4-May-16	1090.10	1090.21	8.59	-	7.53	0.00	7.63	1082.58	0/1
		17-Feb-16	1090.10	1090.21	8.58	-	7.23	0.00	7.34	1082.87	20/0
		9-Nov-15	1090.10	1090.21	8.62	-	7.07	0.00	7.18	1083.03	0/0
1-Sep-15	1090.10	1090.21	8.60	-	7.46	0.00	7.57	1082.64	0/2		
9-Jun-15	1090.10	1090.21	8.59	-	7.44	0.00	7.54	1082.67	5/1		
25-Feb-15	1090.10	1090.21	8.60	-	7.83	0.00	7.93	1082.28	350/185		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
BH1968	1	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.									
		14-Nov-19	1090.08	1090.20	5.15	-	-	0.00	-	-	0/0 (DRY)
		8-May-19	1090.08	1090.20	5.15	-	-	0.00	-	-	0/0 (DRY)
		9-Oct-18	1090.08	1090.20	5.15	-	-	0.00	-	-	0/0 (DRY)
		20-Mar-18	1090.08	1090.20	5.15	-	-	0.00	-	-	0/0 (DRY)
		5-Sep-17	1090.08	1090.20	5.16	-	-	0.00	-	-	40/0 (DRY)
		1-May-17	1090.08	1090.20	5.15	-	-	0.00	-	-	0/0 (DRY)
		16-Feb-17	1090.08	1090.20	5.15	-	-	0.00	-	-	0/8 (DRY)
		27-Oct-16	1090.08	1090.20	5.14	-	-	0.00	-	-	30/0 (DRY)
		16-Aug-16	1090.08	1090.20	5.12	-	-	0.00	-	-	0/0 (DRY)
		4-May-16	1090.08	1090.20	5.16	-	-	0.00	-	-	15/0 (DRY)
		17-Feb-16	1090.08	1090.20	5.12	-	-	0.00	-	-	100/3 (DRY)
		9-Nov-15	1090.08	1090.20	5.12	-	-	0.00	-	-	0/0 (DRY)
		1-Sep-15	1090.08	1090.20	5.12	-	-	0.00	-	-	0/0 (DRY)
		9-Jun-15	1090.08	1090.20	5.15	-	-	0.00	-	-	0/0 (DRY)
25-Feb-15	1090.08	1090.20	5.12	-	-	0.00	-	-	5/1 (DRY)		
BH1969	1	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.									
		14-Nov-19	1089.39	1089.47	7.55	-	-	0.00	-	-	10/0 (DRY)
		8-May-19	1089.39	1089.47	7.55	-	-	0.00	-	-	10/0 (DRY)
		9-Oct-18	1089.39	1089.47	7.55	-	-	0.00	-	-	10/0 (DRY)
		20-Mar-18	1089.39	1089.47	7.55	-	-	0.00	-	-	15/1 (DRY)
		5-Sep-17	1089.39	1089.47	7.55	-	-	0.00	-	-	0/0 (DRY)
		1-May-17	1089.39	1089.47	7.55	-	-	0.00	-	-	40/0 (DRY)
		16-Feb-17	1089.39	1089.47	7.56	-	-	0.00	-	-	60/0 (DRY)
		27-Oct-16	1089.39	1089.47	7.54	-	-	0.00	-	-	0/0 (DRY)
		16-Aug-16	1089.39	1089.47	7.53	-	-	0.00	-	-	0/0 (DRY)
		4-May-16	1089.39	1089.47	7.55	-	-	0.00	-	-	0/4 (DRY)
		17-Feb-16	1089.39	1089.47	7.25	-	-	0.00	-	-	0/6 (DRY)
		9-Nov-15	1089.39	1089.47	7.52	-	-	0.00	-	-	0/1 (DRY)
		1-Sep-15	1089.39	1089.47	7.46	-	-	0.00	-	-	20/15 (DRY)
		9-Jun-15	1089.39	1089.47	7.56	-	-	0.00	-	-	0/0 (DRY)
24-Feb-15	1089.39	1089.47	7.53	-	-	0.00	-	-	1,200/450 (DRY)		
BH1970	2	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.									
		14-Nov-19	1089.22	1089.30	8.57	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		8-May-19	1089.22	1089.30	8.57	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		9-Oct-18	1089.22	1089.30	8.57	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		20-Mar-18	1089.22	1089.30	8.57	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		5-Sep-17	1089.22	1089.30	8.60	-	-	0.00	-	-	>11,100/>2,000 (DRY)
1-May-17	1089.22	1089.30	8.57	-	-	0.00	-	-	>11,100/>2,000 (DRY)		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
BH1971	2	16-Feb-17	1089.22	1089.30	8.59	-	-	0.00	-	-	500/250 (DRY)
		27-Oct-16	1089.22	1089.30	8.57	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		16-Aug-16	1089.22	1089.30	8.57	-	-	0.00	-	-	1,100/430 (DRY)
		4-May-16	1089.22	1089.30	8.59	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		17-Feb-16	1089.22	1089.30	8.56	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		9-Nov-15	1089.22	1089.30	8.56	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		1-Sep-15	1089.22	1089.30	8.56	-	-	0.00	-	-	>11,100/>2,000 (DRY)
		9-Jun-15	1089.22	1089.30	8.59	-	-	0.00	-	-	920/280 (DRY)
		24-Feb-15	1089.22	1089.30	8.57	-	-	0.00	-	-	1,500/1,850 (DRY)
		31-May-22	1090.76	1090.94	10.97	-	7.02	0.00	7.21	1083.74	0/1
		8-Nov-21	1090.76	1090.94	10.98	-	7.12	0.00	7.30	1083.64	10/1
		7-Jun-21	1090.76	1090.94	10.96	-	6.81	0.00	6.99	1083.95	25/1
		2-Nov-20	1090.76	1090.94	10.96	-	7.16	0.00	7.35	1083.60	15/0
		5-May-20	1090.76	1090.94	10.94	-	7.23	0.00	7.41	1083.53	148/1
		14-Nov-19	1090.76	1090.94	10.97	-	7.36	0.00	7.55	1083.40	125/63
		8-May-19	1090.76	1090.94	11.00	-	7.88	0.00	8.07	1082.88	125/63
		9-Oct-18	1090.76	1090.94	11.00	-	8.10	0.00	8.28	1082.66	1,000/379
		20-Mar-18	1090.76	1090.94	11.02	-	7.84	0.00	8.03	1082.92	3,500/2,000
		5-Sep-17	1090.76	1090.94	10.99	-	8.05	0.00	8.24	1082.70	1,400/741
		1-May-17	1090.76	1090.94	10.97	-	7.55	0.00	7.73	1083.21	300/500
16-Feb-17	1090.76	1090.94	11.00	-	7.61	0.00	7.80	1083.14	0/1		
27-Oct-16	1090.76	1090.94	10.97	-	7.97	0.00	8.15	1082.79	4,150/1,000		
16-Aug-16	1090.76	1090.94	10.98	-	8.04	0.00	8.23	1082.72	7,000/1,000		
4-May-16	1090.76	1090.94	10.96	-	7.71	0.00	7.90	1083.05	1,200/698		
16-Feb-16	1090.76	1090.94	10.95	-	7.61	0.00	7.80	1083.15	4,500/1,313		
9-Nov-15	1090.76	1090.94	11.00	-	7.73	0.00	7.92	1083.03	8,400/>2,000		
1-Sep-15	1090.76	1090.94	10.97	-	7.95	0.00	8.14	1082.81	1,350/651		
9-Jun-15	1090.76	1090.94	10.97	-	7.80	0.00	7.99	1082.95	200/115		
27-Feb-15	1090.76	1090.94	10.97	-	7.96	0.00	8.15	1082.80	5,000/1,500		
BH1972	2	1-Jun-22	1088.79	1088.92	10.97	-	7.02	0.00	7.15	1081.77	0/0
		9-Nov-21	1088.79	1088.92	10.72	-	8.57	0.00	8.70	1080.22	40/2
		7-Jun-21	1088.79	1088.92	10.71	-	9.37	0.00	9.50	1079.42	0/0
		3-Nov-20	1088.79	1088.92	10.75	-	9.58	0.00	9.71	1079.21	0/2
		6-May-20	1088.79	1088.92	10.79	-	8.32	0.00	8.45	1080.47	0/1
		13-Nov-19	1088.79	1088.92	10.91	-	8.22	0.00	8.35	1080.57	0/1
		3-May-19	1088.79	1088.92	10.85	-	8.66	0.00	8.79	1080.13	0/1
		5-Oct-18	1088.79	1088.92	10.85	-	9.98	0.00	10.11	1078.81	0/1
		19-Mar-18	1088.79	1088.92	10.86	-	8.81	0.00	8.94	1079.98	65/0
		6-Sep-17	1088.79	1088.92	10.87	-	8.56	0.00	8.69	1080.23	0/2
		1-May-17	1088.79	1088.92	10.89	-	8.58	0.00	8.71	1080.21	0/1

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1973	1	17-Feb-17	1088.79	1088.92	10.91	-	8.36	0.00	8.49	1080.43	105/2
		27-Oct-16	1088.79	1088.92	10.90	-	9.07	0.00	9.20	1079.72	60/2
		17-Aug-16	1088.79	1088.92	10.88	-	8.73	0.00	8.86	1080.06	25/1
		4-May-16	1088.79	1088.92	10.90	-	9.69	0.00	9.82	1079.10	0/1
		17-Feb-16	1088.79	1088.92	10.92	-	9.50	0.00	9.63	1079.29	0/1
		9-Nov-15	1088.79	1088.92	10.97	-	8.14	0.00	8.27	1080.65	0/2
		1-Sep-15	1088.79	1088.92	10.98	-	8.14	0.00	8.27	1080.65	0/1
		9-Jun-15	1088.79	1088.92	10.90	-	8.79	0.00	8.92	1080.00	0/2
		6-Apr-15	1088.79	1088.92	10.98	-	9.61	0.00	9.74	1079.18	0/3
		31-May-22	1090.81	1090.93	6.42	-	5.88	0.00	6.00	1084.93	0/0
		8-Nov-21	1090.81	1090.93	6.43	-	6.07	0.00	6.19	1084.74	15/0
		14-Nov-19	1090.81	1090.93	6.45	-	-	0.00	-	-	0/0 (DRY)
		8-May-19	1090.81	1090.93	6.45	-	-	0.00	-	-	0/0 (DRY)
		9-Oct-18	1090.81	1090.93	6.45	-	-	0.00	-	-	0/0 (DRY)
		20-Mar-18	1090.81	1090.93	6.45	-	-	0.00	-	-	0/0 (DRY)
		5-Sep-17	1090.81	1090.93	6.45	-	-	0.00	-	-	0/0 (DRY)
		1-May-17	1090.81	1090.93	6.45	-	6.31	0.00	6.43	1084.50	0/0
		16-Feb-17	1090.81	1090.93	6.26	-	-	0.00	-	-	0/1 (DRY)
		27-Oct-16	1090.81	1090.93	6.42	-	-	0.00	-	-	0/2 (DRY)
		16-Aug-16	1090.81	1090.93	6.42	-	-	0.00	-	-	5/0 (DRY)
BH1974	2	4-May-16	1090.81	1090.93	6.45	-	6.41	0.00	6.53	1084.40	0/0
		16-Feb-16	1090.81	1090.93	6.42	-	6.22	0.00	6.34	1084.59	0/0
		9-Nov-15	1090.81	1090.93	6.44	-	6.17	0.00	6.29	1084.64	5/0
		1-Sep-15	1090.81	1090.93	6.42	-	-	0.00	-	-	0/0 (DRY)
		9-Jun-15	1090.81	1090.93	6.42	-	-	0.00	-	-	0/0 (DRY)
		27-Feb-15	1090.81	1090.93	6.41	-	6.21	0.00	6.33	1084.60	0/0
		31-May-22	1090.07	1090.24	9.90	-	6.29	0.00	6.46	1083.79	70/100
		8-Nov-21	1090.07	1090.24	9.92	-	6.62	0.00	6.80	1083.45	25/11
		7-Jun-21	1090.07	1090.24	9.92	-	6.06	0.00	6.23	1084.01	30/24
		3-Nov-20	1090.07	1090.24	9.93	-	6.62	0.00	6.79	1083.45	20/8
		5-May-20	1090.07	1090.24	9.93	-	6.90	0.00	7.07	1083.17	0/0
		14-Nov-19	1090.07	1090.24	9.99	-	7.13	0.00	7.31	1082.94	0/1
		8-May-19	1090.07	1090.24	10.00	-	7.63	0.00	7.80	1082.44	0/1
		9-Oct-18	1090.07	1090.24	10.00	-	8.18	0.00	8.35	1081.90	50/1
		20-Mar-18	1090.07	1090.24	10.00	-	7.53	0.00	7.70	1082.54	560/314
5-Sep-17	1090.07	1090.24	9.98	-	8.50	0.00	8.67	1081.57	100/42		
1-May-17	1090.07	1090.24	9.99	-	7.15	0.00	7.33	1082.92	180/24		
16-Feb-17	1090.07	1090.24	10.02	-	7.12	0.00	7.29	1082.96	360/44		
27-Oct-16	1090.07	1090.24	9.98	-	7.25	0.00	7.42	1082.82	440/180		
16-Aug-16	1090.07	1090.24	9.98	-	7.66	0.00	7.83	1082.42	1,750/400		

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵		
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)		
BH1975	1	4-May-16	1090.07	1090.24	9.99	-	7.28	0.00	7.45	1082.79	400/174		
		16-Feb-16	1090.07	1090.24	9.99	-	7.13	0.00	7.30	1082.95	500/222		
		9-Nov-15	1090.07	1090.24	9.99	-	7.26	0.00	7.44	1082.81	2,150/790		
		1-Sep-15	1090.07	1090.24	9.99	-	7.58	0.00	7.75	1082.49	7,800/1,099		
		9-Jun-15	1090.07	1090.24	10.00	-	7.31	0.00	7.48	1082.76	920/280		
		26-Feb-15	1090.07	1090.24	10.00	-	7.19	0.00	7.37	1082.88	3,400/925		
		As this monitoring well has been dry throughout the last five sampling event it has been removed from the monitoring and sampling program.											
		14-Nov-19	1090.23	1090.39	7.04	-	-	0.00	-	-	-	0/0 (DRY)	
		8-May-19	1090.23	1090.39	7.04	-	-	0.00	-	-	-	0/0 (DRY)	
		9-Oct-18	1090.23	1090.39	7.04	-	-	0.00	-	-	-	0/0 (DRY)	
		20-Mar-18	1090.23	1090.39	7.05	-	-	0.00	-	-	-	0/1 (DRY)	
		5-Sep-17	1090.23	1090.39	7.05	-	-	0.00	-	-	-	0/0 (DRY)	
		1-May-17	1090.23	1090.39	7.05	-	6.79	0.00	6.95	1083.44	0/1		
		16-Feb-17	1090.23	1090.39	7.06	-	6.76	0.00	6.93	1083.46	0/7		
		27-Oct-16	1090.23	1090.39	7.03	-	6.98	0.00	7.14	1083.25	0/0		
		16-Aug-16	1090.23	1090.39	7.03	-	-	0.00	-	-	-	35/0 (DRY)	
		4-May-16	1090.23	1090.39	7.02	-	6.88	0.00	7.04	1083.35	0/0		
		16-Feb-16	1090.23	1090.39	7.03	-	6.74	0.00	6.90	1083.49	0/0		
		9-Nov-15	1090.23	1090.39	7.08	-	6.93	0.00	7.10	1083.29	0/0		
		1-Sep-15	1090.23	1090.39	7.02	-	-	0.00	-	-	-	0/1 (DRY)	
9-Jun-15	1090.23	1090.39	7.03	-	-	0.00	-	-	-	0/0 (DRY)			
26-Feb-15	1090.23	1090.39	7.03	-	6.66	0.00	6.82	1083.57	450/0				
BH1976	2	31-May-22	1092.63	1092.79	13.43	-	8.579	0.00	8.73	1084.05	10/0		
		8-Nov-21	1092.63	1092.79	13.45	-	8.89	0.00	9.05	1083.74	20/0		
		8-Jun-21	1092.63	1092.79	13.45	-	8.79	0.00	8.94	1083.84	5/0		
		6-Nov-20	1092.63	1092.79	13.45	-	9.03	0.00	9.18	1083.61	5/0		
		5-May-20	1092.63	1092.79	13.46	-	9.33	0.00	9.48	1083.31	85/0		
		14-Nov-19	1092.63	1092.79	13.46	-	9.43	0.00	9.59	1083.20	0/0		
		8-May-19	1092.63	1092.79	13.55	-	9.92	0.00	10.07	1082.72	0/0		
		9-Oct-18	1092.63	1092.79	13.55	-	10.18	0.00	10.34	1082.45	0/0		
		20-Mar-18	1092.63	1092.79	13.56	-	9.72	0.00	9.88	1082.91	0/0		
		1-May-17	1092.63	1092.79	13.58	-	9.56	0.00	9.72	1083.07	15/0		
		16-Feb-17	1092.63	1092.79	13.58	-	9.41	0.00	9.57	1083.22	0/0		
		27-Oct-16	1092.63	1092.79	13.64	-	9.52	0.00	9.68	1083.11	0/1		
		16-Aug-16	1092.63	1092.79	13.66	-	9.76	0.00	9.91	1082.88	0/0		
		4-May-16	1092.63	1092.79	13.67	-	9.61	0.00	9.76	1083.02	0/1		
		17-Feb-16	1092.63	1092.79	13.75	-	9.51	0.00	9.67	1083.12	25/0		
		9-Nov-15	1092.63	1092.79	13.87	-	9.62	0.00	9.77	1083.02	0/1		
		1-Sep-15	1092.63	1092.79	13.83	-	9.72	0.00	9.88	1082.91	0/1		
9-Jun-15	1092.63	1092.79	13.86	-	9.71	0.00	9.86	1082.93	0/1				

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
BH1977	3,4,5	1-Jun-22	1074.04	1074.16	7.04	-	1.08	0.00	1.20	1072.96	5/0
		8-Nov-21	1074.04	1074.16	7.05	-	1.12	0.00	1.24	1072.92	0/1
		8-Jun-21	1074.04	1074.16	7.05	-	1.18	0.00	1.29	1072.87	60/0
		2-Nov-20	1074.04	1074.16	7.04	-	1.05	0.00	1.16	1072.99	5/0
		6-May-20	1074.04	1074.16	7.04	-	1.01	0.00	1.13	1073.03	10/1
		13-Nov-19	1074.04	1074.16	7.05	-	1.01	0.00	1.12	1073.04	10/1
		24-Apr-19	1074.04	1074.16	7.09	-	1.08	0.00	1.19	1072.96	10/1
		4-Oct-18	1074.04	1074.16	7.09	-	1.19	0.00	1.31	1072.85	10/1
		21-Mar-18	1074.04	1074.16	7.13	-	1.19	0.00	1.30	1072.86	30/1
		6-Sep-17	1074.04	1074.16	7.07	-	1.31	0.00	1.42	1072.73	0/1
		3-May-17	1074.04	1074.16	7.11	-	1.04	0.00	1.16	1073.00	0/1
		22-Feb-17	1074.04	1074.16	7.10	-	1.16	0.00	1.27	1072.88	0/1
		27-Oct-16	1074.04	1074.16	7.11	-	0.98	0.00	1.09	1073.07	5/1
		17-Aug-16	1074.04	1074.16	7.11	-	0.91	0.00	1.03	1073.13	0/1
		3-May-16	1074.04	1074.16	6.30	-	1.18	0.00	1.29	1072.87	0/1
		17-Feb-16	1074.04	1074.16	6.27	-	1.17	0.00	1.28	1072.88	0/1
		9-Nov-15	1074.04	1074.16	6.28	-	1.08	0.00	1.20	1072.96	0/1
		1-Sep-15	1074.04	1074.16	6.30	-	1.05	0.00	1.16	1072.99	0/1
		9-Jun-15	1074.04	1074.16	6.29	-	1.15	0.00	1.27	1072.89	0/1
		18-Mar-15	1074.04	1074.16	7.93	-	1.14	0.00	1.25	1072.91	2,800 Hex
BH1978	4,5	31-May-22	1069.24	1069.42	2.87	-	2.01	0.00	0/0	1067.23	0/0
		8-Nov-21	1069.24	1069.42	2.88	-	2.23	0.00	2.41	1067.01	0/0
		7-Jun-21	1069.24	1069.42	2.88	-	2.04	0.00	2.22	1067.20	55/0
		2-Nov-20	1069.24	1069.42	2.87	-	2.10	0.00	2.28	1067.14	0/0
		5-May-20	1069.24	1069.42	2.87	-	1.39	0.00	1.57	1067.85	0/0
		12-Nov-19	1069.24	1069.42	2.88	-	1.69	0.00	1.87	1067.55	0/0
		23-Apr-19	1069.24	1069.42	2.90	-	1.34	0.00	1.52	1067.90	0/0
		3-Oct-18	1069.24	1069.42	2.90	-	2.57	0.00	2.75	1066.67	0/0
		21-Mar-18	1069.24	1069.42	2.91	-	0.75	0.00	0.93	1068.49	0/0
		6-Sep-17	1069.24	1069.42	2.90	-	2.68	0.00	2.86	1066.56	25/0
		3-May-17	1069.24	1069.42	2.91	-	1.33	0.00	1.51	1067.91	0/0
		21-Feb-17	1069.24	1069.42	2.90	-	1.70	0.00	1.87	1067.55	0/2
		28-Oct-16	1069.24	1069.42	2.88	-	2.08	0.00	2.25	1067.17	0/1
		17-Aug-16	1069.24	1069.42	2.88	-	1.53	0.00	1.70	1067.72	0/1
		3-May-16	1069.24	1069.42	2.90	-	2.07	0.00	2.25	1067.17	0/0
		17-Feb-16	1069.24	1069.42	2.89	-	1.44	0.00	1.62	1067.80	0/0
		9-Nov-15	1069.24	1069.42	2.91	-	2.15	0.00	2.33	1067.09	0/0
		2-Sep-15	1069.24	1069.42	2.88	-	1.90	0.00	2.08	1067.34	0/0
		9-Jun-15	1069.24	1069.42	2.91	-	2.09	0.00	2.27	1067.15	0/1
		26-Mar-15	1069.24	1069.42	3.05	-	1.37	0.00	1.55	1067.87	0/0

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)	
BH1979	3	31-May-22	1078.71	1078.78	6.79	-	5.66	0.00	5.73	1073.06	0/0	
		8-Nov-22	1078.71	1078.78	6.78	-	5.73	0.00	5.80	1072.98	10/1	
		7-Jun-21	1078.71	1078.78	6.82	-	5.60	0.00	5.67	1073.12	75/0	
		2017-2020						Well could not be located.				
		3-May-16	1078.71	1078.78	6.74	-	5.74	0.00	5.81	1072.98	0/0	
		17-Feb-16	1078.71	1078.78	6.75	-	5.70	0.00	5.77	1073.02	0/1	
		12-Nov-15	1078.71	1078.78	6.79	-	5.68	0.00	5.75	1073.03	0/1	
		2-Sep-15	1078.71	1078.78	6.76	-	5.73	0.00	5.80	1072.98	0/1	
		9-Jun-15	1078.71	1078.78	6.82	-	5.76	0.00	5.83	1072.95	0/1	
		8-Apr-15	1078.71	1078.78	6.76	-	5.71	0.00	5.78	1073.00	15/0	
BH1980	4	31-May-22	1074.24	1074.31	5.35	-	2.56	0.00	2.63	1071.68	90/10	
		9-Nov-21	1074.24	1074.31	5.32	-	2.59	0.00	2.65	1071.65	0/0	
		7-Jun-21	1074.24	1074.31	5.33	-	2.60	0.00	2.67	1071.64	760/6	
		2-Nov-20	1074.24	1074.31	5.43	-	2.59	0.00	2.66	1071.65	8900/2	
		6-May-20	1074.24	1074.31	5.45	-	2.71	0.00	2.77	1071.54	110/0	
		12-Nov-19	1074.24	1074.31	5.72	-	2.63	0.00	2.69	1071.62	305/0	
		24-Apr-19	1074.24	1074.31	5.89	-	2.62	0.00	2.68	1071.63	305/0	
		3-Oct-18	1074.24	1074.31	5.89	-	2.64	0.00	2.71	1071.60	510/1	
		21-Mar-18	1074.24	1074.31	6.01	-	2.71	0.00	2.77	1071.54	25/0	
		7-Sep-17	1074.24	1074.31	6.01	-	2.77	0.00	2.84	1071.47	10/2	
		3-May-17	1074.24	1074.31	5.99	-	2.79	0.00	2.86	1071.45	25/0	
		21-Feb-17	1074.24	1074.31	6.00	-	2.78	0.00	2.84	1071.46	340/3	
		28-Oct-16	1074.24	1074.31	5.99	-	2.19	0.00	2.25	1072.06	5/1	
		18-Aug-16	1074.24	1074.31	5.96	-	2.83	0.00	2.89	1071.41	15/0	
		3-May-16	1074.24	1074.31	5.64	-	2.89	0.00	2.95	1071.36	25/0	
		17-Feb-16	1074.24	1074.31	5.65	-	2.94	0.00	3.00	1071.31	0/2	
		10-Nov-15	1074.24	1074.31	5.62	-	2.83	0.00	2.89	1071.41	15/0	
		2-Sep-15	1074.24	1074.31	5.84	-	2.82	0.00	2.88	1071.42	0/2	
9-Jun-15	1074.24	1074.31	5.97	-	2.92	0.00	2.98	1071.33	0/1			
8-Apr-15	1074.24	1074.31	6.01	-	2.95	0.00	2.01	1072.30	0/1			
BH1981	3	3-Jun-22	1076.99	1077.06	7.67	-	3.49	0.00	3.57	1073.49	0/0	
		8-Nov-21	1076.99	1077.06	7.68	-	3.56	0.00	3.63	1073.43	10/0	
		7-Jun-21	1076.99	1077.06	7.67	-	3.46	0.00	3.54	1073.52	55/0	
		2-Nov-20	1076.99	1077.06	7.67	-	3.41	0.00	3.48	1073.58	0/0	
		6-May-20	1076.99	1077.06	7.76	-	3.35	0.00	3.42	1073.64	0/0	
		13-Nov-19	1076.99	1077.06	8.45	-	3.44	0.00	3.52	1073.54	0/0	
		24-Apr-19	1076.99	1077.06	8.85	-	3.57	0.00	3.64	1073.42	0/0	
		4-Oct-18	1076.99	1077.06	8.85	-	3.66	0.00	3.74	1073.32	0/0	
21-Mar-18	1076.99	1077.06	8.90	-	3.64	0.00	3.72	1073.34	0/0			

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH1982	3	6-Sep-17	1076.99	1077.06	8.87	-	3.71	0.00	3.79	1073.27	0/1
		3-May-17	1076.99	1077.06	8.92	-	3.52	0.00	3.59	1073.47	0/1
		22-Feb-17	1076.99	1077.06	8.92	-	3.62	0.00	3.69	1073.37	0/3
		28-Oct-16	1076.99	1077.06	8.94	-	3.53	0.00	3.60	1073.46	0/1
		17-Aug-16	1076.99	1077.06	8.90	-	3.46	0.00	3.54	1073.53	0/1
		3-May-16	1076.99	1077.06	7.79	-	3.63	0.00	3.70	1073.36	0/0
		17-Feb-16	1076.99	1077.06	7.75	-	3.64	0.00	3.71	1073.35	0/1
		9-Nov-15	1076.99	1077.06	7.76	-	3.69	0.00	3.77	1073.29	0/1
		1-Sep-15	1076.99	1077.06	7.86	-	3.68	0.00	3.76	1073.31	0/1
		9-Jun-15	1076.99	1077.06	7.83	-	3.66	0.00	3.74	1073.32	0/1
		27-Mar-15	1076.99	1077.06	9.15	-	3.64	0.00	3.72	1073.34	0/0
		31-May-22	1080.85	1080.96	7.62	-	6.32	0.00	6.43	1074.54	0/0
		9-Nov-21	1080.85	1080.96	7.21	-	6.25	0.00	6.36	1074.60	0/0
		8-Jun-21	1080.85	1080.96	7.17	-	6.23	0.00	6.35	1074.62	50/0
		2-Nov-20	1080.85	1080.96	7.17	-	6.07	0.00	6.18	1074.78	0/0
		4-May-20	1080.85	1080.96	7.21	-	6.18	0.00	6.29	1074.67	0/0
		12-Nov-19	1080.85	1080.96	7.45	-	6.03	0.00	6.15	1074.82	0/0
		25-Apr-19	1080.85	1080.96	7.50	-	6.36	0.00	6.47	1074.49	0/0
		4-Oct-18	1080.85	1080.96	7.54	-	6.36	0.00	6.48	1074.49	0/0
		21-Mar-18	1080.85	1080.96	7.59	-	6.39	0.00	6.50	1074.47	0/0
		6-Sep-17	1080.85	1080.96	7.56	-	6.40	0.00	6.51	1074.46	Not Measured
		3-May-17	1080.85	1080.96	7.61	-	6.40	0.00	6.51	1074.46	0/0
		22-Feb-17	1080.85	1080.96	7.64	-	6.45	0.00	6.56	1074.40	0/1
		27-Oct-16	1080.85	1080.96	7.81	-	6.36	0.00	6.47	1074.49	40/0
		18-Aug-16	1080.85	1080.96	7.50	-	6.42	0.00	6.54	1074.43	55/0
		3-May-16	1080.85	1080.96	7.78	-	6.52	0.00	6.63	1074.34	0/0
		17-Feb-16	1080.85	1080.96	7.79	-	6.45	0.00	6.57	1074.40	0/1
		10-Nov-15	1080.85	1080.96	7.81	-	6.41	0.00	6.52	1074.45	0/0
		2-Sep-15	1080.85	1080.96	7.96	-	6.46	0.00	6.57	1074.39	0/1
		9-Jun-15	1080.85	1080.96	7.73	-	6.48	0.00	6.60	1074.37	0/1
		31-Mar-15	1080.85	1080.96	7.46	-	5.43	0.00	5.54	1075.42	0/0
		BH1983	3	Well decommissioned on 12 April 2016.							
		17-Feb-16	1090.53	1090.64	15.04	-	9.64	0.00	9.74	1080.90	40/2
		12-Nov-15	1090.53	1090.64	-	-	9.65	0.00	9.75	1080.89	0/5
		15-Sep-15	1090.53	1090.64	14.93	-	9.67	0.00	9.77	1080.86	15/14
		9-Jun-15	1090.53	1090.64	14.48	-	9.02	0.00	9.12	1081.52	20/3
		8-May-15	1090.53	1090.64	17.86	-	9.82	0.00	9.92	1080.71	1,050/60
BH1983A	3	15-Jun-22	1090.59	1090.71	17.77	-	9.57	0.00	9.69	1081.01	0/0
		20-Sep-21	1090.59	1090.71	17.80	-	9.62	0.00	9.74	1080.97	15/0

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵		
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)		
BH1984	3	26-Nov-20	1090.59	1090.71	17.79	-	9.59	0.00	9.71	1081.00	0/1		
		29-May-20	1090.59	1090.71	17.80	-	9.72	0.00	9.84	1080.87	0/0		
		6-Jan-20	-	-	-	-	-	0.00	-	-	-	Could Not Locate	
		1-May-19	1090.59	1090.71	17.87	-	9.84	0.00	9.96	1080.75	0/0		
		7-Nov-18	1090.59	1090.71	17.87	-	9.87	0.00	9.98	1080.72	0/0		
		23-Mar-18	1090.59	1090.71	17.93	-	9.78	0.00	9.90	1080.81	3,500/1		
		24-Feb-17	1090.59	1090.71	17.90	-	9.75	0.00	9.87	1080.84	105/0		
		31-Oct-16	1090.59	1090.71	17.95	-	9.62	0.00	9.74	1080.97	0/1		
		17-Aug-16	1090.59	1090.71	17.97	-	9.68	0.00	9.80	1080.90	0/0		
		3-May-16	1090.59	1090.71	16.22	-	9.73	0.00	9.85	1080.86	45/21		
		Well installed to replace BH1983 on 12 April 2016.											
				15-Jun-22	1090.37	1090.46	15.33	-	8.84	0.00	8.93	1081.53	970/505
				20-Sep-21	1090.37	1090.46	15.35	-	8.94	0.00	9.03	1081.42	5430/721
				26-Nov-20	1090.37	1090.46	15.33	-	8.94	0.00	9.03	1081.42	1100/406
				26-May-20	1090.37	1090.46	15.35	-	9.06	0.00	9.15	1081.31	>11,100/>2,000
				6-Jan-20	1090.37	1090.46	15.33	-	9.05	0.00	9.14	1081.32	>11,100/>2,000
				1-May-19	1090.37	1090.46	15.33	-	9.17	0.00	9.26	1081.20	>11,100/>2,000
				7-Nov-18	1090.37	1090.46	15.33	-	9.19	0.00	9.28	1081.18	>11,100/>2,000
				23-Mar-18	1090.37	1090.46	15.55	-	9.12	0.00	9.21	1081.25	>11,100/>2,000
				24-Feb-17	1090.37	1090.46	15.35	-	9.10	0.00	9.19	1081.27	220/160
		31-Oct-16	1090.37	1090.46	15.33	-	8.99	0.00	9.08	1081.38	>11,100/>2,000		
		18-Aug-16	1090.37	1090.46	15.29	-	9.10	0.00	9.19	1081.27	0/17		
		4-May-16	1090.37	1090.46	15.38	-	9.12	0.00	9.21	1081.25	>11,100/>2,000		
		16-Feb-16	1090.37	1090.46	15.41	-	9.04	0.00	9.13	1081.33	5,300/1,990		
		12-Nov-15	1090.37	1090.46	15.58	-	9.06	0.00	9.15	1081.31	1,600/937		
		15-Sep-15	1090.37	1090.46	15.36	-	9.05	0.00	9.14	1081.32	>11,100/>2,000		
		9-Jun-15	1090.37	1090.46	15.47	-	9.12	0.00	9.21	1081.25	35/23		
		7-May-15	1090.37	1090.46	15.50	-	9.08	0.00	9.17	1081.29	>11,100/>2,500		
BH1985	3	17-Jun-22	1090.21	1090.31	14.14	-	8.60	0.00	8.71	1081.61	35/0		
		20-Sep-21	1090.21	1090.31	17.14	-	8.68	0.00	8.78	1081.54	115/0		
		26-Nov-20	1090.21	1090.31	17.13	-	8.66	0.00	8.76	1081.55	0/1		
		27-May-20	1090.21	1090.31	17.14	-	8.82	0.00	8.92	1081.39	0/0		
		6-Jan-20	1090.21	1090.31	17.20	-	8.79	0.00	8.90	1081.42	45/1		
		1-May-19	1090.21	1090.31	17.20	-	8.92	0.00	9.02	1081.29	50/1		
		7-Nov-18	1090.21	1090.31	17.20	-	8.95	0.00	9.05	1081.27	50/1		
		23-Mar-18	1090.21	1090.31	17.44	-	8.88	0.00	8.99	1081.33	155/2		
		24-Feb-17	1090.21	1090.31	17.19	-	8.86	0.00	8.96	1081.35	70/0		
		31-Oct-16	1090.21	1090.31	17.17	-	8.67	0.00	8.78	1081.54	160/0		
		17-Aug-16	1090.21	1090.31	17.20	-	8.84	0.00	8.94	1081.37	0/1		
		4-May-16	1090.21	1090.31	17.23	-	8.87	0.00	8.97	1081.35	5/0		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)	
BH1986	2	16-Feb-16	1090.21	1090.31	17.25	-	8.78	0.00	8.88	1081.43	0/0	
		12-Nov-15	1090.21	1090.31	17.37	-	8.81	0.00	8.91	1081.40	0/1	
		15-Sep-15	1090.21	1090.31	17.32	-	8.76	0.00	8.86	1081.45	0/0	
		9-Jun-15	1090.21	1090.31	17.47	-	8.86	0.00	8.96	1081.36	0/0	
		7-May-15	1090.21	1090.31	17.04	-	8.81	0.00	8.91	1081.40	15/0	
		As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.										
		6-Jan-20	1090.31	1090.42	6.69	-	-	0.00	-	-	-	0/0 (DRY)
		1-May-19	1090.31	1090.42	6.69	-	-	0.00	-	-	-	0/0 (DRY)
		7-Nov-18	1090.31	1090.42	6.69	-	-	0.00	-	-	-	0/0 (DRY)
		23-Mar-18	1090.31	1090.42	6.69	-	-	0.00	-	-	-	60/14 (DRY)
		24-Feb-17	1090.31	1090.42	6.66	-	-	0.00	-	-	-	100/2 (DRY)
		31-Oct-16	1090.31	1090.42	6.69	-	-	0.00	-	-	-	115/17 (DRY)
		18-Aug-16	1090.31	1090.42	6.67	-	-	0.00	-	-	-	0/0 (DRY)
		4-May-16	1090.31	1090.42	6.70	-	-	0.00	-	-	-	15/0 (DRY)
		16-Feb-16	1090.31	1090.42	6.67	-	-	0.00	-	-	-	0/0 (DRY)
		12-Nov-15	1090.31	1090.42	6.68	-	-	0.00	-	-	-	0/1 (DRY)
		15-Sep-15	1090.31	1090.42	6.69	-	-	0.00	-	-	-	5/1 (DRY)
9-Jun-15	1090.31	1090.42	6.71	-	-	0.00	-	-	-	10/1 (DRY)		
22-Apr-15	1090.31	1090.42	6.69	-	-	0.00	-	-	-	10/1 (DRY)		
BH1987	2	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.										
		6-Jan-20	1090.15	1090.27	6.03	-	-	0.00	-	-	-	0/0 (DRY)
		1-May-19	1090.15	1090.27	6.03	-	-	0.00	-	-	-	0/0 (DRY)
		7-Nov-18	1090.15	1090.27	6.03	-	-	0.00	-	-	-	0/0 (DRY)
		23-Mar-18	1090.15	1090.27	6.03	-	-	0.00	-	-	-	0/0 (DRY)
		24-Feb-17	1090.15	1090.27	5.98	-	-	0.00	-	-	-	110/2 (DRY)
		31-Oct-16	1090.15	1090.27	6.00	-	-	0.00	-	-	-	10/0 (DRY)
		17-Aug-16	1090.15	1090.27	6.01	-	-	0.00	-	-	-	0/1 (DRY)
		4-May-16	1090.15	1090.27	6.03	-	-	0.00	-	-	-	0/0 (DRY)
		16-Feb-16	1090.15	1090.27	6.01	-	-	0.00	-	-	-	0/0 (DRY)
		12-Nov-15	1090.15	1090.27	6.01	-	-	0.00	-	-	-	0/0 (DRY)
		15-Sep-15	1090.15	1090.27	6.01	-	-	0.00	-	-	-	0/1 (DRY)
		9-Jun-15	1090.15	1090.27	6.04	-	-	0.00	-	-	-	0/1 (DRY)
		22-Apr-15	1090.15	1090.27	6.00	-	-	0.00	-	-	-	0/1 (DRY)
BH1988	1	As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.										
		6-Jan-20	1090.16	1090.26	4.53	-	-	0.00	-	-	-	0/0 (DRY)
		1-May-19	1090.16	1090.26	4.53	-	-	0.00	-	-	-	0/0 (DRY)
		7-Nov-18	1090.16	1090.26	4.53	-	-	0.00	-	-	-	0/0 (DRY)
		23-Mar-18	1090.16	1090.26	4.53	-	-	0.00	-	-	-	0/0 (DRY)
		24-Feb-17	1090.16	1090.26	4.48	-	-	0.00	-	-	-	0/2 (DRY)

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH2001	5	31-Oct-16	1090.16	1090.26	4.49	-	-	0.00	-	-	0/10 (DRY)
		17-Aug-16	1090.16	1090.26	4.50	-	-	0.00	-	-	0/1 (DRY)
		4-May-16	1090.16	1090.26	4.53	-	-	0.00	-	-	0/0 (DRY)
		16-Feb-16	1090.16	1090.26	4.50	-	-	0.00	-	-	0/0 (DRY)
		12-Nov-15	1090.16	1090.26	4.50	-	-	0.00	-	-	0/1 (DRY)
		15-Sep-15	1090.16	1090.26	4.49	-	-	0.00	-	-	0/0 (DRY)
		9-Jun-15	1090.16	1090.26	4.54	-	-	0.00	-	-	0/0 (DRY)
		22-Apr-15	1090.16	1090.26	4.50	-	-	0.00	-	-	0/0 (DRY)
		31-May-22	1069.85	1069.94	4.71	-	1.01	0.00	1.10	1068.84	45/0
	8-Nov-21	1069.85	1069.94	4.73	-	0.99	0.00	1.08	1068.86	20/0	
	8-Jun-21	1069.85	1069.94	4.74	-	0.98	0.00	1.07	1068.87	20/0	
	2-Nov-20	1069.85	1069.94	4.74	-	0.91	0.00	1.00	1068.94	135/0	
	6-May-20	1069.85	1069.94	4.73	-	0.97	0.00	1.06	1068.88	0/0	
	13-Nov-19	1069.85	1069.94	4.74	-	0.95	0.00	1.04	1068.91	0/0	
	24-Apr-19	1069.85	1069.94	4.74	-	1.03	0.00	1.12	1068.82	0/0	
	4-Oct-18	1069.85	1069.94	4.73	-	1.09	0.00	1.18	1068.77	0/0	
	21-Mar-18	1069.85	1069.94	4.71	-	1.11	0.00	1.20	1068.74	0/2	
	6-Sep-17	1069.85	1069.94	4.70	-	1.11	0.00	1.21	1068.74	80/0	
	3-May-17	1069.85	1069.94	4.72	-	1.06	0.00	1.15	1068.79	0/1	
22-Feb-17	1069.85	1069.94	4.71	-	1.10	0.00	1.19	1068.75	0/1		
28-Oct-16	1069.85	1069.94	4.60	-	0.95	0.00	1.04	1068.90	25/4		
17-Aug-16	1069.85	1069.94	4.60	-	0.97	0.00	1.06	1068.88	0/2		
3-May-16	1069.85	1069.94	4.62	-	1.09	0.00	1.18	1068.76	0/1		
BH2002	4	31-May-22	1070.03	1070.14	3.79	-	2.36	0.00	2.48	1067.67	30/1
		9-Nov-21	1070.03	1070.14	3.80	-	2.39	0.00	2.51	1067.64	0/0
		7-Jun-21	1070.03	1070.14	3.80	-	2.36	0.00	2.47	1067.67	5/0
		2-Nov-20	1070.03	1070.14	3.79	-	2.40	0.00	2.52	1067.63	0/0
		6-May-20	1070.03	1070.14	3.79	-	2.31	0.00	2.42	1067.72	0/0
		12-Nov-19	1070.03	1070.14	3.80	-	2.39	0.00	2.50	1067.64	0/1
		24-Apr-19	1070.03	1070.14	3.83	-	2.32	0.00	2.43	1067.71	0/1
		3-Oct-18	1070.03	1070.14	3.83	-	2.49	0.00	2.60	1067.54	0/1
		21-Mar-18	1070.03	1070.14	3.83	-	2.43	0.00	2.55	1067.60	0/1
		7-Sep-17	1070.03	1070.14	3.83	-	2.57	0.00	2.68	1067.46	0/1
		3-May-17	1070.03	1070.14	3.83	-	2.33	0.00	2.45	1067.70	0/1
		21-Feb-17	1070.03	1070.14	3.83	-	2.46	0.00	2.58	1067.57	0/1
		28-Oct-16	1070.03	1070.14	3.81	-	2.49	0.00	2.60	1067.54	0/1
		18-Aug-16	1070.03	1070.14	3.80	-	2.40	0.00	2.51	1067.63	0/1
		3-May-16	1070.03	1070.14	3.84	-	2.43	0.00	2.55	1067.60	15/1
BH2003	3	30-May-22	1073.31	1073.48	4.55	-	2.66	0.00	2.82	1070.65	0/1

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH2004	4,5	9-Nov-21	1073.31	1073.48	4.57	-	2.62	0.00	2.78	1070.69	0/0
		7-Jun-21	1073.31	1073.48	4.56	-	2.64	0.00	2.81	1070.67	20/0
		2-Nov-20	1073.31	1073.48	4.57	-	2.62	0.00	2.79	1070.68	45/0
		6-May-20	1073.31	1073.48	4.58	-	2.64	0.00	2.81	1070.67	0/0
		12-Nov-19	1073.31	1073.48	4.62	-	2.56	0.00	2.73	1070.75	0/0
		24-Apr-19	1073.31	1073.48	4.62	-	2.66	0.00	2.83	1070.64	0/0
		3-Oct-18	1073.31	1073.48	4.62	-	2.67	0.00	2.84	1070.64	0/0
		21-Mar-18	1073.31	1073.48	4.63	-	2.72	0.00	2.89	1070.59	0/0
		7-Sep-17	1073.31	1073.48	4.60	-	2.76	0.00	2.93	1070.54	10/1
		3-May-17	1073.31	1073.48	4.66	-	2.70	0.00	2.87	1070.61	55/1
		21-Feb-17	1073.31	1073.48	4.66	-	2.75	0.00	2.91	1070.56	0/3
		28-Oct-16	1073.31	1073.48	4.64	-	2.69	0.00	2.86	1070.62	55/1
		18-Aug-16	1073.31	1073.48	4.64	-	2.64	0.00	2.80	1070.67	5/0
		3-May-16	1073.31	1073.48	4.60	-	2.74	0.00	2.91	1070.57	5/1
		30-May-22	1074.03	1074.18	6.24	-	4.51	0.00	4.66	1069.52	0/1
		8-Nov-21	1074.03	1074.18	6.25	-	4.63	0.00	4.78	1069.40	0/0
		7-Jun-21	1074.03	1074.18	6.26	-	4.51	0.00	4.66	1069.52	60/0
		2-Nov-20	1074.03	1074.18	6.25	-	4.48	0.00	4.63	1069.55	30/0
		6-May-20	1074.03	1074.18	6.26	-	4.31	0.00	4.46	1069.73	0/0
		12-Nov-19	1074.03	1074.18	6.27	-	4.84	0.00	4.98	1069.20	0/0
25-Apr-19	1074.03	1074.18	6.29	-	4.42	0.00	4.56	1069.62	0/0		
3-Oct-18	1074.03	1074.18	6.29	-	5.10	0.00	5.24	1068.94	5/0		
21-Mar-18	1074.03	1074.18	6.28	-	5.03	0.00	5.18	1069.00	0/4		
6-Sep-17	1074.03	1074.18	6.27	-	5.04	0.00	5.19	1069.00	25/1		
2-May-17	1074.03	1074.18	6.28	-	4.86	0.00	5.01	1069.17	0/0		
23-Feb-17	1074.03	1074.18	6.27	-	5.06	0.00	5.21	1068.97	0/3		
31-Oct-16	1074.03	1074.18	6.26	-	5.21	0.00	5.35	1068.83	0/2		
18-Aug-16	1074.03	1074.18	6.25	-	5.14	0.00	5.29	1068.90	0/1		
3-May-16	1074.03	1074.18	6.28	-	4.70	0.00	4.85	1069.34	15/1		
BH2005	3	2-Jun-22	1076.70	1076.84	6.30	-	3.20	0.00	3.34	1073.50	10/0
		8-Nov-21	1076.70	1076.84	6.31	-	3.23	0.00	3.38	1073.46	0/0
		8-Jun-21	1076.70	1076.84	6.32	-	3.21	0.00	3.35	1073.48	40/0
		2-Nov-20	1076.70	1076.84	6.31	-	3.18	0.00	3.33	1073.51	10/0
		6-May-20	1076.70	1076.84	6.31	-	3.08	0.00	3.23	1073.61	0/0
		13-Nov-19	1076.70	1076.84	6.32	-	3.17	0.00	3.32	1073.52	0/0
		24-Apr-19	1076.70	1076.84	6.34	-	3.18	0.00	3.32	1073.52	0/0
		4-Oct-18	1076.70	1076.84	6.34	-	3.33	0.00	3.47	1073.37	0/0
		21-Mar-18	1076.70	1076.84	6.30	-	3.17	0.00	3.31	1073.53	25/0
		6-Sep-17	1076.70	1076.84	6.36	-	3.42	0.00	3.56	1073.28	10/0
3-May-17	1076.70	1076.84	6.33	-	3.08	0.00	3.22	1073.62	0/0		

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH2006	3	22-Feb-17	1076.70	1076.84	6.33	-	3.17	0.00	3.31	1073.53	0/0
		27-Oct-16	1076.70	1076.84	6.31	-	3.02	0.00	3.16	1073.68	0/1
		17-Aug-16	1076.70	1076.84	6.31	-	2.66	0.00	2.80	1074.04	0/1
		3-May-16	1076.70	1076.84	6.40	-	3.23	0.00	3.37	1073.47	0/0
		1-Jun-22	1074.10	1074.24	4.81	-	1.25	0.00	1.39	1072.85	10/0
		8-Nov-21	1074.10	1074.24	4.81	-	1.25	0.00	1.39	1072.85	0/0
		8-Jun-21	1074.10	1074.24	4.82	-	1.25	0.00	1.39	1072.85	35/0
		2-Nov-20	1074.10	1074.24	4.82	-	1.21	0.00	1.35	1072.89	0/0
		6-May-20	1074.10	1074.24	4.81	-	1.23	0.00	1.37	1072.87	0/0
		13-Nov-19	1074.10	1074.24	4.82	-	1.19	0.00	1.33	1072.91	5/1
		24-Apr-19	1074.10	1074.24	4.85	-	1.19	0.00	1.33	1072.91	5/1
		4-Oct-18	1074.10	1074.24	4.84	-	1.31	0.00	1.45	1072.79	10/0
		21-Mar-18	1074.10	1074.24	4.84	-	1.26	0.00	1.40	1072.84	15/1
		6-Sep-17	1074.10	1074.24	4.83	-	1.46	0.00	1.60	1072.64	5/0
		3-May-17	1074.10	1074.24	4.85	-	1.16	0.00	1.30	1072.94	0/1
		22-Feb-17	1074.10	1074.24	4.84	-	1.27	0.00	1.41	1072.83	0/4
		27-Oct-16	1074.10	1074.24	4.83	-	1.30	0.00	1.44	1072.80	35/1
17-Aug-16	1074.10	1074.24	4.81	-	1.07	0.00	1.21	1073.03	0/1		
3-May-16	1074.10	1074.24	4.81	-	1.28	0.00	1.42	1072.82	10/1		
BH2007	3	30-May-22	1091.72	1091.86	16.69	-	11.05	0.00	11.19	1080.67	0/1
		8-Nov-21	1091.72	1091.86	17.08	-	11.03	0.00	11.17	1080.69	20/1
		7-Jun-21	1091.72	1091.86	17.08	-	11.20	0.00	11.35	1080.52	35/0
		2-Nov-20	1091.72	1091.86	17.08	-	11.12	0.00	11.27	1080.60	10/0
		5-May-20	1091.72	1091.86	17.10	-	11.36	0.00	11.50	1080.36	0/0
		13-Nov-19	1091.72	1091.86	17.14	-	11.25	0.00	11.39	1080.47	0/0
		3-May-19	1091.72	1091.86	17.26	-	11.40	0.00	11.55	1080.31	0/0
		4-Oct-18	1091.72	1091.86	17.26	-	11.40	0.00	11.55	1080.31	0/0
		20-Mar-18	1091.72	1091.86	17.38	-	11.37	0.00	11.52	1080.35	0/0
		5-Sep-17	1091.72	1091.86	17.18	-	11.42	0.00	11.57	1080.30	20/1
		26-Apr-17	1091.72	1091.86	17.21	-	11.15	0.00	11.30	1080.57	0/1
		21-Feb-17	1091.72	1091.86	17.25	-	11.22	0.00	11.36	1080.50	0/4
		31-Oct-16	1091.72	1091.86	17.27	-	9.38	0.00	9.52	1082.34	0/1
		17-Aug-16	1091.72	1091.86	17.20	-	11.24	0.00	11.38	1080.48	0/1
3-May-16	1091.72	1091.86	14.83	-	11.27	0.00	11.41	1080.45	50/1		
BH2008	2	30-May-22	1091.80	1091.93	9.60	-	6.57	0.00	6.70	1085.23	0/1
		8-Nov-21	1091.80	1091.93	12.27	-	6.66	0.00	6.80	1085.13	30/1
		8-Jun-21	1091.80	1091.93	12.33	-	9.32	0.00	9.46	1082.47	35/0
		2-Nov-20	1091.80	1091.93	12.14	-	8.96	0.00	9.09	1082.84	30/0
		5-May-20	1091.80	1091.93	12.39	-	9.60	0.00	9.74	1082.19	0/0

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵		
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)		
BH2009	1	13-Nov-19	1091.80	1091.93	12.54	-	9.40	0.00	9.54	1082.39	0/0		
		3-May-19	1091.80	1091.93	12.49	-	10.44	0.00	10.57	1081.36	0/0		
		4-Oct-18	1091.80	1091.93	12.49	-	10.44	0.00	10.57	1081.36	0/0		
		20-Mar-18	1091.80	1091.93	12.57	-	10.08	0.00	10.21	1081.72	0/0		
		5-Sep-17	1091.80	1091.93	12.59	-	10.30	0.00	10.43	1081.50	25/0		
		26-Apr-17	1091.80	1091.93	12.57	-	9.43	0.00	9.57	1082.36	25/0		
		21-Feb-17	1091.80	1091.93	12.60	-	9.55	0.00	9.68	1082.25	0/3		
		31-Oct-16	1091.80	1091.93	12.58	-	11.09	0.00	11.22	1080.71	0/1		
		17-Aug-16	1091.80	1091.93	12.58	-	9.80	0.00	9.93	1082.00	0/0		
		10-Jun-16	1091.80	1091.93	-	-	10.18	0.00	10.31	1081.62	-		
		3-May-16	1091.80	1091.93	12.62	-	10.16	0.00	10.30	1081.64	0/1		
		As this monitoring well has been dry throughout every sampling event it has been removed from the monitoring and sampling program.											
				13-Nov-19	1091.95	1092.02	4.92	-	-	0.00	-	-	0/0 (DRY)
				3-May-19	1091.95	1092.02	4.92	-	-	0.00	-	-	0/0 (DRY)
		4-Oct-18	1091.95	1092.02	4.92	-	-	0.00	-	-	0/0 (DRY)		
		20-Mar-18	1091.95	1092.02	4.92	-	-	0.00	-	-	0/0 (DRY)		
		5-Sep-17	1091.95	1092.02	4.94	-	-	0.00	-	-	5/0 (DRY)		
		26-Apr-17	1091.95	1092.02	4.92	-	-	0.00	-	-	5/0 (DRY)		
		21-Feb-17	1091.95	1092.02	4.95	-	-	0.00	-	-	0/3 (DRY)		
		31-Oct-16	1091.95	1092.02	4.92	-	-	0.00	-	-	15/0 (DRY)		
		17-Aug-16	1091.95	1092.02	4.90	-	-	0.00	-	-	0/0 (DRY)		
		3-May-16	1091.95	1092.02	4.94	-	4.92	0.00	5.00	1087.02	0/0 (Insufficient Water)		
BH2010	3	30-May-22	1094.27	1094.38	17.97	-	13.70	0.00	13.81	1080.57	0/0		
		8-Nov-21	1094.27	1094.38	18.52	-	13.75	0.00	13.86	1080.52	5/0		
		8-Jun-21	1094.27	1094.38	18.52	-	13.81	0.00	13.91	1080.47	40/0		
		2-Nov-20	1094.27	1094.38	18.69	-	13.72	0.00	13.83	1080.55	0/0		
		5-May-20	1094.27	1094.38	18.69	-	13.93	0.00	14.04	1080.34	0/0		
		13-Nov-19	1094.27	1094.38	18.68	-	13.94	0.00	14.04	1080.34	0/0		
		3-May-19	1094.27	1094.38	18.65	-	13.98	0.00	14.08	1080.29	0/0		
		4-Oct-18	1094.27	1094.38	18.65	-	13.98	0.00	14.08	1080.29	0/0		
		20-Mar-18	1094.27	1094.38	18.65	-	13.97	0.00	14.07	1080.30	40/1		
		5-Sep-17	1094.27	1094.38	18.628	-	14.10	0.00	14.21	1080.17	50/1		
		26-Apr-17	1094.27	1094.38	18.645	-	13.74	0.00	13.85	1080.53	0/2		
		16-Feb-17	1094.27	1094.38	18.66	-	14.05	0.00	14.15	1080.23	0/3		
		31-Oct-16	1094.27	1094.38	18.64	-	13.99	0.00	14.10	1080.28	60/2		
		17-Aug-16	1094.27	1094.38	18.63	-	13.84	0.00	13.95	1080.43	0/0		
3-May-16	1094.27	1094.38	16.78	-	13.87	0.00	13.98	1080.40	5/1				
BH2011	2	30-May-22	1094.07	1094.26	13.87	-	10.67	0.00	10.86	1083.41	0/1		
		8-Nov-21	1094.07	1094.26	13.89	-	10.61	0.00	10.80	1083.46	0/0		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
BH2012	3	8-Jun-21	1094.07	1094.26	13.89	-	11.39	0.00	11.58	1082.68	15/0
		2-Nov-20	1094.07	1094.26	13.90	-	11.24	0.00	11.43	1082.83	0/2
		5-May-20	1094.07	1094.26	14.04	-	11.67	0.00	11.86	1082.40	0/0
		13-Nov-19	1094.07	1094.26	14.04	-	11.60	0.00	11.79	1082.48	0/0
		3-May-19	1094.07	1094.26	13.96	-	-	0.00	-	-	0/1 (DRY)
		4-Oct-18	1094.07	1094.26	13.96	-	13.66	0.00	13.85	1080.41	0/0
		20-Mar-18	1094.07	1094.26	13.96	-	-	0.00	-	-	0/1 (DRY)
		5-Sep-17	1094.07	1094.26	13.96	-	-	0.00	-	-	0/2 (DRY)
		26-Apr-17	1094.07	1094.26	13.96	-	12.59	0.00	12.78	1081.48	0/1
		17-Feb-17	1094.07	1094.26	13.97	-	13.95	0.00	14.14	1080.12	0/3 (Insufficient Water)
		31-Oct-16	1094.07	1094.26	13.93	-	-	0.00	-	-	20/1 (DRY)
		17-Aug-16	1094.07	1094.26	13.94	-	12.50	0.00	12.69	1081.57	0/1
		10-Jun-16	1094.07	1094.26	-	-	13.32	0.00	13.51	1080.75	-
		3-May-16	1094.07	1094.26	13.94	-	11.69	0.00	11.88	1082.38	0/2
		30-May-22	1094.72	1094.90	16.32	-	13.47	0.00	13.65	1081.25	0/0
		9-Nov-21	1094.72	1094.90	17.62	-	13.39	0.00	13.57	1081.33	5/1
		8-Jun-21	1094.72	1094.90	17.67	-	13.47	0.00	13.65	1081.25	0/0
		2-Nov-20	1094.72	1094.90	17.94	-	13.37	0.00	13.55	1081.36	5/2
		5-May-20	1094.72	1094.90	17.94	-	13.59	0.00	13.77	1081.13	0/0
		13-Nov-19	1094.72	1094.90	17.94	-	13.49	0.00	13.67	1081.23	0/1
3-May-19	1094.72	1094.90	18.07	-	13.62	0.00	13.80	1081.11	0/1		
4-Oct-18	1094.72	1094.90	18.07	-	13.62	0.00	13.80	1081.11	0/1		
20-Mar-18	1094.72	1094.90	17.82	-	13.60	0.00	13.78	1081.13	0/2		
5-Sep-17	1094.72	1094.90	17.86	-	13.62	0.00	13.80	1081.10	5/0		
26-Apr-17	1094.72	1094.90	17.80	-	13.42	0.00	13.60	1081.31	0/0		
22-Feb-17	1094.72	1094.90	17.88	-	13.55	0.00	13.73	1081.18	0/0		
31-Oct-16	1094.72	1094.90	18.00	-	13.36	0.00	13.54	1081.36	10/1		
17-Aug-16	1094.72	1094.90	17.95	-	13.52	0.00	13.70	1081.21	0/1		
3-May-16	1094.72	1094.90	16.08	-	13.54	0.00	13.72	1081.18	65/1		
BH3001A	3	1-Jun-22	1070.46	1070.52	2.78	-	1.38	0.00	1.44	1069.08	0/1
		8-Nov-21	1070.46	1070.52	2.79	-	1.29	0.00	1.36	1069.17	0/0
		7-Jun-21	1070.46	1070.52	2.80	-	1.40	0.00	1.46	1069.06	45/0
		2-Nov-20	1070.46	1070.52	2.79	-	1.24	0.00	1.31	1069.21	0/0
		5-May-20	1070.46	1070.52	2.79	-	0.99	0.00	1.06	1069.46	0/0
		12-Nov-19	1070.46	1070.52	2.79	-	1.22	0.00	1.29	1069.24	0/0
		23-Apr-19	1070.46	1070.52	2.81	-	1.25	0.00	1.31	1069.21	0/0
		3-Oct-18	1070.46	1070.52	2.80	-	1.31	0.00	1.38	1069.15	0/0
		3-May-18	1070.46	1070.52	2.79	-	1.21	0.00	1.28	1069.25	5/0
BH3001B	3	1-Jun-22	1070.43	1070.50	4.28	-	1.80	0.00	1.88	1068.63	0/0

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH3001C	4	8-Nov-21	1070.43	1070.50	4.28	-	1.86	0.00	1.93	1068.57	10/0
		7-Jun-21	1070.43	1070.50	4.29	-	1.83	0.00	1.90	1068.60	40/0
		2-Nov-20	1070.43	1070.50	4.28	-	1.79	0.00	1.87	1068.64	15/0
		5-May-20	1070.43	1070.50	4.29	-	1.47	0.00	1.54	1068.96	0/0
		12-Nov-19	1070.43	1070.50	4.29	-	1.63	0.00	1.71	1068.79	0/0
		23-Apr-19	1070.43	1070.50	4.31	-	1.80	0.00	1.88	1068.62	0/0
		3-Oct-18	1070.43	1070.50	4.31	-	1.97	0.00	2.04	1068.46	0/0
		3-May-18	1070.43	1070.50	4.28	-	1.57	0.00	1.65	1068.86	0/0
		1-Jun-22	1070.35	1070.44	5.95	-	2.75	0.00	2.84	1067.60	0/0
		8-Nov-21	1070.35	1070.44	5.95	-	3.07	0.00	3.15	1067.28	0/0
		7-Jun-21	1070.35	1070.44	5.96	-	2.74	0.00	2.82	1067.61	30/1
		2-Nov-20	1070.35	1070.44	5.95	-	2.91	0.00	3.00	1067.44	40/0
		5-May-20	1070.35	1070.44	5.95	-	2.33	0.00	2.42	1068.02	0/0
		12-Nov-19	1070.35	1070.44	5.96	-	2.58	0.00	2.67	1067.77	0/0
23-Apr-19	1070.35	1070.44	6.00	-	2.64	0.00	2.72	1067.72	0/0		
3-Oct-18	1070.35	1070.44	5.99	-	3.21	0.00	3.29	1067.14	0/0		
3-May-18	1070.35	1070.44	5.95	-	2.46	0.00	2.55	1067.89	0/0		
BH3002A	3	1-Jun-22	1073.25	1073.37	3.68	-	1.34	0.00	1.45	1071.92	0/1
		8-Nov-21	1073.25	1073.37	3.68	-	1.61	0.00	1.73	1071.64	0/0
		7-Jun-21	1073.25	1073.37	3.69	-	1.36	0.00	1.47	1071.90	65/0
		2-Nov-20	1073.25	1073.37	3.68	-	1.56	0.00	1.68	1071.69	0/0
		5-May-20	1073.25	1073.37	3.67	-	0.96	0.00	1.07	1072.30	0/1
		12-Nov-19	1073.25	1073.37	3.69	-	1.36	0.00	1.47	1071.89	0/0
		23-Apr-19	1073.25	1073.37	3.72	-	1.17	0.00	1.28	1072.08	0/0
		3-Oct-18	1073.25	1073.37	3.72	-	2.27	0.00	2.38	1070.98	0/0
		3-May-18	1073.25	1073.37	3.69	-	1.14	0.00	1.26	1072.11	290/0
BH3002B	4	1-Jun-22	1073.22	1073.30	7.41	-	5.11	0.00	5.19	1068.11	0/0
		8-Nov-21	1073.22	1073.30	7.47	-	5.49	0.00	5.57	1067.73	0/0
		7-Jun-21	1073.22	1073.30	7.45	-	5.12	0.00	5.20	1068.10	70/0
		2-Nov-20	1073.22	1073.30	7.47	-	5.37	0.00	5.45	1067.85	0/0
		5-May-20	1073.22	1073.30	7.47	-	4.71	0.00	4.79	1068.51	0/0
		12-Nov-19	1073.22	1073.30	7.47	-	5.17	0.00	5.24	1068.06	0/0
		23-Apr-19	1073.22	1073.30	7.48	-	5.16	0.00	5.23	1068.07	0/0
		3-Oct-18	1073.22	1073.30	7.48	-	5.79	0.00	5.87	1067.43	0/0
		3-May-18	1073.22	1073.30	7.50	-	4.93	0.00	5.01	1068.29	1,600/1
BH3003A	3	1-Jun-22	1073.08	1073.15	2.88	-	1.50	0.00	1.57	1071.59	0/0
		8-Nov-21	1073.08	1073.15	2.88	-	1.88	0.00	1.95	1071.20	0/0
		7-Jun-21	1073.08	1073.15	2.89	-	1.56	0.00	1.63	1071.52	20/1

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH3003B	4	2-Nov-20	1073.08	1073.15	2.88	-	1.89	0.00	1.96	1071.19	0/0
		5-May-20	1073.08	1073.15	2.88	-	0.81	0.00	0.88	1072.27	0/0
		12-Nov-19	1073.08	1073.15	2.89	-	1.35	0.00	1.42	1071.73	0/0
		23-Apr-19	1073.08	1073.15	2.91	-	1.06	0.00	1.13	1072.03	0/0
		3-Oct-18	1073.08	1073.15	2.91	-	2.27	0.00	2.34	1070.81	0/0
		3-May-18	1073.08	1073.15	2.89	-	1.11	0.00	1.18	1071.97	-
		1-Jun-22	1072.95	1073.07	7.73	-	5.05	0.00	5.17	1067.90	0/1
		8-Nov-21	1072.95	1073.07	7.73	-	5.43	0.00	5.55	1067.52	0/0
		20-Sep-21	1072.95	1073.07	6.90	-	5.05	0.00	5.17	1067.90	65/1
		2-Nov-20	1072.95	1073.07	7.74	-	5.33	0.00	5.45	1067.62	0/0
		5-May-20	1072.95	1073.07	7.73	-	4.58	0.00	4.70	1068.37	0/0
		12-Nov-19	1072.95	1073.07	7.75	-	5.08	0.00	5.21	1067.86	0/0
		23-Apr-19	1072.95	1073.07	7.77	-	4.85	0.00	4.97	1068.09	0/1
		3-Oct-18	1072.95	1073.07	7.77	-	5.67	0.00	5.79	1067.28	5/1
3-May-18	1072.95	1073.07	7.74	-	4.77	0.00	4.89	1068.18	780/0		
BH4002	3	15-Jun-22	1091.10	1091.00	13.12	-	9.57	0.00	9.47	1081.53	240/197
		20-Sep-21	1091.10	1091.00	13.11	-	9.76	0.00	9.65	1081.34	1200/304
		26-Nov-20	1091.10	1091.00	13.06	-	9.79	0.00	9.69	1081.31	1150/713
		26-May-20	1091.10	1091.00	13.05	-	9.83	0.00	9.72	1081.28	850/130
		8-Jan-20	1091.10	1091.00	13.07	-	9.76	0.00	9.66	1081.34	0/0
		2-Jul-19	1091.10	1091.00	13.32	-	10.05	0.00	9.94	1081.05	6450/58
BH4003A	3	15-Jun-22	1090.97	1090.87	11.88	-	9.58	0.00	9.48	1081.39	320/332
		20-Sep-21	1090.97	1090.87	11.87	-	9.74	0.00	9.64	1081.22	1000/309
		26-Nov-20	1090.97	1090.87	11.87	-	9.69	0.00	9.59	1081.27	2150/765
		26-May-20	1090.97	1090.87	11.87	-	9.79	0.00	9.69	1081.17	9600/412
		8-Jan-20	1090.97	1090.87	11.88	-	9.79	0.00	9.69	1081.17	0/0
		6-Jul-19	1090.97	1090.87	12.51	-	10.01	0.00	9.91	1080.96	4300/12
BH4003B	3	15-Jun-22	1090.97	1090.92	16.32	-	9.78	0.00	9.73	1081.19	15/0
		20-Sep-21	1090.97	1090.92	16.29	-	9.94	0.00	9.88	1081.04	15/0
		26-Nov-20	1090.97	1090.92	16.28	-	9.83	0.00	9.77	1081.14	0/0
		26-May-20	1090.97	1090.92	16.28	-	9.53	0.00	9.48	1081.44	30/11
		8-Jan-20	1090.97	1090.92	16.28	-	9.96	0.00	9.90	1081.01	0/1
		2-Jul-19	1090.97	1090.92	16.16	-	10.06	0.00	10.01	1080.91	210/1
BH4004A	3	15-Jun-22	1090.69	1090.62	12.96	-	9.57	0.00	9.50	1081.12	0/1
		20-Sep-21	1090.69	1090.62	12.97	-	9.66	0.00	9.60	1081.02	55/1
		26-Nov-20	1090.69	1090.62	12.98	-	9.67	0.00	9.61	1081.02	0/0
		1-Jun-20	1090.69	1090.62	12.96	-	9.71	0.00	9.65	1080.97	0/1

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH4004B	3	7-Jan-20	1090.69	1090.62	12.98	-	9.79	0.00	9.73	1080.90	0/1
		5-Jul-19	1090.69	1090.62	12.97	-	9.79	0.00	9.73	1080.89	730/1
		15-Jun-22	1090.71	1090.64	15.94	-	9.80	0.00	9.73	1080.91	0/1
		20-Sep-21	1090.71	1090.64	15.93	-	9.88	0.00	9.81	1080.83	30/0
		26-Nov-20	1090.71	1090.64	15.94	-	10.12	0.00	10.05	1080.59	0/1
		1-Jun-20	1090.71	1090.64	15.93	-	9.90	0.00	9.83	1080.81	50/1
		7-Jan-20	1090.71	1090.64	15.94	-	9.93	0.00	9.86	1080.78	0/0
		2-Jul-19	1090.71	1090.64	16.10	-	10.07	0.00	10.00	1080.64	2000/3
BH4005	3	15-Jun-22	1090.41	1090.36	12.33	-	9.03	0.00	8.97	1081.39	5/4
		20-Sep-21	1090.41	1090.36	12.32	-	9.16	0.00	9.10	1081.25	75/25
		26-Nov-20	1090.41	1090.36	12.32	-	9.15	0.00	9.10	1081.26	150/45
		1-Jun-20	1090.41	1090.36	12.31	-	9.24	0.00	9.18	1081.18	460/93
		7-Jan-20	1090.41	1090.36	12.32	-	9.20	0.00	9.14	1081.21	0/0
		2-Jul-19	1090.41	1090.36	12.34	-	9.33	0.00	9.28	1081.08	670/10
BH4006	3	15-Jun-22	1090.62	1090.51	12.21	-	9.04	0.00	8.92	1081.59	930/4
		20-Sep-21	1090.62	1090.51	12.20	-	9.15	0.00	9.04	1081.47	90/9
		26-Nov-20	1090.62	1090.51	12.20	-	9.12	0.00	9.01	1081.50	240/1
		1-Jun-20	1090.62	1090.51	12.19	-	9.25	0.00	9.13	1081.38	50/54
		8-Jan-20	1090.62	1090.51	12.21	-	9.25	0.00	9.13	1081.38	0/1
		3-Jul-19	1090.62	1090.51	13.01	-	9.38	0.00	9.27	1081.24	710/18
BH4007	3	15-Jun-22	1090.73	1090.65	10.96	-	9.33	0.00	9.25	1081.40	15/11
		20-Sep-21	1090.73	1090.65	11.42	-	9.44	0.00	9.36	1081.29	590/237
		26-Nov-20	1090.73	1090.65	11.22	-	9.41	0.00	9.33	1081.32	150/75
		1-Jun-20	1090.73	1090.65	11.42	-	9.51	0.00	9.44	1081.21	170/70
		6-Jan-20	1090.73	1090.65	11.54	-	9.52	0.00	9.44	1081.21	0/0
		3-Jul-19	1090.73	1090.65	11.78	-	9.59	0.00	9.52	1081.14	130/1
BH4008A	3	15-Jun-22	1090.83	1090.74	12.01	-	9.22	0.00	9.13	1081.61	0/1
		20-Sep-21	1090.83	1090.74	12.04	-	9.34	0.00	9.25	1081.49	0/1
		26-Nov-20	1090.83	1090.74	12.04	-	9.43	0.00	9.34	1081.40	0/9
		26-May-20	1090.83	1090.74	12.04	-	9.43	0.00	9.34	1081.40	0/9
		9-Jan-20	1090.83	1090.74	12.04	-	9.35	0.00	9.26	1081.48	0/0
		17-Oct-19	1090.83	1090.74	12.04	-	9.45	0.00	9.36	1081.38	0/0
BH4008B	3	15-Jun-22	1090.84	1090.76	16.65	-	9.31	0.00	9.23	1081.52	420/0
		20-Sep-21	1090.84	1090.76	16.74	-	9.58	0.00	9.50	1081.26	95/0
		26-Nov-20	1090.84	1090.76	16.74	-	9.60	0.00	9.52	1081.24	0/1
		26-May-20	1090.84	1090.76	16.74	-	9.71	0.00	9.63	1081.13	60/0

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH4009A	3	9-Jan-20	1090.84	1090.76	16.75	-	9.58	0.00	9.50	1081.26	0/0
		17-Oct-19	1090.84	1090.76	15.89	-	9.61	0.00	9.53	1081.23	0/0
		15-Jun-22	1091.52	1091.43	12.06	-	9.97	0.00	9.88	1081.55	5/0
		20-Sep-21	1091.52	1091.43	12.06	-	10.12	0.00	10.03	1081.41	0/0
		26-Nov-20	1091.52	1091.43	12.06	-	10.08	0.00	9.99	1081.45	10/1
		26-May-20	1091.52	1091.43	12.05	-	10.19	0.00	10.10	1081.33	0/1
		9-Jan-20	1091.52	1091.43	12.06	-	10.11	0.00	10.02	1081.42	0/0
		17-Oct-19	1091.52	1091.43	12.06	-	10.09	0.00	10.00	1081.43	0/0
BH4009B	3	15-Jun-22	1091.56	1091.44	15.91	-	10.12	0.00	9.99	1081.44	35/0
		20-Sep-21	1091.56	1091.44	15.88	-	10.27	0.00	10.15	1081.29	0/1
		26-Nov-20	1091.56	1091.44	15.88	-	10.12	0.00	9.99	1081.44	10/1
		26-May-20	1091.56	1091.44	15.88	-	10.29	0.00	10.17	1081.27	25/1
		9-Jan-20	1091.56	1091.44	15.90	-	10.20	0.00	10.07	1081.36	0/0
		17-Oct-19	1091.56	1091.44	16.74	-	10.19	0.00	10.06	1081.37	0/0
BH5001	5	31-May-22	1069.38	1069.47	2.78	-	1.46	0.00	1.55	1067.92	0/0
		8-Nov-21	1069.38	1069.47	2.81	-	1.35	0.00	1.44	1068.03	0/2
		7-Jun-21	1069.38	1069.47	2.81	-	1.44	0.00	1.53	1067.94	105/0
BH5002	5	30-May-22	1065.68	1065.83	2.58	-	1.51	0.00	1.66	1064.17	75/1
		8-Nov-21	1065.68	1065.83	2.58	-	1.43	0.00	1.58	1064.25	5/2
		7-Jun-21	1065.68	1065.83	2.59	-	1.50	0.00	1.65	1064.18	80/1
BH6001	3	30-May-22	1089.36	1089.47	12.77	-	11.12	0.00	11.23	1078.24	30/5
		8-Nov-21	1089.36	1089.47	12.76	-	11.16	0.00	11.27	1078.20	30/2
		7-Jun-21	1089.36	1089.47	12.77	-	11.01	0.00	11.12	1078.35	20/3
BH6002	3	31-May-22	1089.55	1089.67	13.65	-	11.02	0.00	11.14	1078.53	50/17
		8-Nov-21	1089.55	1089.67	13.66	-	11.06	0.00	11.17	1078.50	195-178
		7-Jun-21	1089.55	1089.67	13.66	-	10.88	0.00	10.99	1078.68	35/6
BH6003	3	31-May-22	1089.77	1089.88	12.68	-	10.95	0.00	11.06	1078.82	85/11
		8-Nov-21	1089.77	1089.88	12.66	-	11.00	0.00	11.12	1078.77	135/36
		7-Jun-21	1089.77	1089.88	12.66	-	10.82	0.00	10.94	1078.94	980/186
BH6004	3	31-May-22	1089.66	1089.78	12.09	-	10.53	0.00	10.64	1079.14	95/23
		8-Nov-21	1089.66	1089.78	12.08	-	10.63	0.00	10.75	1079.03	670/315
		7-Jun-21	1089.66	1089.78	12.09	-	10.47	0.00	10.59	1079.19	3000/345
BH6005	3	31-May-22	1089.08	1089.31	12.14	-	9.98	0.00	10.21	1079.10	6200/>2000

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH6006	3	8-Nov-21	1089.08	1089.31	12.12	-	9.98	9.00	10.21	1079.10	9587/1460
		7-Jun-21	1089.08	1089.31	12.14	-	9.82	0.00	10.05	1079.26	9000/686
		30-May-22	1091.38	1091.50	15.16	-	13.65	0.00	13.78	1077.72	110/76
		8-Nov-21	1091.38	1091.50	15.16	-	13.56	0.00	13.68	1077.82	4300/988
		7-Jun-21	1091.38	1091.50	15.15	-	13.57	0.00	13.69	1077.81	1650/305
BH510A	3	30-May-22	1091.04	1091.15	16.53	-	13.50	0.00	13.61	1077.54	0/0
		9-Nov-21	1091.04	1091.15	16.54	-	13.78	0.00	13.89	1077.26	30/0
		7-Jun-21	1091.04	1091.15	16.54	-	13.39	0.00	13.50	1077.65	15/0
		2-Nov-20	1091.04	1091.15	16.52	-	13.41	0.00	13.52	1077.63	5/8
		6-May-20	1091.04	1091.15	16.52	-	13.49	0.00	13.60	1077.54	5/14
		14-Nov-19	1091.04	1091.15	16.59	-	13.59	0.00	13.70	1077.45	0/0
		25-Apr-19	1091.04	1091.15	16.77	-	13.72	0.00	13.83	1077.32	0/0
		5-Oct-18	1091.04	1091.15	16.77	-	13.71	0.00	13.82	1077.33	0/0
		22-Mar-18	1091.04	1091.15	17.26	-	13.70	0.00	13.81	1077.34	0/0
		5-Sep-17	1091.04	1091.15	16.58	-	13.68	0.00	13.79	1077.36	0/0
		2-May-17	1091.04	1091.15	16.55	-	13.63	0.00	13.74	1077.40	10/0
		27-Feb-17	1091.04	1091.15	16.54	-	13.62	0.00	13.73	1077.41	100/12
		31-Oct-16	1091.04	1091.15	16.58	-	13.58	0.00	13.69	1077.46	0/13
		16-Aug-16	1091.04	1091.15	16.54	-	13.64	0.00	13.75	1077.39	45/8
		5-May-16	1091.04	1091.15	16.58	-	13.69	0.00	13.80	1077.35	0/1
		18-Feb-16	1091.04	1091.15	16.65	-	13.51	0.00	13.62	1077.53	850/307
		10-Nov-15	1091.04	1091.15	17.16	-	13.62	0.00	13.73	1077.42	5/3
2-Sep-15	1091.04	1091.15	16.50	-	13.60	0.00	13.71	1077.44	0/0		
9-Jun-15	1091.04	1091.15	17.25	-	13.66	0.00	13.77	1077.38	10/0		
7-Apr-15	1091.04	1091.15	17.01	-	13.61	0.00	13.72	1077.43	-		
BH732	3	3-Jun-22	1080.54	1080.60	9.94	-	5.40	0.00	5.46	1075.14	15/0
		9-Nov-21	1080.54	1080.60	10.02	-	5.45	0.00	5.51	1075.09	0/0
		2-Nov-20	1080.54	1080.60	10.08	-	5.49	0.00	5.56	1075.05	0/0
		6-May-20	1080.54	1080.60	10.11*	-	5.52	0.00	5.58	1075.03	0/0
		12-Nov-19	1080.54	1080.60	11.17	-	5.55	0.00	5.61	1074.99	0/0
		24-Apr-19	1080.54	1080.60	11.17	-	5.54	0.00	5.60	1075.00	0/0
		3-Oct-18	1080.54	1080.60	11.20	-	6.17	0.00	6.23	1074.37	0/0
		21-Mar-18	1080.54	1080.60	11.27	-	5.63	0.00	5.69	1074.91	0/0
		7-Sep-17	1080.54	1080.60	11.24	-	5.54	0.00	5.60	1075.00	10/0
		3-May-17	1080.54	1080.60	11.29	-	5.75	0.00	5.81	1074.79	90/0
		21-Feb-17	1080.54	1080.60	11.33	-	5.89	0.00	5.95	1074.66	10/0
		27-Oct-16	1080.54	1080.60	11.39	-	6.23	0.00	6.29	1074.31	5/0
		18-Aug-16	1080.54	1080.60	11.41	-	6.25	0.00	6.32	1074.29	0/2
3-May-16	1080.54	1080.60	11.94	-	6.31	0.00	6.37	1074.23	65/0		

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
BH912	3	17-Feb-16	1080.54	1080.60	11.93	-	6.26	0.00	6.32	1074.28	0/0
		10-Nov-15	1080.54	1080.60	12.07	-	6.19	0.00	6.25	1074.35	0/0
		2-Sep-15	1080.54	1080.60	11.99	-	6.20	0.00	6.26	1074.34	0/0
		9-Jun-15	1080.54	1080.60	12.09	-	6.30	0.00	6.36	1074.24	0/0
		10-Apr-15	1080.54	1080.60	12.50	-	6.33	0.00	6.39	1074.21	-
		1-Jun-22	1075.14	1075.23	4.55	-	2.41	0.00	2.50	1072.73	0/0
		8-Nov-21	1075.14	1075.23	4.39	-	2.48	0.00	2.58	1072.65	0/2
		2-Nov-20	1075.14	1075.23	3.99	-	2.35	0.00	2.45	1072.79	0/0
		6-May-20	1075.14	1075.23	3.89	-	2.30	0.00	2.39	1072.84	0/0
		13-Nov-19	1075.14	1075.23	4.57	-	2.37	0.00	2.46	1072.77	0/0
		24-Apr-19	1075.14	1075.23	4.59	-	2.51	0.00	2.61	1072.63	0/0
		4-Oct-18	1075.14	1075.23	4.59	-	2.58	0.00	2.67	1072.56	0/0
		21-Mar-18	1075.14	1075.23	4.59	-	2.58	0.00	2.67	1072.56	0/1
		6-Sep-17	1075.14	1075.23	4.59	-	2.65	0.00	2.75	1072.49	0/0
		3-May-17	1075.14	1075.23	4.59	-	2.42	0.00	2.51	1072.72	15/1
		22-Feb-17	1075.14	1075.23	4.60	-	2.55	0.00	2.65	1072.59	0/0
		28-Oct-16	1075.14	1075.23	4.55	-	2.43	0.00	2.53	1072.71	40/0
		18-Aug-16	1075.14	1075.23	4.55	-	2.30	0.00	2.40	1072.83	123/0
		3-May-16	1075.14	1075.23	4.47	-	2.59	0.00	2.69	1072.55	5/0
		9-Nov-15	1075.14	1075.23	4.48	-	2.62	0.00	2.71	1072.52	5/1
1-Sep-15	1075.14	1075.23	4.34	-	2.59	0.00	2.69	1072.55	0/1		
9-Jun-15	1075.14	1075.23	4.45	-	2.64	0.00	2.73	1072.50	0/1		
10-Apr-15	1075.14	1075.23	4.25	-	2.59	0.00	2.69	1072.55	0/3		
BH1102	3	31-May-22	1089.18	1089.25	13.77	-	10.35	0.00	10.41	1078.84	0/0
		8-Nov-21	1089.18	1089.25	13.78	-	10.36	0.00	10.42	1078.83	30/0
		7-Jun-21	1089.18	1089.25	13.77	-	10.27	0.00	10.34	1078.91	15/0
		2-Nov-20	1089.18	1089.25	13.77	-	10.24	0.00	10.31	1078.94	10/2
		6-May-20	1089.18	1089.25	13.75	-	10.46	0.00	10.53	1078.72	0/0
		14-Nov-19	1089.18	1089.25	13.78	-	10.45	0.00	10.52	1078.73	0/0
		8-May-19	1089.18	1089.25	13.80	-	10.65	0.00	10.71	1078.54	0/0
		9-Oct-18	1089.18	1089.25	13.80	-	10.65	0.00	10.71	1078.54	0/0
		20-Mar-18	1089.18	1089.25	13.78	-	10.58	0.00	10.64	1078.61	0/1
		5-Sep-17	1089.18	1089.25	13.79	-	10.58	0.00	10.65	1078.60	0/0
		1-May-17	1089.18	1089.25	13.79	-	10.56	0.00	10.62	1078.63	15/0
		16-Feb-17	1089.18	1089.25	13.81	-	10.55	0.00	10.61	1078.64	0/0
		27-Oct-16	1089.18	1089.25	13.76	-	10.48	0.00	10.54	1078.71	0/1
		16-Aug-16	1089.18	1089.25	13.78	-	10.55	0.00	10.62	1078.63	10/0
		4-May-16	1089.18	1089.25	13.77	-	10.51	0.00	10.58	1078.67	0/0
17-Feb-16	1089.18	1089.25	13.77	-	10.45	0.00	10.51	1078.74	0/0		
9-Nov-15	1089.18	1089.25	13.90	-	10.49	0.00	10.55	1078.70	0/0		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
BH1701	3	1-Sep-15	1089.18	1089.25	13.77	-	10.49	0.00	10.56	1078.69	0/2
		9-Jun-15	1089.18	1089.25	13.77	-	10.54	0.00	10.61	1078.64	0/0
		31-Mar-15	1089.18	1089.25	13.77	-	10.40	0.00	10.47	1078.78	35/1
		31-May-22	1088.19	1088.27	11.71	-	9.47	0.00	9.55	1078.72	5/1
		8-Nov-21	1088.19	1088.27	11.71	-	9.48	0.00	9.56	1078.71	10/0
		7-Jun-21	1088.19	1088.27	11.73	-	9.42	0.00	9.50	1078.77	0/0
		2-Nov-20	1088.19	1088.27	11.79	-	9.43	0.00	9.51	1078.76	25/0
		6-May-20	1088.19	1088.27	11.83	-	9.54	0.00	9.62	1078.65	0/0
		18-Nov-19	1088.19	1088.27	11.83	-	9.59	0.00	9.67	1078.60	0/0
		8-May-19	1088.19	1088.27	11.85	-	9.73	0.00	9.81	1078.46	0/0
		5-Oct-18	1088.19	1088.27	11.85	-	9.73	0.00	9.81	1078.46	15/0
		22-Mar-18	1088.19	1088.27	11.84	-	9.71	0.00	9.79	1078.48	160/0
		5-Sep-17	1088.19	1088.27	11.84	-	9.77	0.00	9.85	1078.42	Not Measured
		2-May-17	1088.19	1088.27	11.82	-	9.63	0.00	9.71	1078.56	10/0
		27-Feb-17	1088.19	1088.27	11.83	-	9.63	0.00	9.71	1078.56	50/0
		31-Oct-16	1088.19	1088.27	11.81	-	9.58	0.00	9.66	1078.62	110/0
		16-Aug-16	1088.19	1088.27	11.81	-	9.64	0.00	9.73	1078.55	0/0
		5-May-16	1088.19	1088.27	11.80	-	9.63	0.00	9.71	1078.56	0/1
		17-Feb-16	1088.19	1088.27	11.81	-	9.54	0.00	9.62	1078.66	0/0
		10-Nov-15	1088.19	1088.27	11.88	-	9.53	0.00	9.62	1078.66	0/1
2-Sep-15	1088.19	1088.27	11.79	-	9.56	0.00	9.64	1078.63	0/0		
9-Jun-15	1088.19	1088.27	11.97	-	9.60	0.00	9.69	1078.59	10/0		
1-Apr-15	1088.19	1088.27	11.79	-	9.56	0.00	9.64	1078.63	0/0		
BH1704	3	31-May-22	1089.46	1089.58	12.21	-	10.24	5	10.36	1079.22	5/2
		8-Nov-21	1089.46	1089.58	12.20	-	10.37	3	10.49	1079.09	115/102
		7-Jun-21	1089.46	1089.58	12.19	-	10.13	0.00	10.25	1079.33	35/0
		2-Nov-20	1089.46	1089.58	12.20	-	10.36	0.00	10.48	1079.10	330/356
		6-May-20	1089.46	1089.58	13.19*	-	10.46	0.00	10.58	1079.00	>11,100/1,200
		11-Dec-19	1089.46	1089.58	12.21	-	10.51	0.00	10.63	1078.95	>11,100/>2,000
		8-May-19	1089.46	1089.58	12.22	10.67	10.71	35	10.82	1078.76	>11,100/>2,000
		24-Oct-18	1089.46	1089.58	12.22	10.68	10.72	35	10.83	1078.75	>11,100/>2,000
		20-Mar-18	1089.46	1089.58	12.22	10.59	10.72	135	10.84	1078.74	1,000/305
		5-Sep-17	1089.46	1089.58	12.23	10.47	10.61	140	10.73	1078.85	>11,100/>2,000
		5-May-17	1089.46	1089.58	12.22	10.47	10.61	140	10.73	1078.85	75/112
		27-Feb-17	1089.46	1089.58	12.20	-	10.51	0.00	10.63	1078.96	6,505/300
		31-Oct-16	1089.46	1089.58	12.20	10.49	10.55	59	10.67	1078.92	300/200
		16-Aug-16	1089.46	1089.58	12.19	-	10.57	0.00	10.69	1078.89	260/166
		5-May-16	1089.46	1089.58	12.08	-	10.55	0.00	10.67	1078.91	>11,100/>2,000
18-Feb-16	1089.46	1089.58	12.08	10.34	10.46	120	10.57	1079.01	>11,100/>2,000		
10-Nov-15	1089.46	1089.58	12.11	-	10.56	0.00	10.68	1078.90	>11,100/>2,000		

Monitor Well	Screened Unit	Monitor Date	Top of PVC Pipe Elevation	Ground Surface Elevation	Total Depth bTOP ³	Depth to LPH bTOP	Depth to Water bTOP	Apparent Thickness of LNAPL	Depth to Water BGS ⁴	Water Elevation	Monitor Well Vapour Concentration ⁵
		(dd-mmm-yy)	(masl ¹)	(masl ²)	(m)	(m)	(m)	(mm)	(m)	(masl)	HEX/IBL (ppm)
EX1	3	2-Sep-15	1089.46	1089.58	11.94	-	10.45	0.00	10.57	1079.01	5,100/>2,000
		9-Jun-15	1089.46	1089.58	12.13	-	10.53	0.00	10.65	1078.93	480/305
		2-Apr-15	1089.46	1089.58	12.13	-	10.33	0.00	10.45	1079.13	240/100
		30-May-22	1088.62	1089.25	15.41	-	13.66	0.00	14.29	1074.96	0/0
		9-Nov-21	1088.62	1089.25	15.43	-	13.55	0.00	14.18	1075.07	25/2
		7-Jun-21	1088.62	1089.25	15.43	-	13.54	0.00	14.17	1075.08	0/0
		5-Nov-20	1088.62	1089.25	15.47	-	13.58	0.00	14.21	1075.04	0/0
		11-May-20	1088.62	1089.25	15.42	-	13.69	0.00	14.32	1074.94	5/0
		25-Nov-19	1088.62	1089.25	15.40	-	13.61	0.00	14.24	1075.01	0/0
		17-Jun-19	1088.62	1089.25	15.35	-	13.71	0.00	14.34	1074.91	0/0
		18-Oct-18	1088.62	1089.25	15.35	-	13.71	0.00	14.34	1074.91	350/44
		3-Apr-18	1088.62	1089.25	15.35	-	13.75	0.00	14.38	1074.87	155/63
		5-May-17	1088.62	1089.25	15.37	-	13.68	0.00	14.31	1074.94	0/1
		28-Feb-17	1088.62	1089.25	15.41	-	13.76	0.00	14.39	1074.86	15/0
		1-Nov-16	1088.62	1089.25	15.44	-	13.74	0.00	14.37	1074.89	25/0
		17-Aug-16	1088.62	1089.25	15.37	-	13.79	0.00	14.42	1074.83	25/1
		6-May-16	1088.62	1089.25	15.40	-	13.80	0.00	14.43	1074.82	0/0
		18-Feb-16	1088.62	1089.25	15.47	-	13.56	0.00	14.19	1075.06	280/123
		10-Nov-15	1088.62	1089.25	16.05	-	13.74	0.00	14.37	1074.88	0/0
		2-Sep-15	1088.62	1089.25	15.44	-	13.69	0.00	14.32	1074.93	0/0
9-Jun-15	1088.62	1089.25	15.85	-	13.72	0.00	14.35	1074.90	0/0		
17-Apr-15	1088.62	1089.25	15.89	-	13.71	0.00	14.34	1074.91	10/0		
EX2	3	30-May-22	1087.85	1088.48	13.46	-	12.78	0.00	13.41	1075.07	0/0
		9-Nov-21	1087.85	1088.48	14.21	-	12.65	0.00	13.28	1075.20	15/0
		7-Jun-21	1087.85	1088.48	14.19	-	12.68	0.00	13.31	1075.18	15/0
		2-Nov-20	1087.85	1088.48	14.19	-	12.75	0.00	13.38	1075.10	5/0
		11-May-20	1087.85	1088.48	14.20	-	12.83	0.00	13.46	1075.02	0/1
		10-Dec-19	1087.85	1088.48	14.10	-	12.78	0.00	13.41	1075.08	0/0
		13-Jun-19	1087.85	1088.48	14.12	-	12.84	0.00	13.47	1075.02	0/0
		18-Oct-18	1087.85	1088.48	14.12	-	12.89	0.00	13.52	1074.96	0/0
		23-Mar-18	1087.85	1088.48	14.12	-	12.86	0.00	13.49	1075.00	0/1
		5-May-17	1087.85	1088.48	14.13	-	12.79	0.00	13.42	1075.07	0/4
		28-Feb-17	1087.85	1088.48	14.66	-	12.90	0.00	13.53	1074.95	80/2
		1-Nov-16	1087.85	1088.48	14.07	-	12.35	0.00	12.98	1075.51	0/0
		16-Aug-16	1087.85	1088.48	14.06	-	12.84	0.00	13.47	1075.02	0/0
		5-May-16	1087.85	1088.48	14.00	-	12.88	0.00	13.51	1074.98	15/0
		18-Feb-16	1087.85	1088.48	14.35	-	12.67	0.00	13.30	1075.18	330/129
		10-Nov-15	1087.85	1088.48	14.48	-	12.82	0.00	13.45	1075.04	0/0
		2-Sep-15	1087.85	1088.48	13.95	-	12.79	0.00	13.42	1075.06	0/0
9-Jun-15	1087.85	1088.48	14.36	-	12.79	0.00	13.42	1075.06	0/1		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
EX3	3	14-Apr-15	1087.85	1088.48	14.06	-	12.76	0.00	13.39	1075.09	0/5
		30-May-22	1088.46	1089.09	13.06	-	11.47	0.00	12.10	1076.99	0/0
		9-Nov-21	1088.46	1089.09	13.05	-	11.27	0.00	11.90	1077.20	20/0
		7-Jun-21	1088.46	1089.09	13.08	-	11.20	0.00	11.83	1077.26	25/0
		3-Nov-20	1088.46	1089.09	13.15	-	11.23	0.00	11.86	1077.23	0/0
		11-May-20	1088.46	1089.09	13.26	-	11.35	0.00	11.98	1077.11	0/0
		25-Nov-19	1088.46	1089.09	13.26	-	11.35	0.00	11.98	1077.12	0/0
		17-Jun-19	1088.46	1089.09	13.30	-	11.43	0.00	12.06	1077.03	0/0
		18-Oct-18	1088.46	1089.09	13.30	-	11.42	0.00	12.05	1077.04	0/0
		3-Apr-18	1088.46	1089.09	13.34	-	11.46	0.00	12.09	1077.00	0/0
		5-May-17	1088.46	1089.09	13.29	-	10.30	0.00	10.93	1078.16	0/1
		28-Feb-17	1088.46	1089.09	13.34	-	11.45	0.00	12.08	1077.01	100/4
		1-Nov-16	1088.46	1089.09	15.44	-	13.74	0.00	14.37	1074.73	0/0
		17-Aug-16	1088.46	1089.09	13.27	-	11.40	0.00	12.03	1077.06	25/0
		6-May-16	1088.46	1089.09	12.29	-	11.39	0.00	12.02	1077.07	0/0
		18-Feb-16	1088.46	1089.09	13.26	-	11.22	0.00	11.85	1077.24	0/1
		10-Nov-15	1088.46	1089.09	13.42	-	11.34	0.00	11.97	1077.12	0/0
		2-Sep-15	1088.46	1089.09	13.29	-	11.31	0.00	11.94	1077.15	0/1
9-Jun-15	1088.46	1089.09	12.50	-	11.28	0.00	11.91	1077.18	0/0		
14-Apr-15	1088.46	1089.09	13.25	-	11.31	0.00	11.94	1077.15	0/1		
EX4	3	30-May-22	1089.44	1090.07	11.30	-	9.88	0.00	10.51	1079.56	0/1
		9-Nov-21	1089.44	1090.07	11.34	-	9.78	0.00	10.41	1079.67	10/18
		7-Jun-21	1089.44	1090.07	11.87	-	9.80	0.00	10.43	1079.65	35/2
		2-Nov-20	1089.44	1090.07	11.89	-	9.88	0.00	10.51	1079.56	60/54
		11-May-20	1089.44	1090.07	11.45	-	9.97	0.00	10.60	1079.47	0/4
		10-Dec-19	1089.44	1090.07	11.38	-	9.93	0.00	10.56	1079.51	25/1
		13-Jun-19	1089.44	1090.07	11.68	-	10.04	0.00	10.67	1079.40	25/1
		24-Oct-18	1089.44	1090.07	11.68	-	10.09	0.00	10.72	1079.36	25/1
		23-Mar-18	1089.44	1090.07	10.98	-	10.04	0.00	10.67	1079.40	105/101
		8-May-17	1089.44	1090.07	11.10	-	9.97	0.00	10.60	1079.47	120/40
		1-Mar-17	1089.44	1090.07	11.22	-	10.02	0.00	10.65	1079.43	200/50
		1-Nov-16	1089.44	1090.07	11.13	-	9.93	0.00	10.56	1079.52	40/11
		16-Aug-16	1089.44	1090.07	11.50	-	9.98	0.00	10.61	1079.46	200/155
		5-May-16	1089.44	1090.07	12.25	-	10.07	0.00	10.70	1079.38	0/4
		18-Feb-16	1089.44	1090.07	12.62	-	9.82	0.00	10.45	1079.63	2,200/591
		10-Nov-15	1089.44	1090.07	12.44	-	9.97	0.00	10.60	1079.47	150/148
		2-Sep-15	1089.44	1090.07	12.32	-	10.00	0.00	10.63	1079.44	460/225
		9-Jun-15	1089.44	1090.07	12.64	-	9.96	0.00	10.59	1079.49	40/73
15-Apr-15	1089.44	1090.07	12.22	-	9.94	0.00	10.57	1079.50	60/20		

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵
											HEX/IBL (ppm)
EX5	3	30-May-22	1090.31	1090.94	12.14	-	10.18	0.00	10.81	1080.13	0/0
		9-Nov-21	1090.31	1090.94	12.14	-	10.03	0.00	10.66	1080.28	0/0
		7-Jun-21	1090.31	1090.94	12.15	-	10.14	0.00	10.77	1080.17	0/3
		2-Nov-20	1090.31	1090.94	12.20	-	10.21	0.00	10.84	1080.11	15/0
		11-May-20	1090.31	1090.94	12.41	-	10.31	0.00	10.94	1080.01	0/0
		11-Dec-19	1090.31	1090.94	12.75	-	10.48	0.00	11.11	1079.83	300/20
		12-Jun-19	1090.31	1090.94	12.75	-	10.64	0.00	11.27	1079.68	300/20
		18-Oct-18	1090.31	1090.94	12.75	-	10.71	0.00	11.34	1079.61	780/232
		23-Mar-18	1090.31	1090.94	12.99	-	10.67	0.00	11.30	1079.65	780/232
		5-May-17	1090.31	1090.94	13.12	-	10.53	0.00	11.16	1079.79	605/1,150
		1-Mar-17	1090.31	1090.94	13.11	-	10.66	0.00	11.29	1079.66	320/120
		1-Nov-16	1090.31	1090.94	13.19	-	10.65	0.00	11.28	1079.67	180/99
		16-Aug-16	1090.31	1090.94	13.00	-	10.34	0.00	10.97	1079.97	1,050/478
		5-May-16	1090.31	1090.94	13.29	-	10.43	0.00	11.06	1079.89	550/274
		18-Feb-16	1090.31	1090.94	13.41	-	10.17	0.00	10.80	1080.15	1,250/513
		10-Nov-15	1090.31	1090.94	13.51	-	10.31	0.00	10.94	1080.00	940/422
		2-Sep-15	1090.31	1090.94	13.25	-	10.39	0.00	11.02	1079.92	330/138
		9-Jun-15	1090.31	1090.94	13.57	-	10.29	0.00	10.92	1080.03	510/230
16-Apr-15	1090.31	1090.94	13.75	-	10.33	0.00	10.96	1079.98	290/198		
EX6	3	30-May-22	1090.45	1091.08	11.64	-	10.88	0.00	11.51	1079.57	0/1
		9-Nov-21	1090.45	1091.08	11.80	-	10.95	0.00	11.58	1079.51	0/0
		7-Jun-21	1090.45	1091.08	11.83	-	10.77	0.00	11.40	1079.68	5/1
		3-Nov-20	1090.45	1091.08	11.93	-	10.92	0.00	11.55	1079.54	10/2
		11-May-20	1090.45	1091.08	11.98	-	10.96	0.00	11.59	1079.50	0/0
		11-Dec-19	1090.45	1091.08	11.98	-	10.89	0.00	11.52	1079.57	0/0
		13-Jun-19	1090.45	1091.08	11.98	-	10.99	0.00	11.62	1079.47	0/0
		24-Oct-18	1090.45	1091.08	11.98	-	11.06	0.00	11.69	1079.39	0/0
		23-Mar-18	1090.45	1091.08	11.70	-	11.00	0.00	11.63	1079.45	0/2
		5-May-17	1090.45	1091.08	11.30	-	10.85	0.00	11.48	1079.60	0/28
		1-Mar-17	1090.45	1091.08	11.33	-	11.02	0.00	11.65	1079.43	60/12
		1-Nov-16	1090.45	1091.08	11.18	-	10.91	0.00	11.54	1079.55	25/13
		17-Aug-16	1090.45	1091.08	11.51	-	10.99	0.00	11.62	1079.47	0/6
		5-May-16	1090.45	1091.08	12.85	-	10.98	0.00	11.61	1079.48	0/1
		18-Feb-16	1090.45	1091.08	12.81	-	10.75	0.00	11.38	1079.71	165/59
		10-Nov-15	1090.45	1091.08	12.74	-	10.86	0.00	11.49	1079.59	0/8
2-Sep-15	1090.45	1091.08	12.75	-	10.90	0.00	11.53	1079.55	290/61		
9-Jun-15	1090.45	1091.08	12.82	-	10.88	0.00	11.51	1079.58	0/12		
17-Apr-15	1090.45	1091.08	12.77	-	10.92	0.00	11.55	1079.53	5/2		
EX7	3	31-May-22	1088.92	1089.55	12.43	-	10.94	0.00	11.57	1077.97	5/3
		18-Nov-21	1088.92	1089.55	12.54	-	10.90	0.00	11.53	1078.02	280/246

Monitor Well	Screened Unit	Monitor Date (dd-mmm-yy)	Top of PVC Pipe Elevation (masl ¹)	Ground Surface Elevation (masl ²)	Total Depth bTOP ³ (m)	Depth to LPH bTOP (m)	Depth to Water bTOP (m)	Apparent Thickness of LNAPL (mm)	Depth to Water BGS ⁴ (m)	Water Elevation (masl)	Monitor Well Vapour Concentration ⁵ HEX/IBL (ppm)
		7-Jun-21	1088.92	1089.55	12.54	-	10.86	0.00	11.49	1078.06	5/4
		3-Nov-20	1088.92	1089.55	12.46	-	11.02	0.00	11.65	1077.90	0/0
		11-May-20	1088.92	1089.55	12.65	-	11.20	0.00	11.83	1077.72	0/0
		11-Dec-19	1088.92	1089.55	12.56	-	11.18	0.00	11.81	1077.73	0/0
		13-Jun-19	1088.92	1089.55	12.56	-	11.31	0.00	11.94	1077.61	0/0
		24-Oct-18	1088.92	1089.55	12.56	-	11.36	0.00	11.99	1077.56	0/0
		23-Mar-18	1088.92	1089.55	12.58	-	11.34	0.00	11.97	1077.57	0/7
		5-May-17	1088.92	1089.55	12.63	-	11.15	0.00	11.78	1077.77	0/7
		1-Mar-17	1088.92	1089.55	12.66	-	11.30	0.00	11.93	1077.61	55/2
		1-Nov-16	1088.92	1089.55	12.63	-	11.23	0.00	11.86	1077.69	155/102
		17-Aug-16	1088.92	1089.55	12.73	-	11.16	0.00	11.79	1077.76	0/1
		5-May-16	1088.92	1089.55	12.70	-	11.06	0.00	11.69	1077.86	0/0
		18-Feb-16	1088.92	1089.55	13.00	-	10.91	0.00	11.54	1078.01	360/225
		10-Nov-15	1088.92	1089.55	12.96	-	10.96	0.00	11.59	1077.96	0/12
		2-Sep-15	1088.92	1089.55	12.69	-	10.99	0.00	11.62	1077.93	3,200/1,191
		9-Jun-15	1088.92	1089.55	13.11	-	10.99	0.00	11.62	1077.93	0/35
		18-Apr-15	1088.92	1089.55	13.24	-	10.97	0.00	11.60	1077.95	45/35

Notes:

1 Meters above sea level

2 Ground surface elevation based on survey completed in May 2015 by Clifton Associates Ltd.

3 Below top of pipe

4 Below ground surface

5 Vapour concentrations measured in monitoring wells with an RKI Eagle portable gas monitor with PID.

HEX/IBL Hexane/Isobutylene

- not measured

* Possible measurement error. Depth to be checked in Fall 2020.

APPENDIX D

HYDRAULIC CONDUCTIVITIES

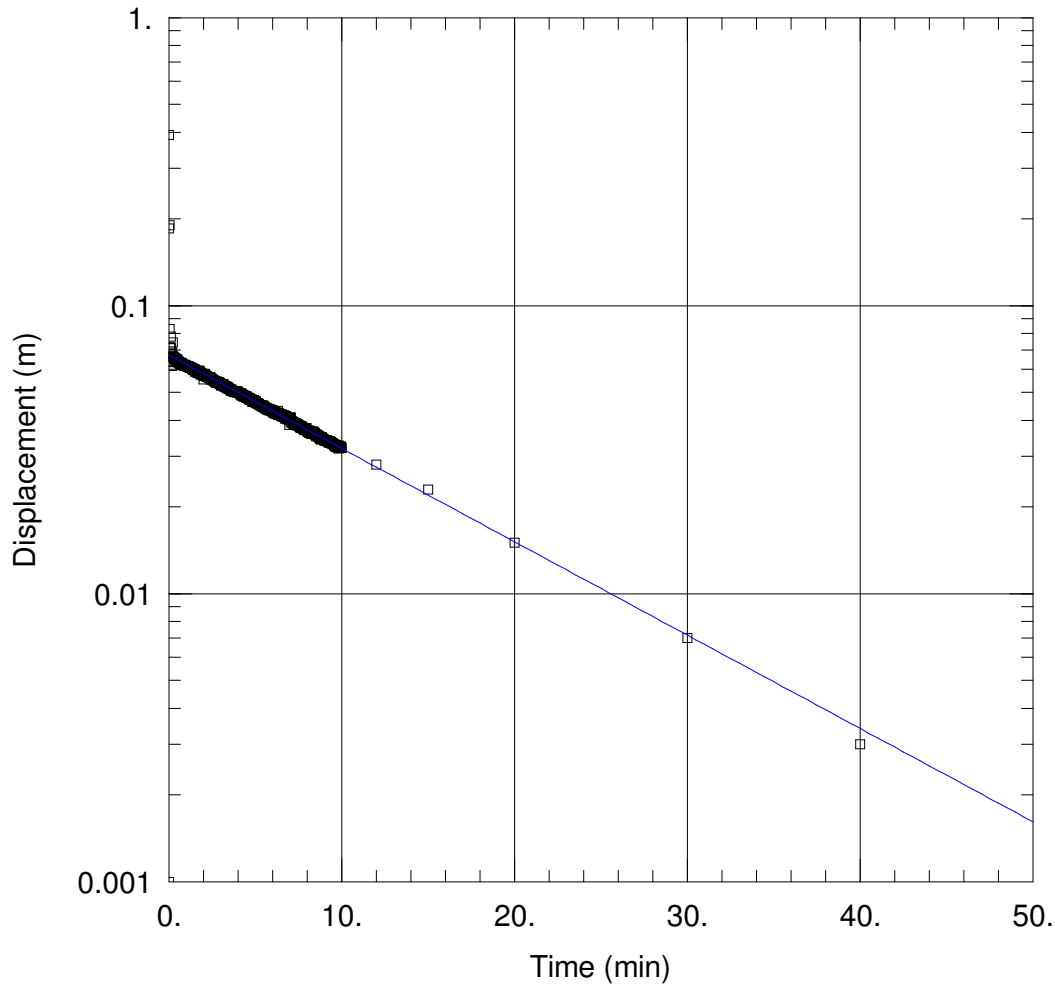
TABLE D-1
SUMMARY OF HYDRAULIC CONDUCTIVITY TEST RESULTS

Well ID	Test Conducted & Analyzed By	Test Date	Water Level on Test Date (mbg)	Screen Interval (mbg)	Hydraulic Conductivity (m/s)	Average Hydraulic Conductivity (m/s)	Saturated Stratigraphy and Geologic Unit	Test Type
BH2006	Parsons	2023-08-24	1.6	2.3 - 4.9	3.7E-07		Silt/Clay [Unit 3]	Rising Head (Bail Test)
BH6005	Parsons	2023-08-23	10.5	9.15 - 12.2	1.1E-07		Silty Sand [Unit 3]	Rising Head (Bail Test)
BH1923	Parsons	2023-08-23	10.3	7.6 - 15.9	2.0E-06		Sand [Unit 3]	Rising Head (Bail Test)
BH1917	Parsons	2023-08-25	12.8	8.8 - 16.2	3.1E-06	3.2E-06	Clayey Silt [Unit 3]	Rising Head (Bail Test)
					3.3E-06			Rising Head (Bail Test)
BH1925	Parsons	2023-08-25	13.8	16.4 - 19.8	2.1E-06	1.9E-06	Clayey Silt (16.4 - 17.1 mbg) and Sand (17.1 - 19.8 mbg) [Unit 3]	Rising Head (Bail Test)
					1.7E-06			Rising Head (Bail Test)
BH2001	Parsons	2023-08-24	1.1	3.4 - 4.9	3.2E-07		Sand [Unit 5]	Rising Head (Bail Test)
BH1947	Parsons	2023-08-25	1.4	4.3 - 6.1	2.1E-07		Sand (4.6 - 5.6 mbg) with approximately 40cm of Clay above and below [Unit 5]	Rising Head (Bail Test)
BH3001C	Parsons	2023-08-24	3.6	5.2 - 6.1	3.9E-07		Sandy Silt [Unit 4]	Rising Head (Bail Test)
BH1945	Parsons	2023-08-24	3.3	3.7 - 6.4	4.5E-07		Sand (4.0 - 6.1 mbg) with 30cm of Clay above and below [Unit 5]	Rising Head (Bail Test)
Geometric Mean Hydraulic Conductivity (m/s)			Unit 3		8.6E-07			
			Units 4&5		3.3E-07			

mbg - metres below grade

m/s - metres per second

[] - Geological unit as per the report May/June 2022 Monitoring and Sampling Event (Clifton, 2022).



BH1917 RISING TEST (1 OF 2)

Data Set: C:\...\BH1917-1.aqt
 Date: 09/07/23

Time: 08:59:40

PROJECT INFORMATION

Company: Parsons
 Client: Suncor
 Project: 10-12832
 Location: Alberta
 Test Well: BH1917
 Test Date: 2023-08-25

AQUIFER DATA

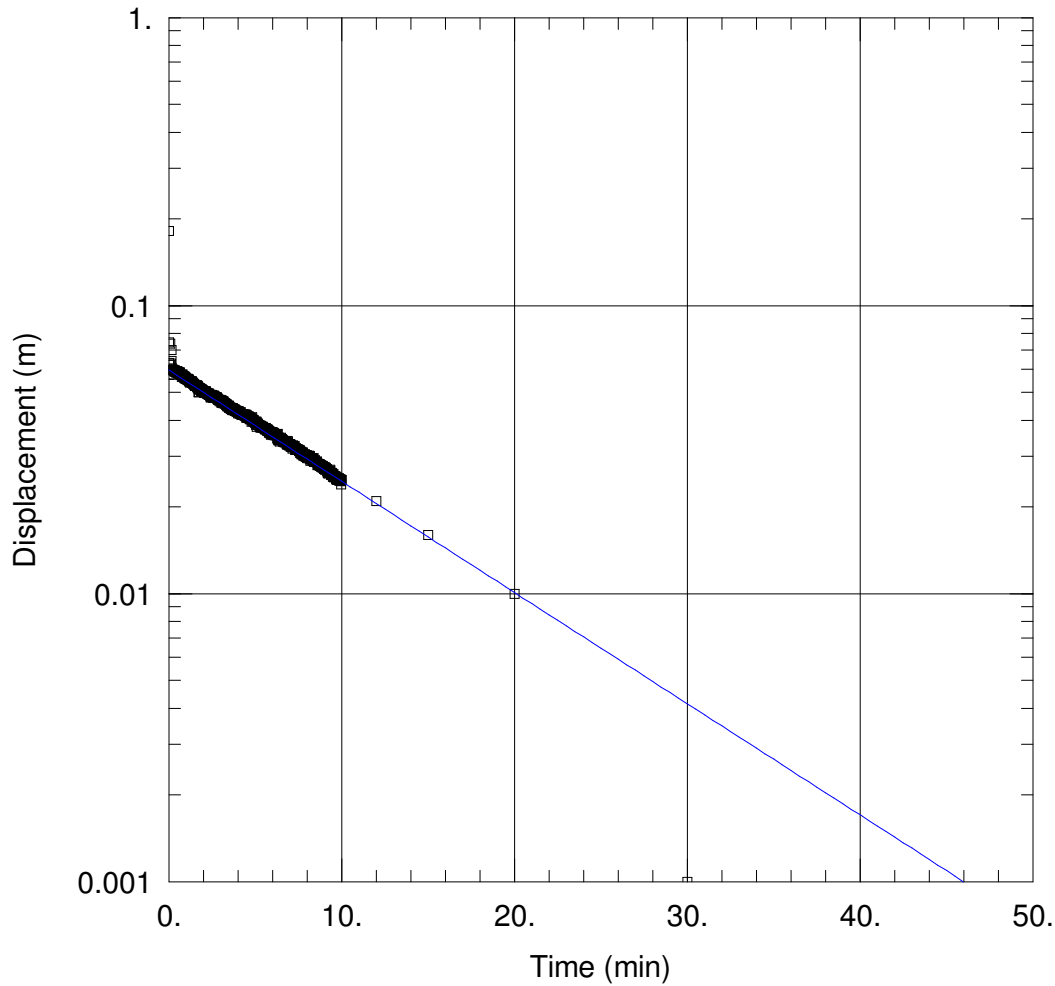
Saturated Thickness: 4.544 m Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH1917)

Initial Displacement: <u>0.3919 m</u>	Static Water Column Height: <u>3.355 m</u>
Total Well Penetration Depth: <u>3.355 m</u>	Screen Length: <u>3.355 m</u>
Casing Radius: <u>0.0255 m</u>	Well Radius: <u>0.0762 m</u>
	Gravel Pack Porosity: <u>0.25</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>Bower-Rice</u>
K = <u>3.075E-6 m/sec</u>	y0 = <u>0.06732 m</u>



BH1917 RISING TEST (2 OF 2)

Data Set: C:\...\BH1917-2.aqt
 Date: 09/07/23

Time: 09:02:59

PROJECT INFORMATION

Company: Parsons
 Client: Suncor
 Project: 10-12832
 Location: Alberta
 Test Well: BH1917
 Test Date: 2023-08-25

AQUIFER DATA

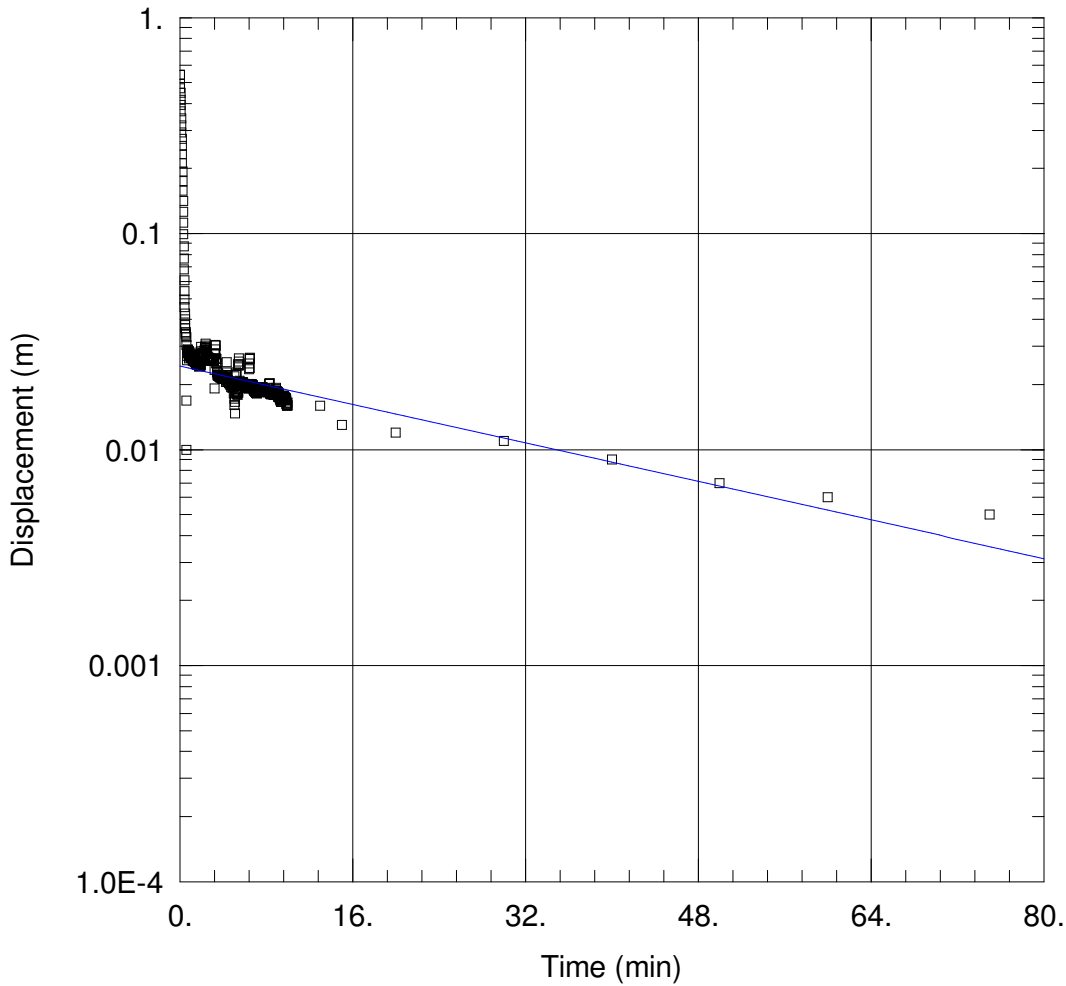
Saturated Thickness: 4.544 m Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH1917)

Initial Displacement: <u>0.1811 m</u>	Static Water Column Height: <u>3.355 m</u>
Total Well Penetration Depth: <u>3.355 m</u>	Screen Length: <u>3.355 m</u>
Casing Radius: <u>0.0255 m</u>	Well Radius: <u>0.0762 m</u>
	Gravel Pack Porosity: <u>0.25</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>Bower-Rice</u>
K = <u>3.305E-6 m/sec</u>	y0 = <u>0.05971 m</u>



BH1923 RISING TEST

Data Set: C:\...\BH1923_v02.aqt
 Date: 09/21/23

Time: 14:56:44

PROJECT INFORMATION

Company: Parsons
 Client: Suncor
 Project: 10-12832
 Location: Alberta
 Test Well: BH1923
 Test Date: 2023-08-23

AQUIFER DATA

Saturated Thickness: 5.99 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH1923)

Initial Displacement: 0.5438 m
 Total Well Penetration Depth: 5.565 m
 Casing Radius: 0.0255 m

Static Water Column Height: 5.565 m
 Screen Length: 5.565 m
 Well Radius: 0.0762 m
 Gravel Pack Porosity: 0.25

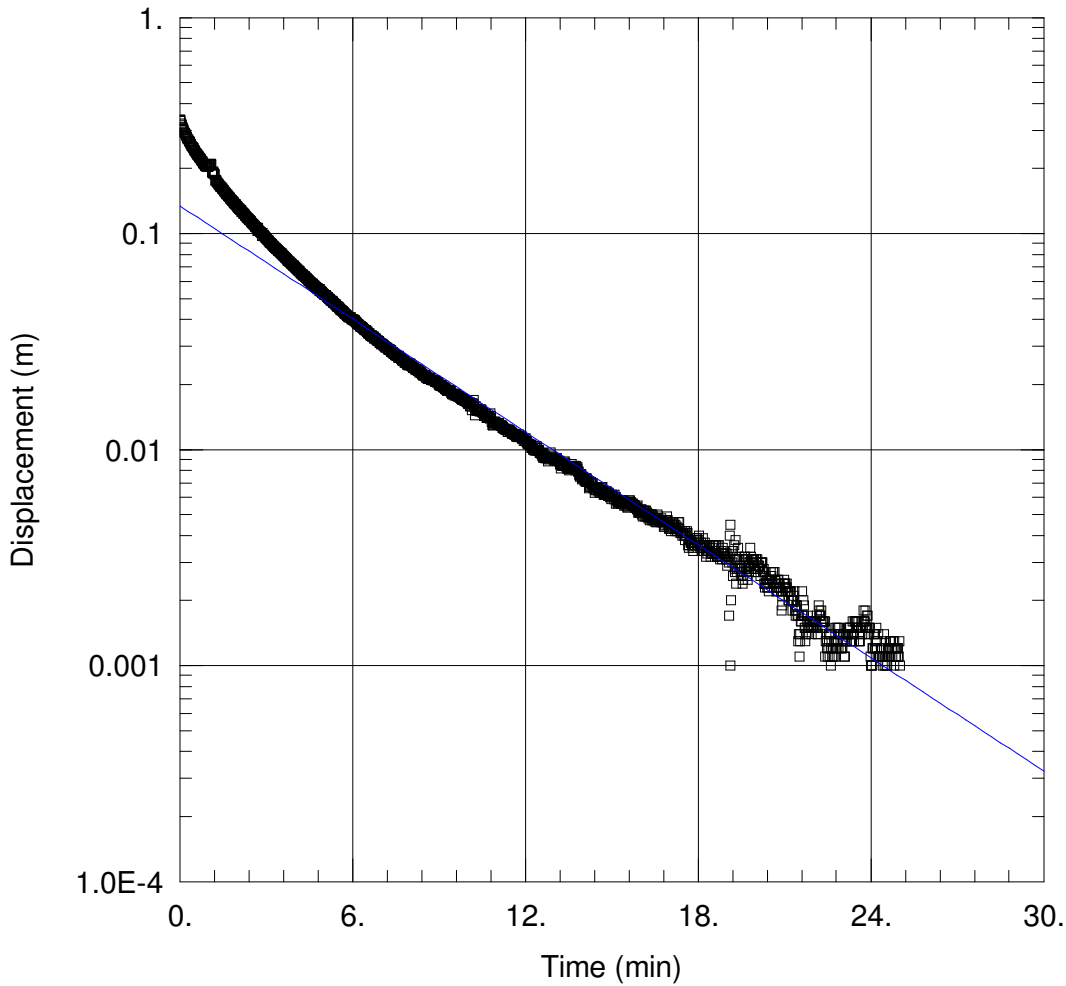
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bowyer-Rice

K = 2.042E-6 m/sec

y0 = 0.02433 m



BH1925 RISING TEST (1 OF 2)

Data Set: C:\...\BH1925-1_v02.aqt

Date: 09/21/23

Time: 14:57:55

PROJECT INFORMATION

Company: Parsons

Client: Suncor

Project: 10-12832

Location: Alberta

Test Well: BH1925

Test Date: 2023-08-25

AQUIFER DATA

Saturated Thickness: 5.768 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH1925)

Initial Displacement: 0.3366 m

Static Water Column Height: 5.768 m

Total Well Penetration Depth: 5.768 m

Screen Length: 3.115 m

Casing Radius: 0.0255 m

Well Radius: 0.0762 m

Gravel Pack Porosity: 0.25

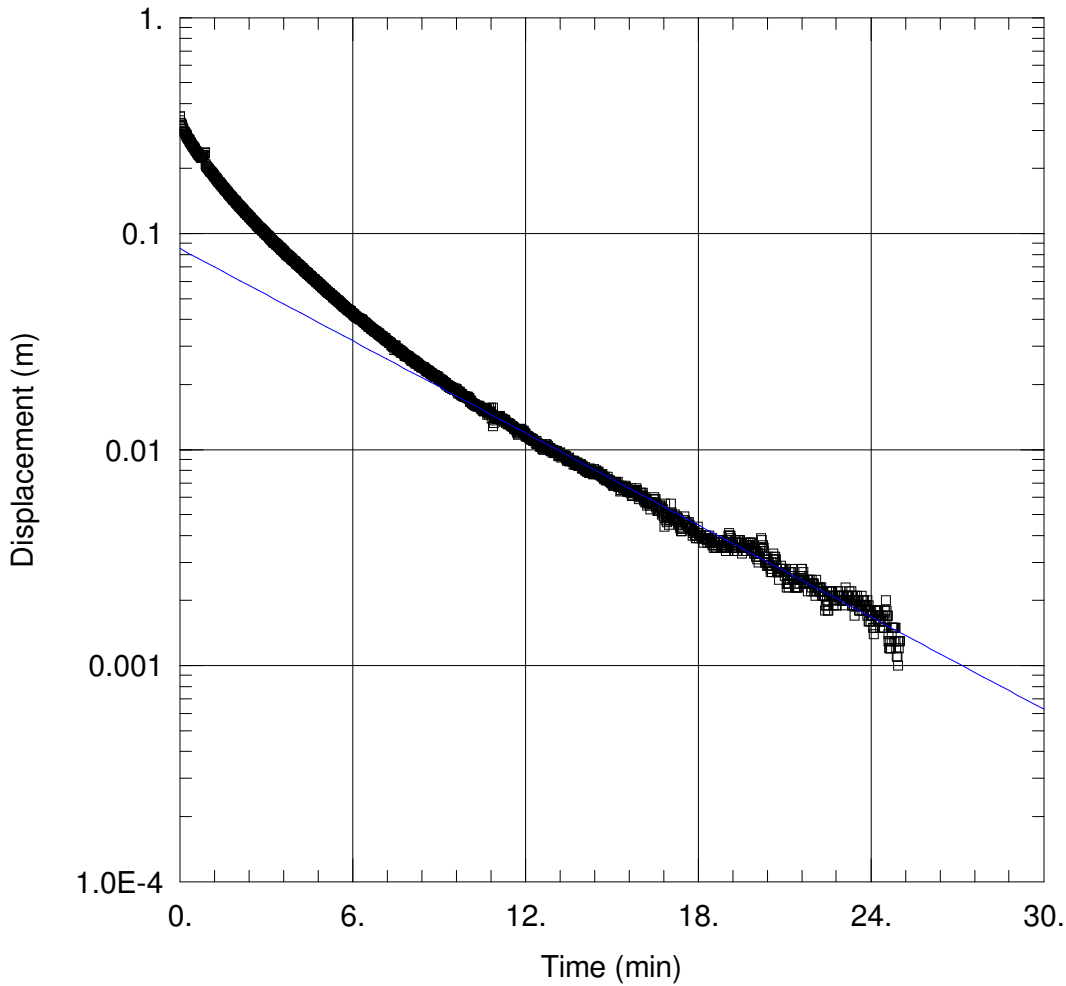
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

K = 2.11E-6 m/sec

y0 = 0.1344 m



BH1925 RISING TEST (2 OF 2)

Data Set: C:\...\BH1925-2.aqt

Date: 09/07/23

Time: 09:14:55

PROJECT INFORMATION

Company: Parsons

Client: Suncor

Project: 10-12832

Location: Alberta

Test Well: BH1925

Test Date: 2023-08-25

AQUIFER DATA

Saturated Thickness: 5.768 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH1925)

Initial Displacement: 0.3475 m

Static Water Column Height: 5.768 m

Total Well Penetration Depth: 5.768 m

Screen Length: 3.115 m

Casing Radius: 0.0255 m

Well Radius: 0.0762 m

Gravel Pack Porosity: 0.25

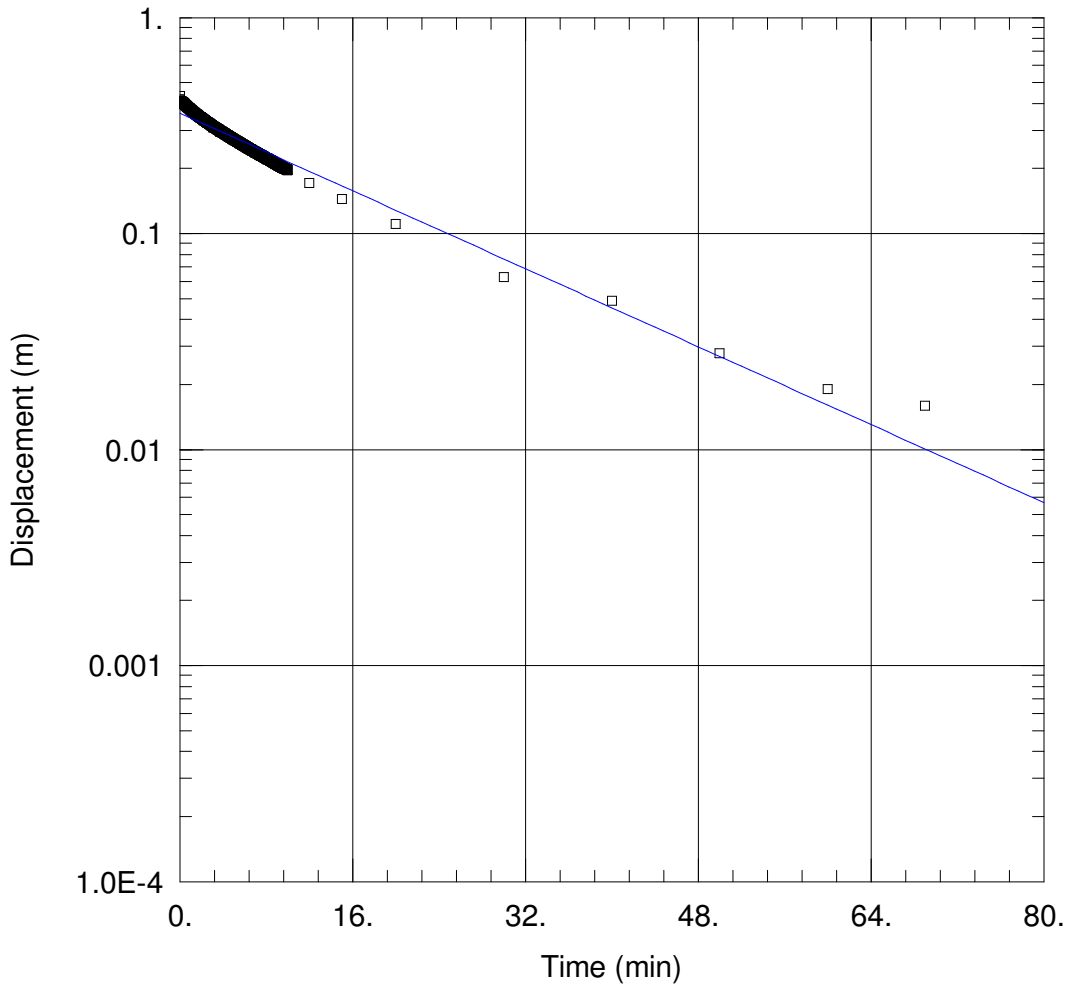
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

K = 1.666E-6 m/sec

y0 = 0.08522 m



BH1945 RISING TEST

Data Set: C:\...\BH1945_v02.aqt

Date: 09/21/23

Time: 14:59:26

PROJECT INFORMATION

Company: Parsons

Client: Suncor

Project: 10-12832

Location: Alberta

Test Well: BH1945

Test Date: 2023-08-24

AQUIFER DATA

Saturated Thickness: 2.975 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH1945)

Initial Displacement: 0.4344 m

Static Water Column Height: 2.975 m

Total Well Penetration Depth: 2.975 m

Screen Length: 2.584 m

Casing Radius: 0.0255 m

Well Radius: 0.0762 m

Gravel Pack Porosity: 0.25

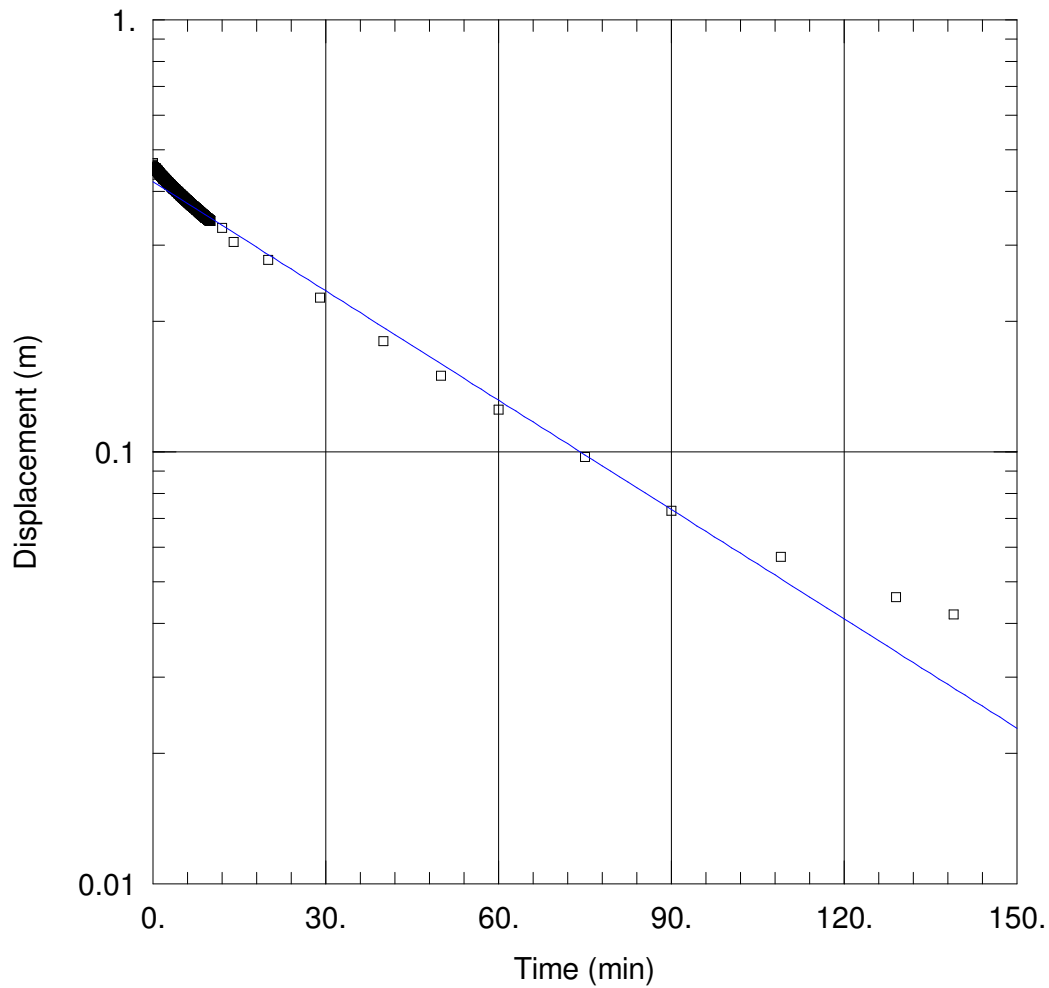
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

K = 4.531E-7 m/sec

y0 = 0.3618 m



BH1947 RISING TEST

Data Set: C:\...\BH1947_v02.aqt
 Date: 09/21/23

Time: 14:59:58

PROJECT INFORMATION

Company: Parsons
 Client: Suncor
 Project: 10-12832
 Location: Alberta
 Test Well: BH1947
 Test Date: 2023-08-25

AQUIFER DATA

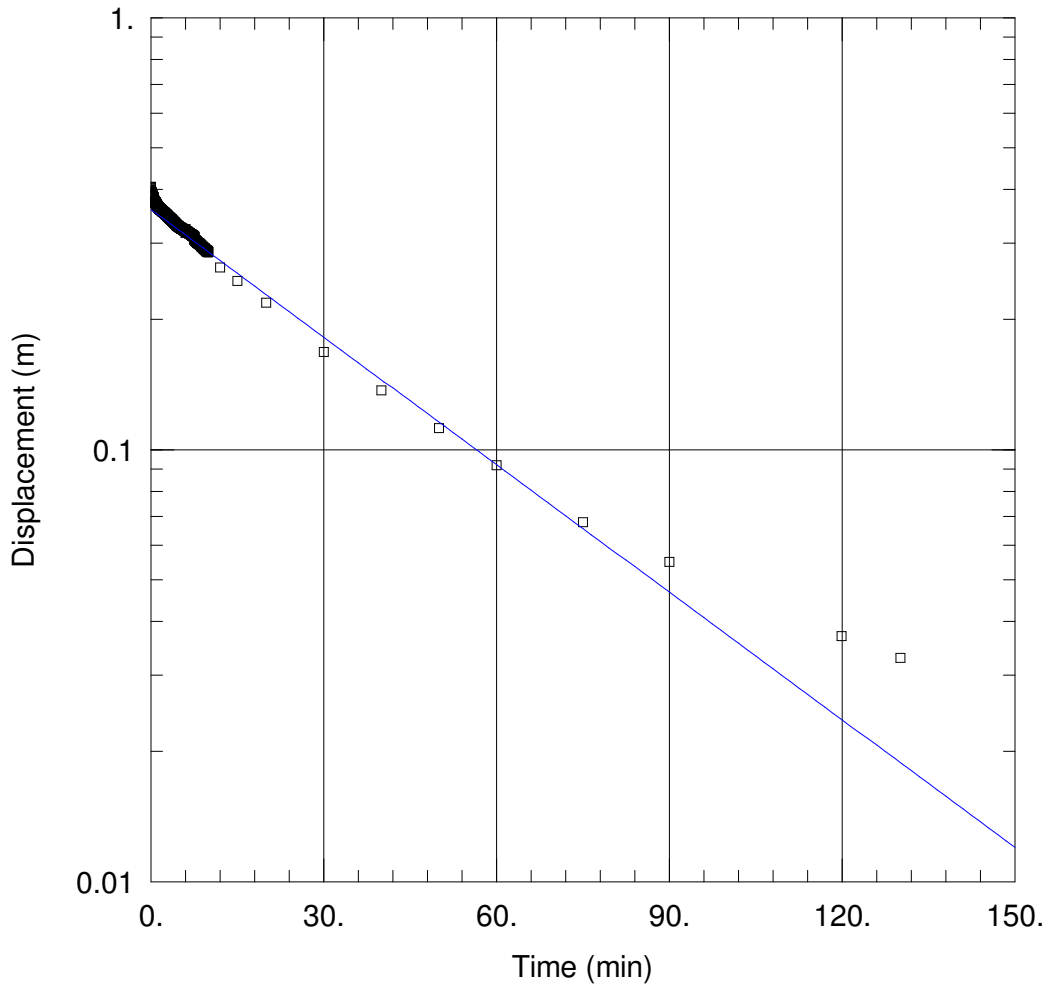
Saturated Thickness: 4.807 m Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH1947)

Initial Displacement: <u>0.4652</u> m	Static Water Column Height: <u>4.368</u> m
Total Well Penetration Depth: <u>4.368</u> m	Screen Length: <u>1.85</u> m
Casing Radius: <u>0.0255</u> m	Well Radius: <u>0.0762</u> m
	Gravel Pack Porosity: <u>0.25</u>

SOLUTION

Aquifer Model: <u>Unconfined</u>	Solution Method: <u>Bower-Rice</u>
K = <u>2.103E-7</u> m/sec	y0 = <u>0.4218</u> m



BH2001 RISING TEST

Data Set: C:\...\BH2001_v02.aqt

Date: 09/21/23

Time: 15:00:35

PROJECT INFORMATION

Company: Parsons

Client: Suncor

Project: 10-12832

Location: Alberta

Test Well: BH2001

Test Date: 2023-08-24

AQUIFER DATA

Saturated Thickness: 4.72 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH2001)

Initial Displacement: 0.4061 m

Total Well Penetration Depth: 3.813 m

Casing Radius: 0.0255 m

Static Water Column Height: 3.813 m

Screen Length: 1.55 m

Well Radius: 0.0762 m

Gravel Pack Porosity: 0.25

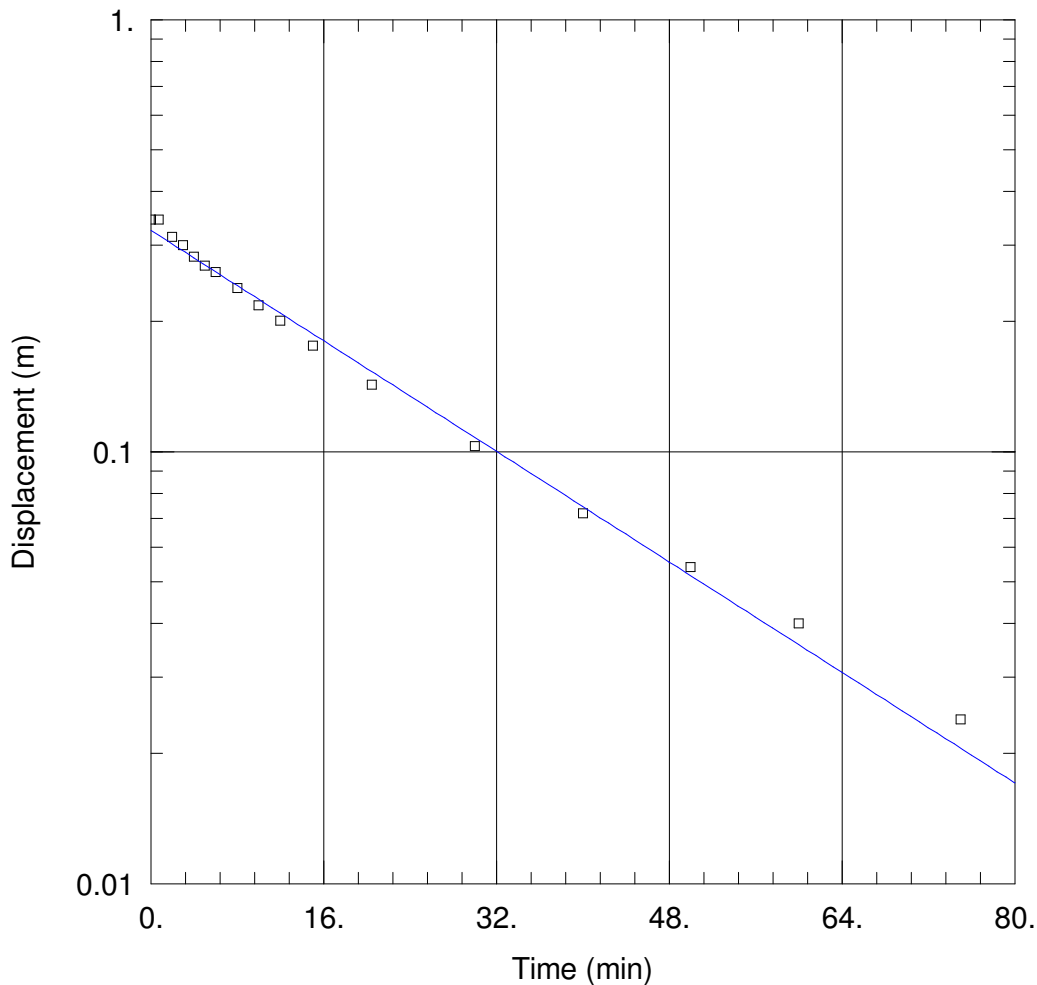
SOLUTION

Aquifer Model: Unconfined

K = 3.153E-7 m/sec

Solution Method: Bower-Rice

y0 = 0.3594 m



BH2006 RISING TEST

Data Set: C:\...\BH2006_v02.aqt
 Date: 09/21/23

Time: 15:01:18

PROJECT INFORMATION

Company: Parsons
 Client: Suncor
 Project: 10-12832
 Location: Alberta
 Test Well: BH2006
 Test Date: 2023-08-24

AQUIFER DATA

Saturated Thickness: 4.379 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH2006)

Initial Displacement: 0.344 m
 Total Well Penetration Depth: 3.34 m
 Casing Radius: 0.0255 m

Static Water Column Height: 3.34 m
 Screen Length: 2.6 m
 Well Radius: 0.0762 m
 Gravel Pack Porosity: 0.25

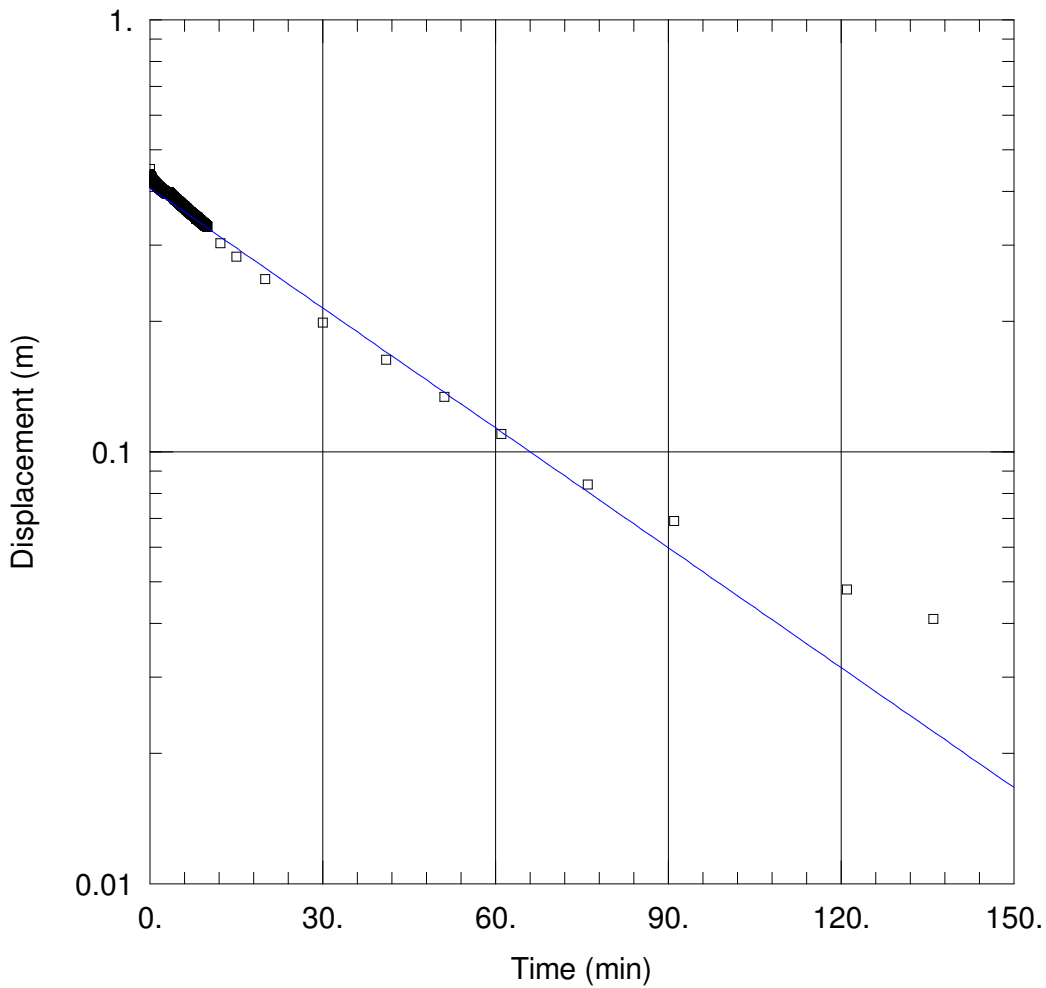
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

K = 3.742E-7 m/sec

y0 = 0.3252 m



BH3001C RISING TEST

Data Set: C:\...\BH3001C_v02.aqt

Date: 09/21/23

Time: 15:02:27

PROJECT INFORMATION

Company: Parsons

Client: Suncor

Project: 10-12832

Location: Alberta

Test Well: BH3001C

Test Date: 2023-08-24

AQUIFER DATA

Saturated Thickness: 3.377 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH3001C)

Initial Displacement: 0.4515 m

Static Water Column Height: 2.458 m

Total Well Penetration Depth: 2.458 m

Screen Length: 0.91 m

Casing Radius: 0.0255 m

Well Radius: 0.0762 m

Gravel Pack Porosity: 0.25

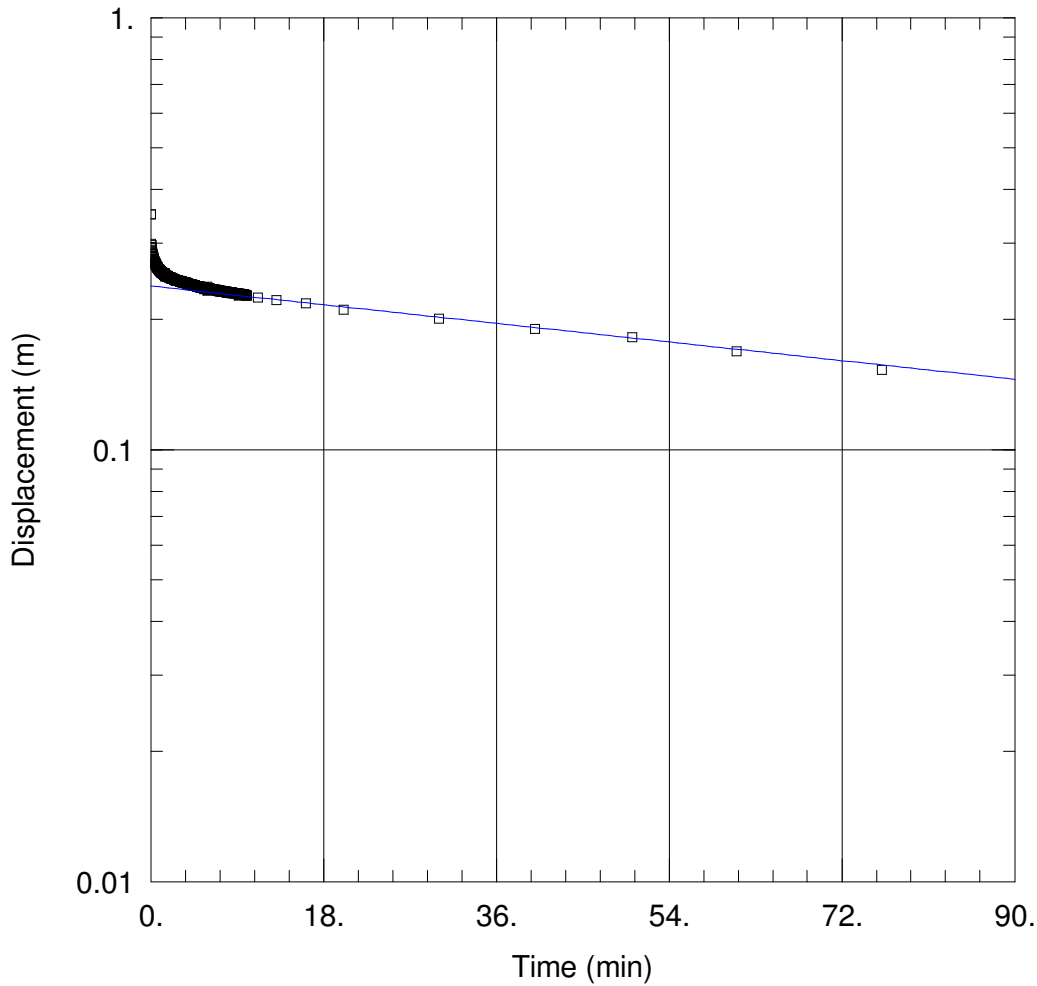
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

K = 3.92E-7 m/sec

y0 = 0.4075 m



BH6005 RISING TEST

Data Set: C:\...\BH6005.aqt
 Date: 09/07/23

Time: 09:31:09

PROJECT INFORMATION

Company: Parsons
 Client: Suncor
 Project: 10-12832
 Location: Alberta
 Test Well: BH6005
 Test Date: 2023-08-23

AQUIFER DATA

Saturated Thickness: 2.876 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (BH6005)

Initial Displacement: 0.3502 m
 Total Well Penetration Depth: 1.711 m
 Casing Radius: 0.0255 m

Static Water Column Height: 1.711 m
 Screen Length: 1.711 m
 Well Radius: 0.0762 m
 Gravel Pack Porosity: 0.25

SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 1.047E-7 m/sec

y0 = 0.239 m

APPENDIX E

TREND ANALYSIS

APPENDIX E

MANN-KENDALL TREND ANALYSIS METHODOLOGY

INTRODUCTION

Temporal trends in groundwater concentrations of dissolved contaminants can be assessed using Mann-Kendall analysis (Gilbert, 1987). ProUCL (Version 5.2, USEPA, 2022), a comprehensive statistical software package developed by the United States Environmental Protection Agency (USEPA), was used for this analysis.

DATA SELECTION FOR THE SITE

Analytical groundwater data collected at the Site between 2013 and 2023 was used in the trend analysis. Visual charts showing the concentrations of benzene and 1,2-DCA were prepared for wells that had at least four sampling events (123 wells).

Benzene and 1,2-dichloroethane were the analytes selected for trend analysis to represent the overall trends at the Site.

Key points related to the statistical trend analysis are summarized below:

- Groundwater wells and analytes with an insufficient number of detectable data points for trend analysis (less than four data points) were excluded from the statistical trend analysis and the visual plots;
- Analytical results less than laboratory detection limits (non-detect) were set to equal the laboratory reportable detection limit. Where multiple detection limits were present for a monitoring well, the highest detection limit below the lowest detectable measurement was used. In a few cases where a laboratory detection limit was greater than at least one detectable value, trend analysis was performed excluding these raised non-detect data points;
- Data sets for benzene and/or 1,2-DCA that contained a high proportion of non-detect values, or that have been non-detect during at least the last three most recent sampling events, have been excluded from the statistical trend analysis;
- Groundwater samples have been collected by a variety of sampling and purging methods (for example hydra-sleeve, bailer, or low-flow via bladder pump);
- The maximum concentration was used in the analysis where either a sample duplicate or multiple samples were collected and analyzed from the same date. Multiple sample results were reported for some dates between 2013 to 2023 in cases where the lab analysis of benzene was reported as part of both the PHC and VOC scan, samples collected historically comparing sampling methodologies, samples collected at various

APPENDIX E

MANN-KENDALL TREND ANALYSIS METHODOLOGY

depths within the monitoring well, and/or sample duplicates. Where several samples were collected in close succession during implementation of the PRB for selected wells adjacent the PRB, one concentration within a month (generally the maximum) was used in the statistical trend analysis, although results from all of the sampling events are reflected in the time-series plots;

- Data identified as anomalous, as summarized below, has been excluded from the visual plots and statistical trend analysis:
 - Groundwater analytical data for wells BH1937 and BH1939 for samples collected on October 28, 2016 were identified as anomalous. The data continues to be included in the tables where historic data is reported, but is not used for data analysis or interpretation herein (such as for the trend analysis); and,
- Analytical groundwater data collected between 2013 and 2022 were collected by others. Analytical groundwater data from 2013 to 2014 was sourced from data tables presented in various report prepared by Clifton. Historic analytical groundwater data from 2015 to 2022 was re-requested from the laboratories (AGAT or Bureau Veritas) and subsequently received in electronic form during 2023.

CALCULATION OF CONCENTRATION TREND

Mann-Kendall is a non-parametric test for linear trend and is well suited for analyzing trends in data over time. The Mann-Kendall statistic (S) measures the trend in the data. Positive values indicate that measurements taken later in time tend to be larger than those taken earlier, while negative values indicate a decrease in concentrations over time. The strength of the trend is proportional to the magnitude of the Mann-Kendall statistic.

The confidence in the trend is calculated using a Kendall probability table. By assessing the S-statistic along with the number of samples, the Kendall probability table provides the probability (p-value) of rejecting the hypothesis that there is no trend for a 0.05 level of significance. The confidence in the trend percentage is calculated by subtracting the p-value from 1 and multiplying by 100% (i.e., 0.05 level of significance is a 95% confidence level).

The coefficient of variation (COV) is a statistical measure of how the individual data points vary about the mean value and is calculated by dividing the standard deviation by the mean. Values less than 1 indicate that the data show less dispersion about the mean, while values greater than 1 indicate that the data show a higher degree of scatter about the mean (AFCEE, 2006).

APPENDIX E
MANN-KENDALL TREND ANALYSIS METHODOLOGY

Using the above measures, a concentration trend for each monitoring location was determined according to the decision logic outlined in the table below, using the COV and confidence in trend as a qualitative measure of the statistical strength of the trend.

Concentration Trend Decision Logic

Mann-Kendall Statistic (S)	Confidence in Trend	Concentration Trend
$S > 0$	> 95 %	Increasing
$S > 0$	90 - 95 %	Probably Increasing
$S > 0$	< 90 %	No Trend
$S \leq 0$	< 90 % and $COV \geq 1$	No Trend
$S \leq 0$	< 90 % and $COV < 1$	Stable
$S < 0$	90 - 95 %	Probably Decreasing
$S < 0$	95 %	Decreasing

(Adapted from AFCEE 2006)

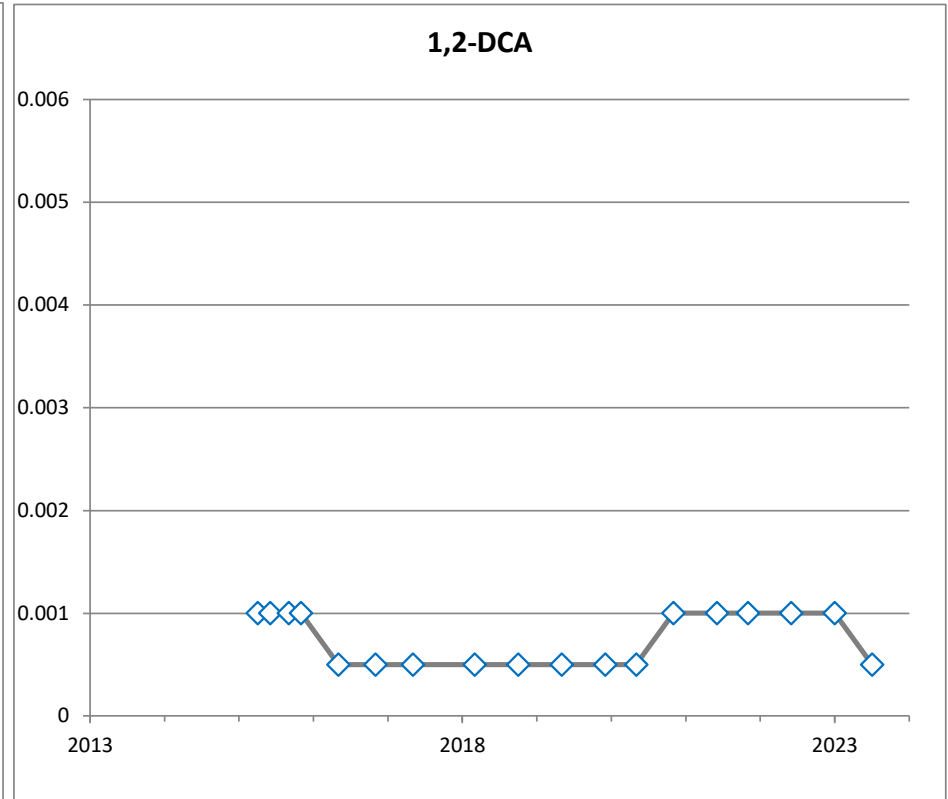
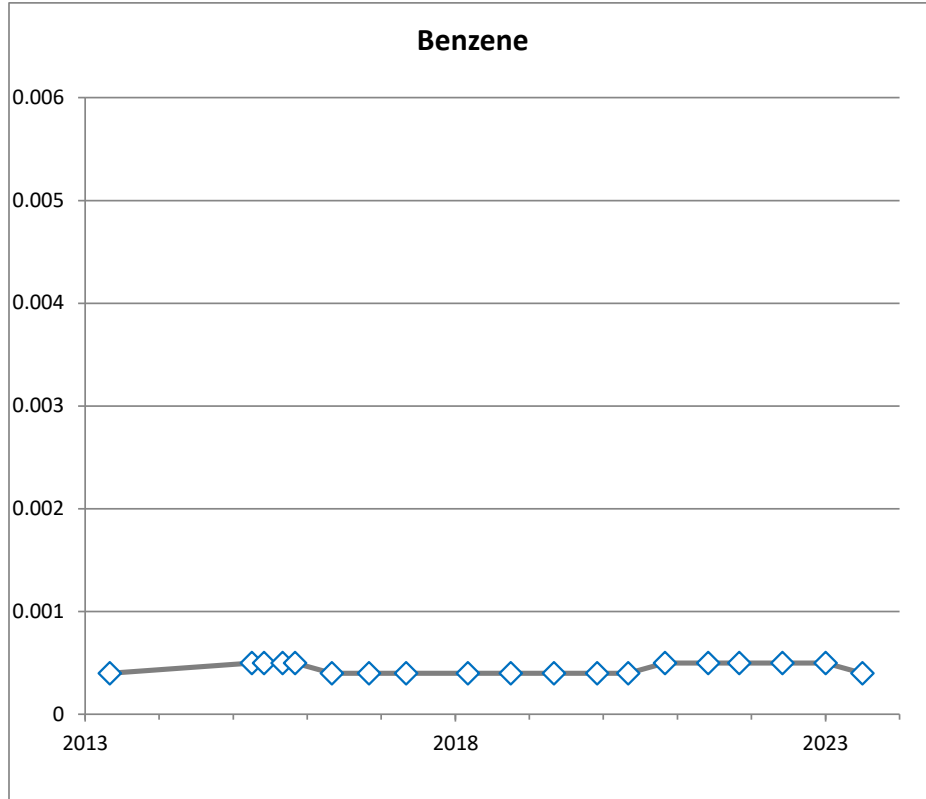
REFERENCES

AFCEE 2006. *Monitoring and Remediation Optimization System (MAROS) Software User's Guide (Version 2.2)*. Air Force Center for Environmental Excellence (AFCEE).

Gilbert, R.O., 1987. *Statistical Methods for Environmental Pollution Monitoring*.

USEPA 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance*. United States Environmental Protection Agency.

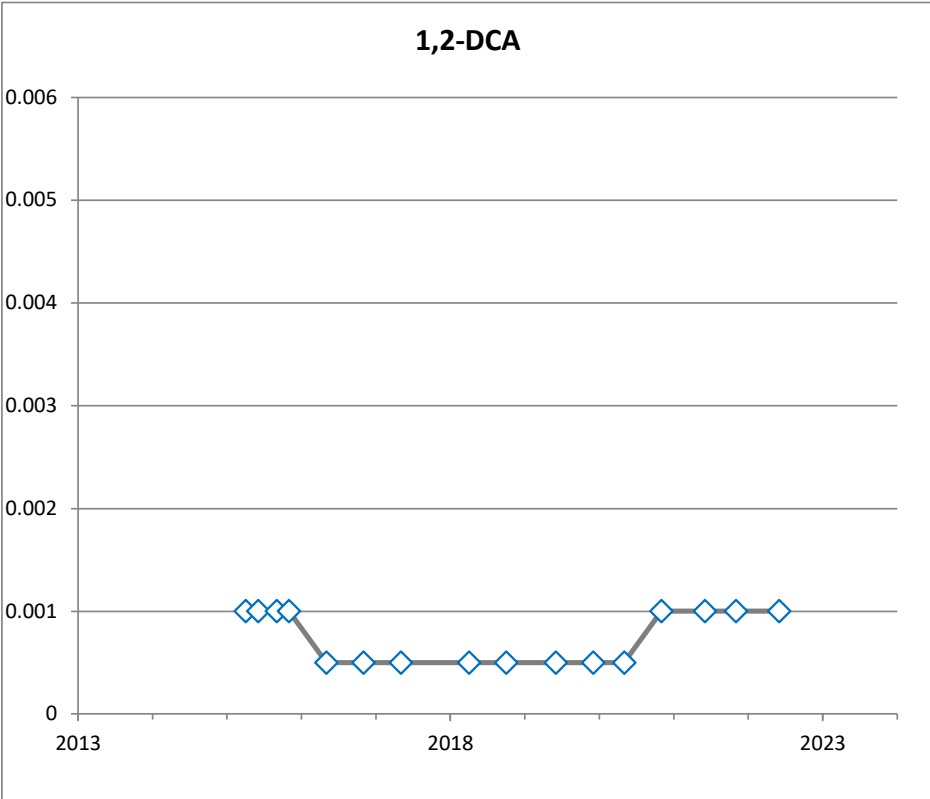
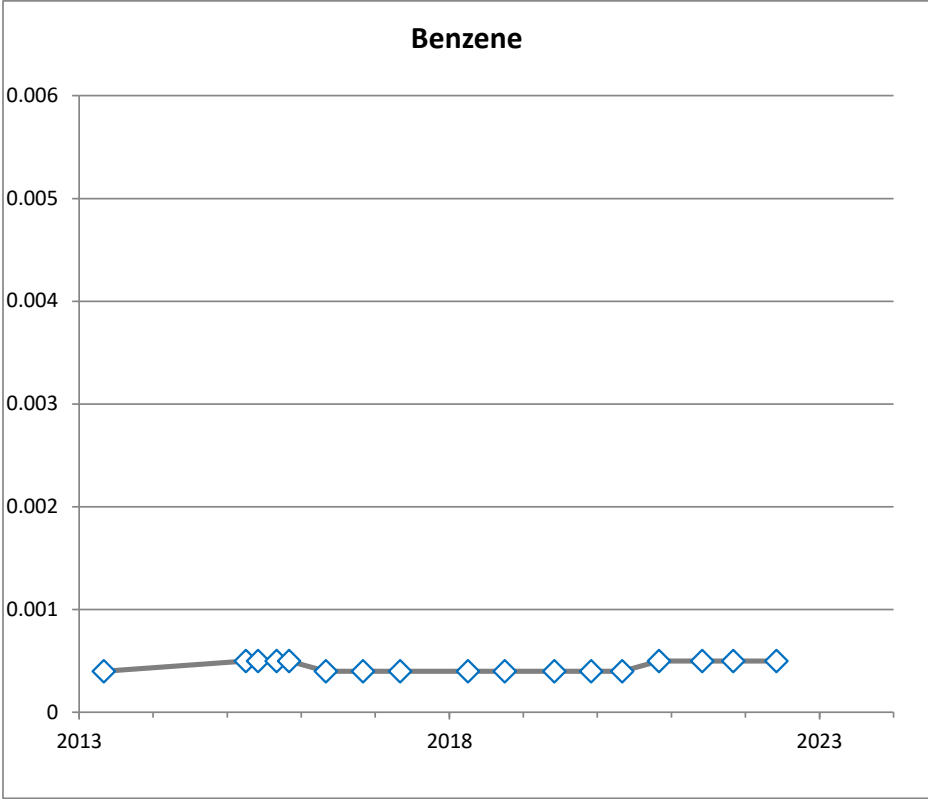
USEPA 2022. ProUCL Version 5.2 Available from <https://www.epa.gov/land-research/proucl-software> (last accessed February 2023). United States Environmental Protection Agency.



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1102
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-1	



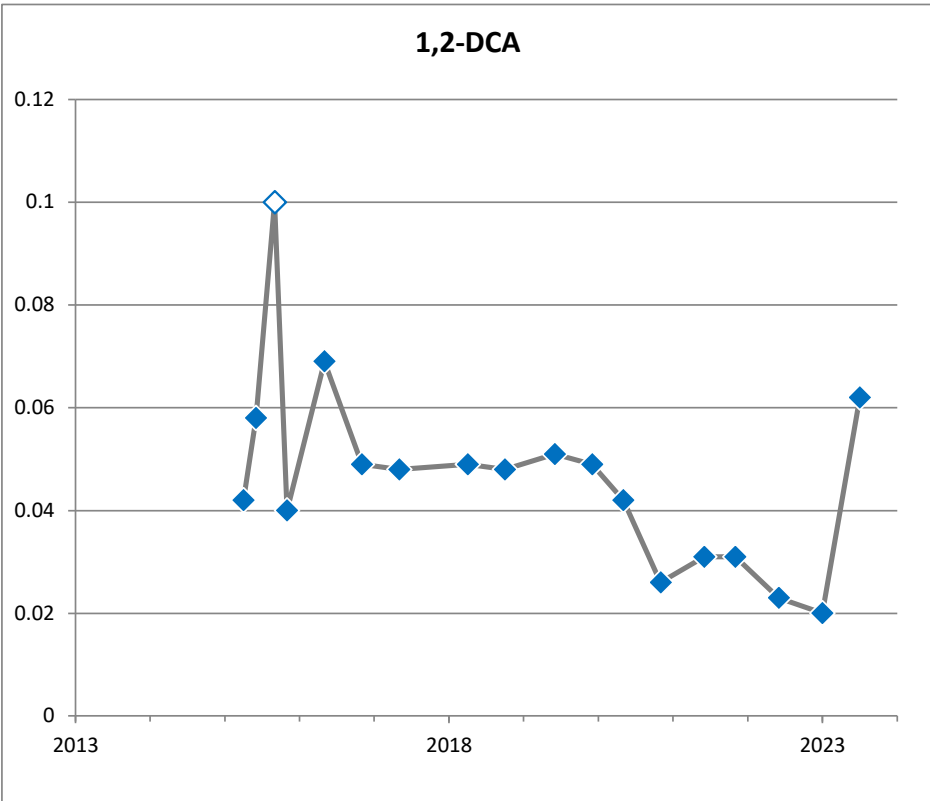
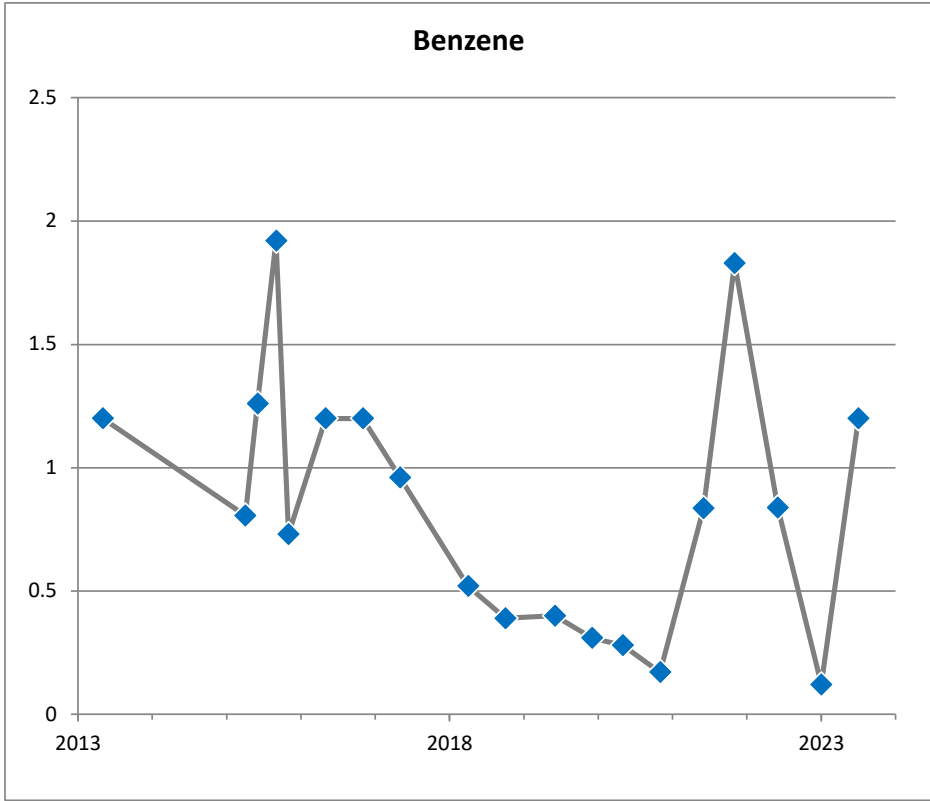
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

**BH1701
(mg/L)**

PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-2	

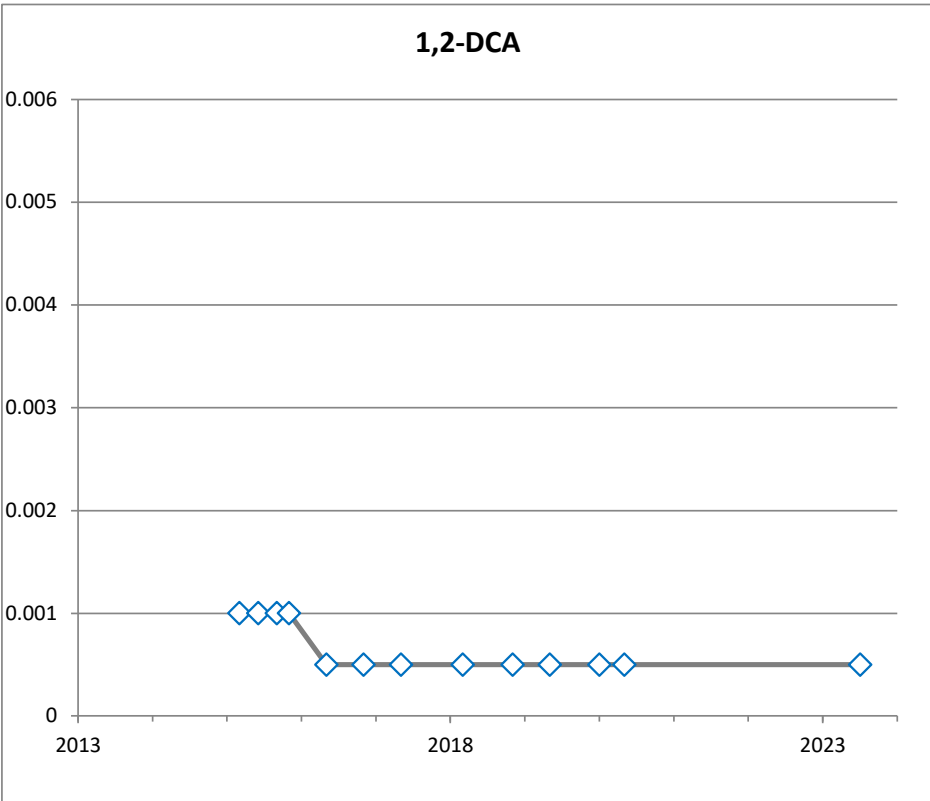
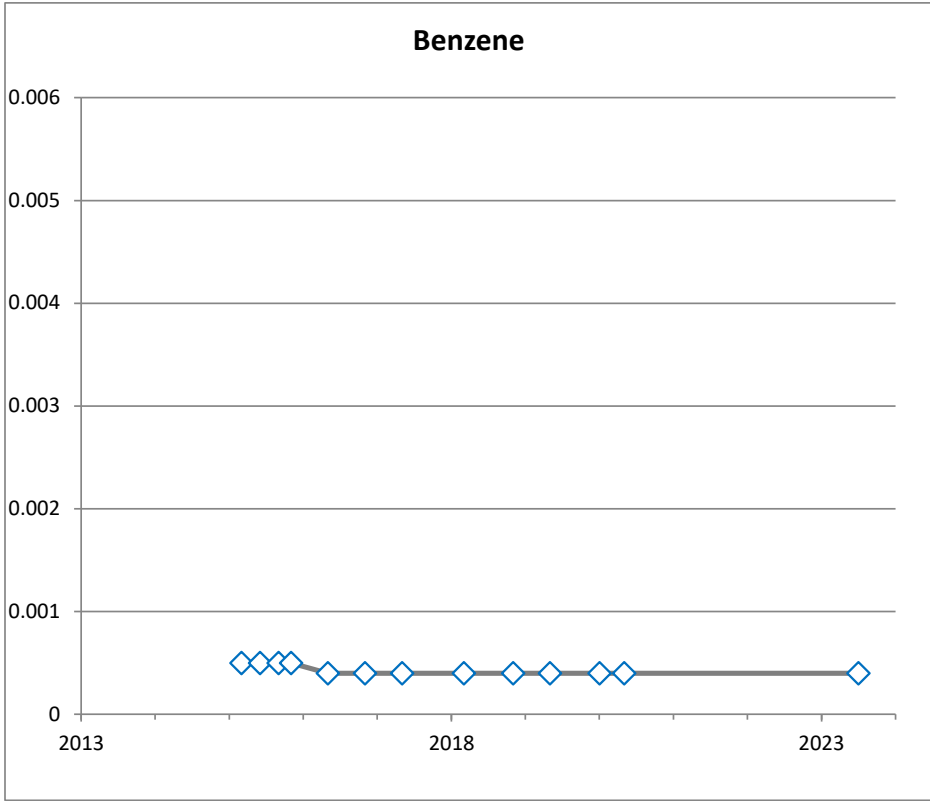


BH1704: LPH present on various dates between 2016 and 2022; LPH was lab observed in June 2022.

◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1704
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-3	



◇ Non-detect value
 ◇ Post-remediation

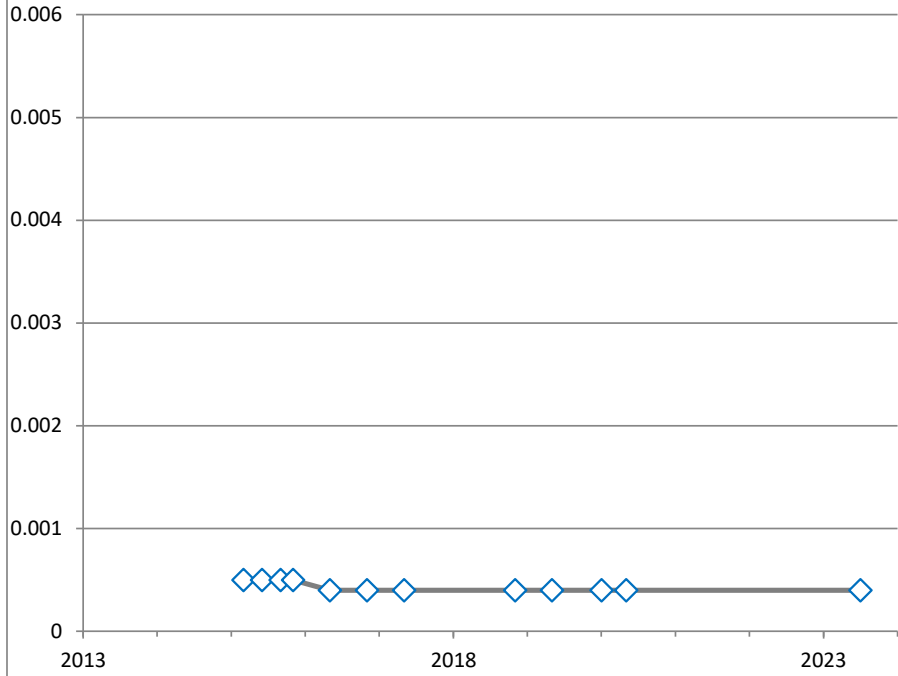
All samples are shown, including duplidates and multiple samples on the same date.

**BH1901
 (mg/L)**

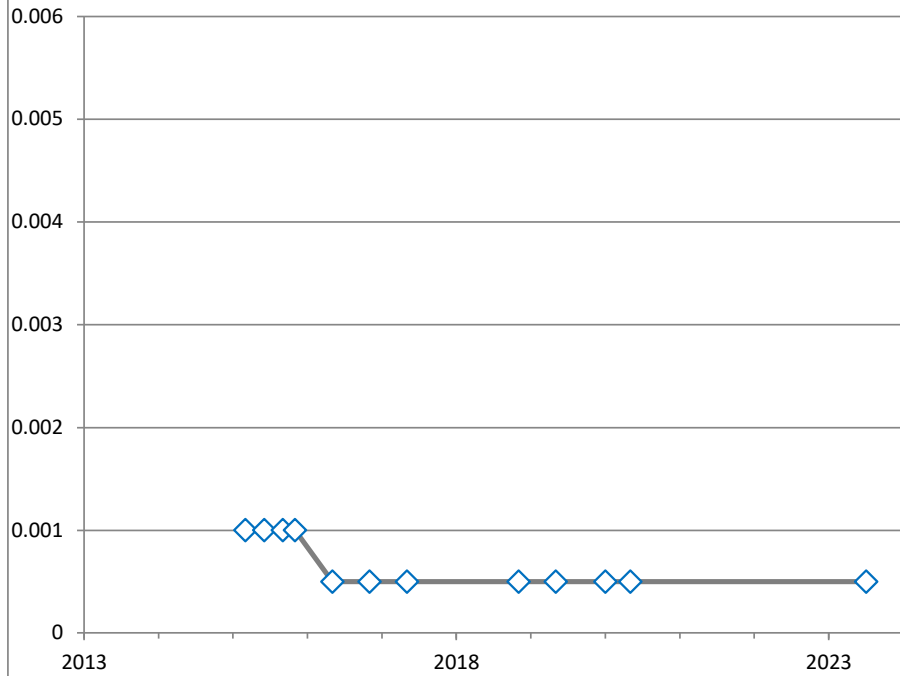
PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-4	

Benzene



1,2-DCA



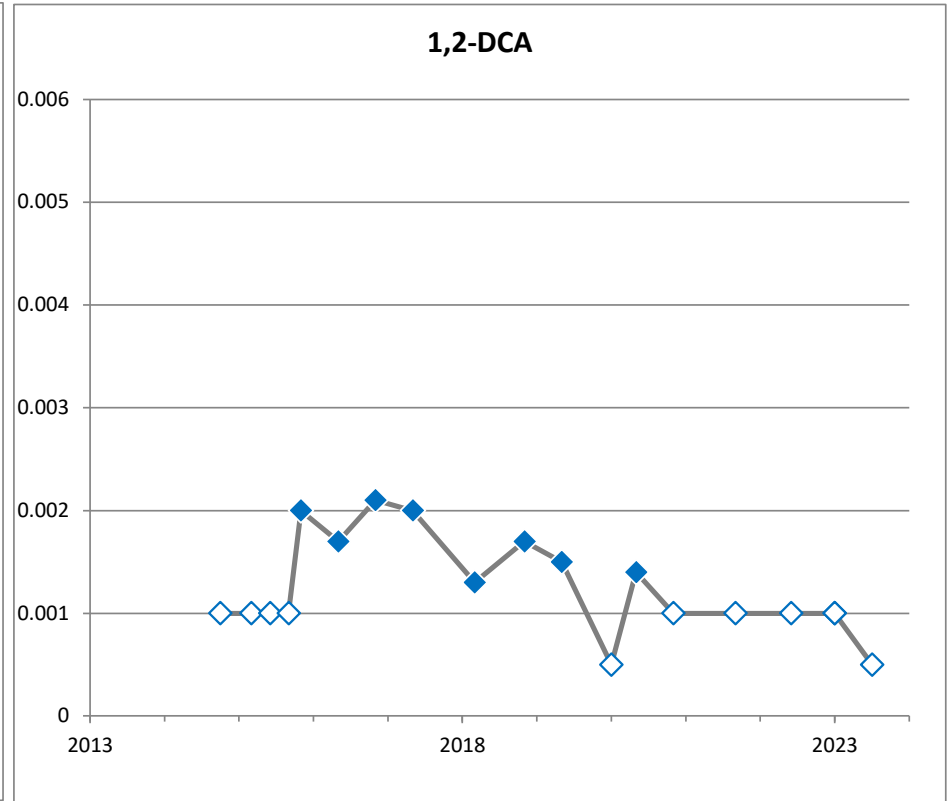
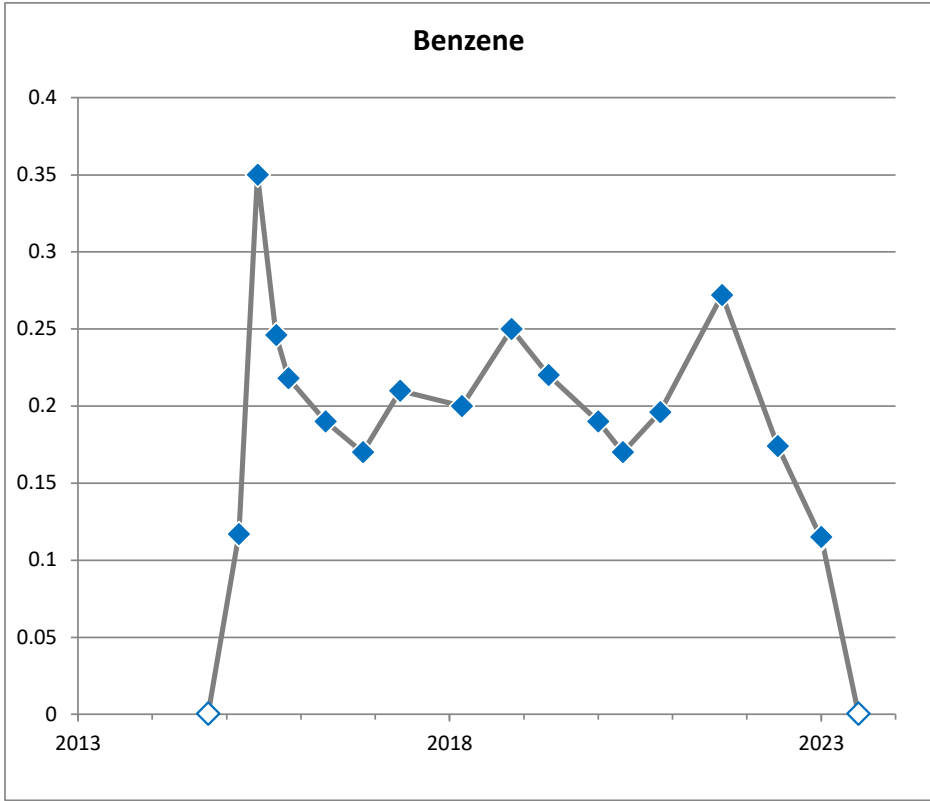
- ◊ Non-detect value
- ◊ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1903
(mg/L)

PARSONS

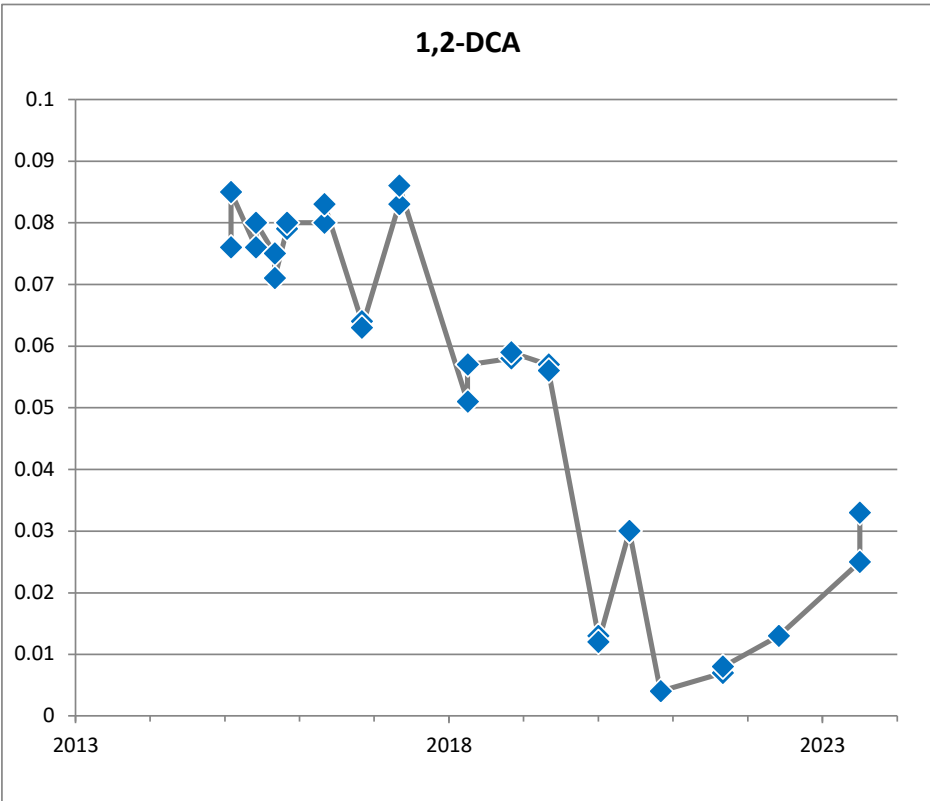
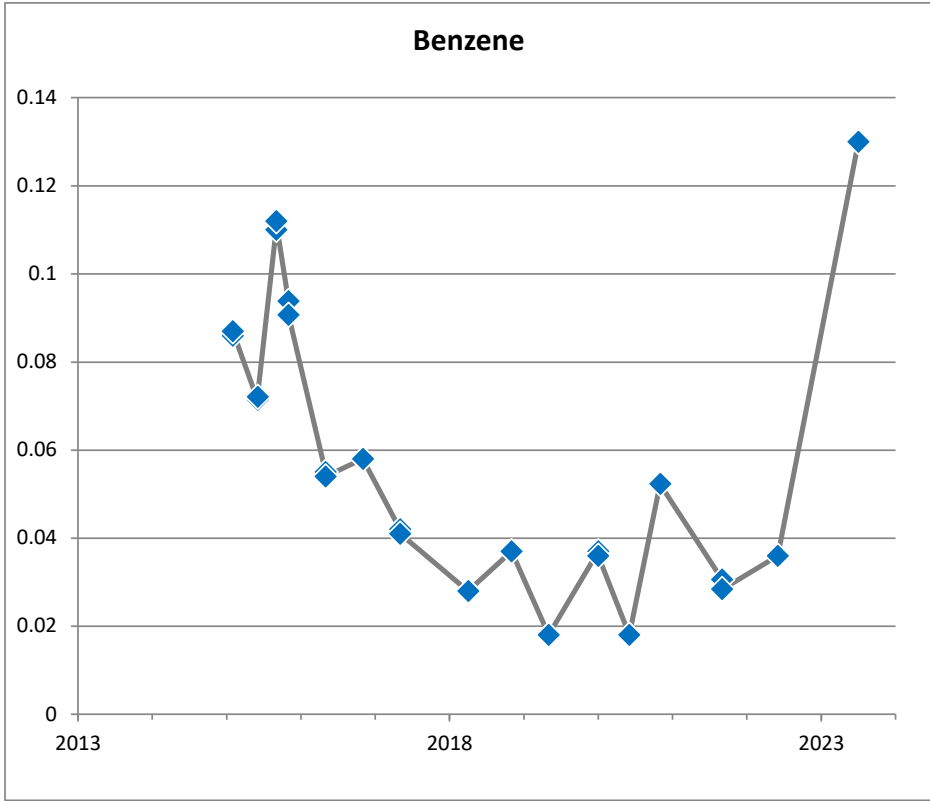
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-6	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1904
(mg/L)

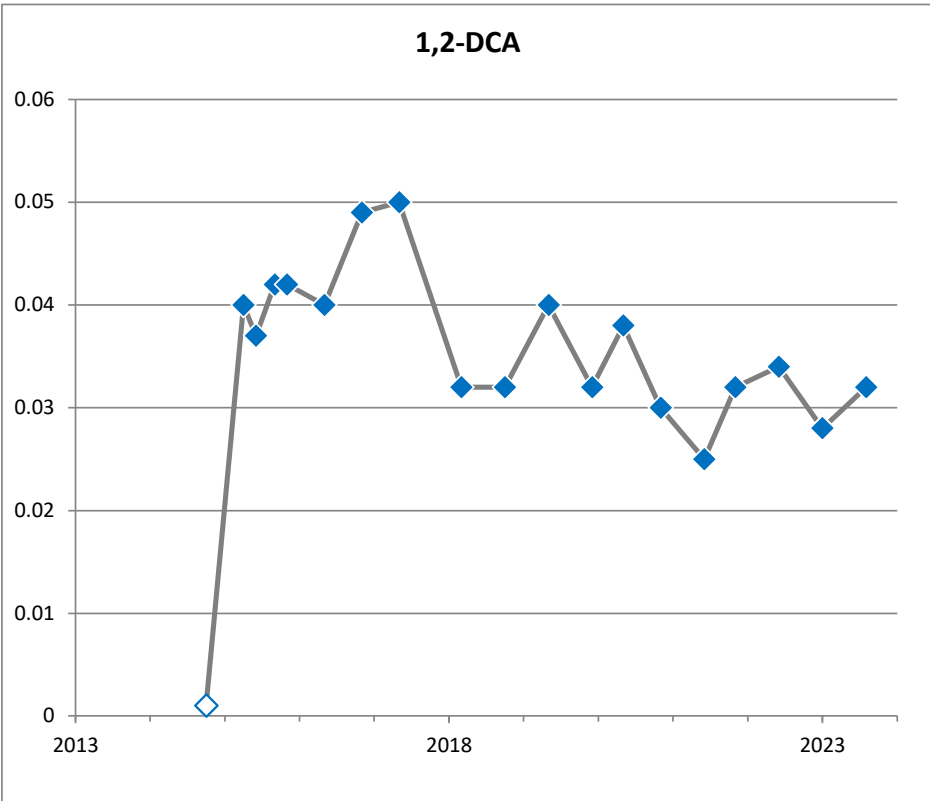
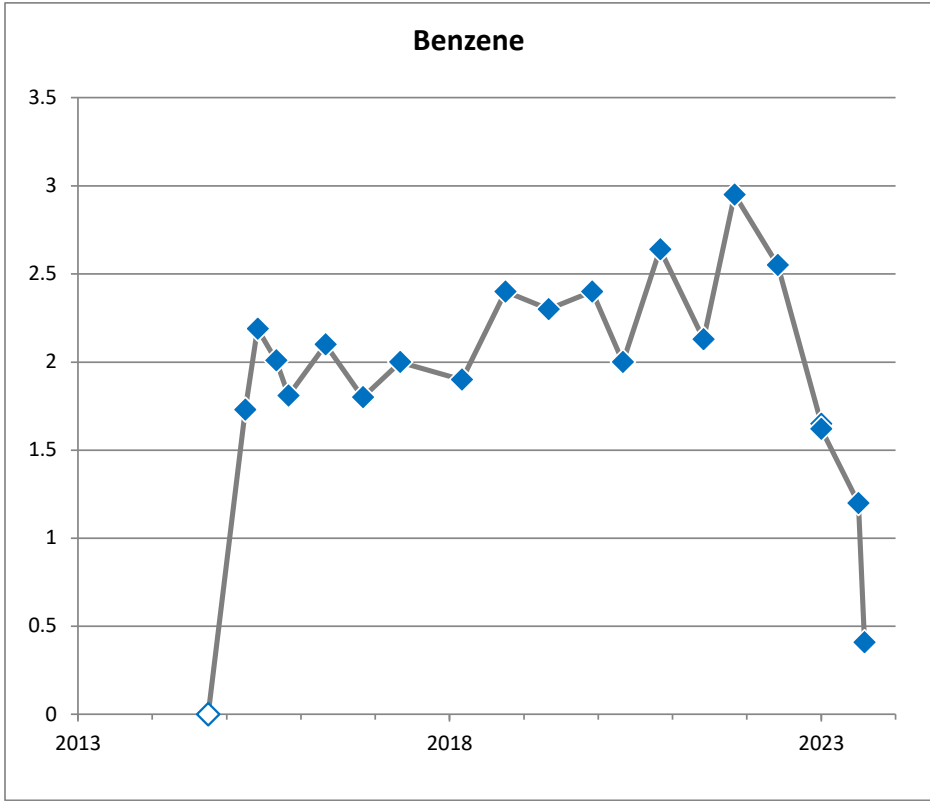
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-7	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1905
(mg/L)

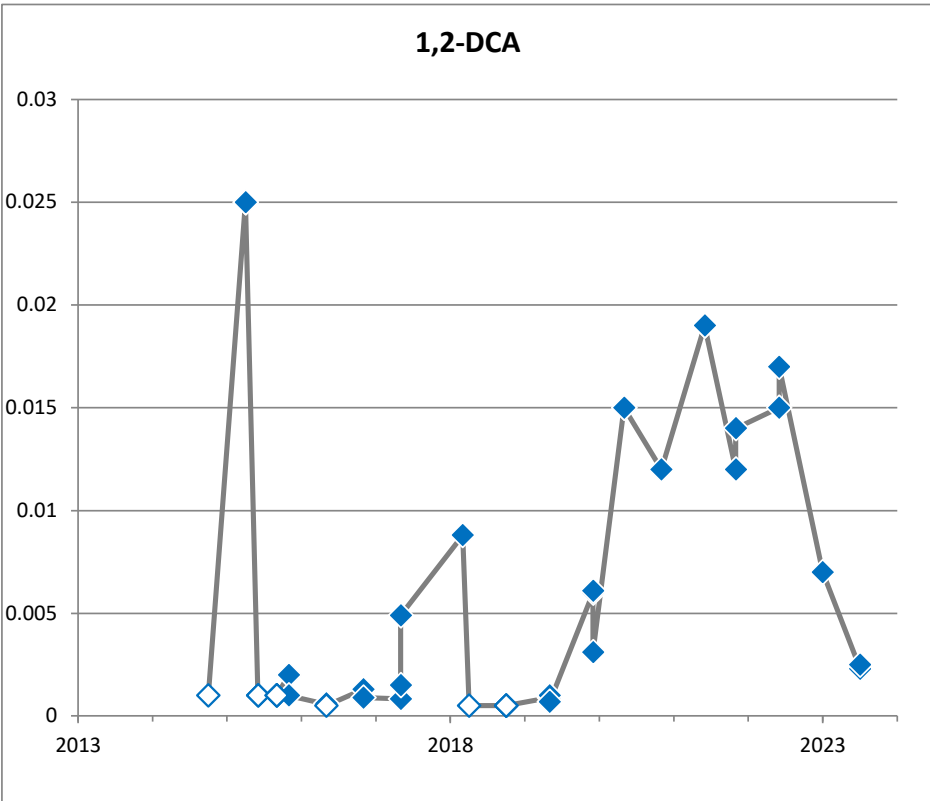
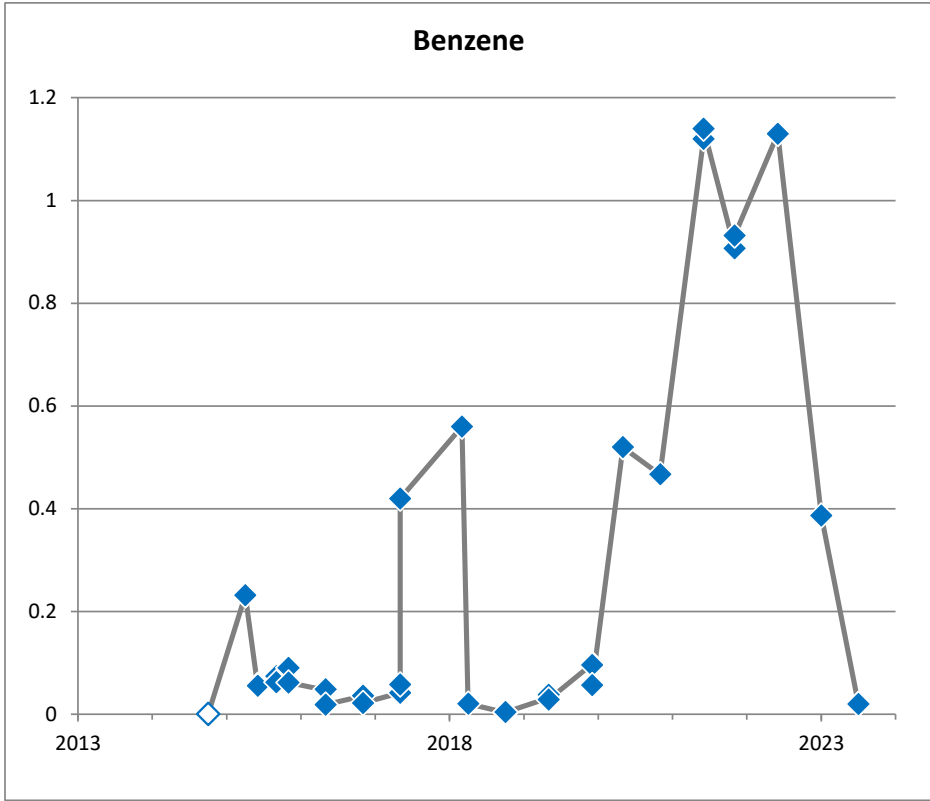
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-8	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1906
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-9	

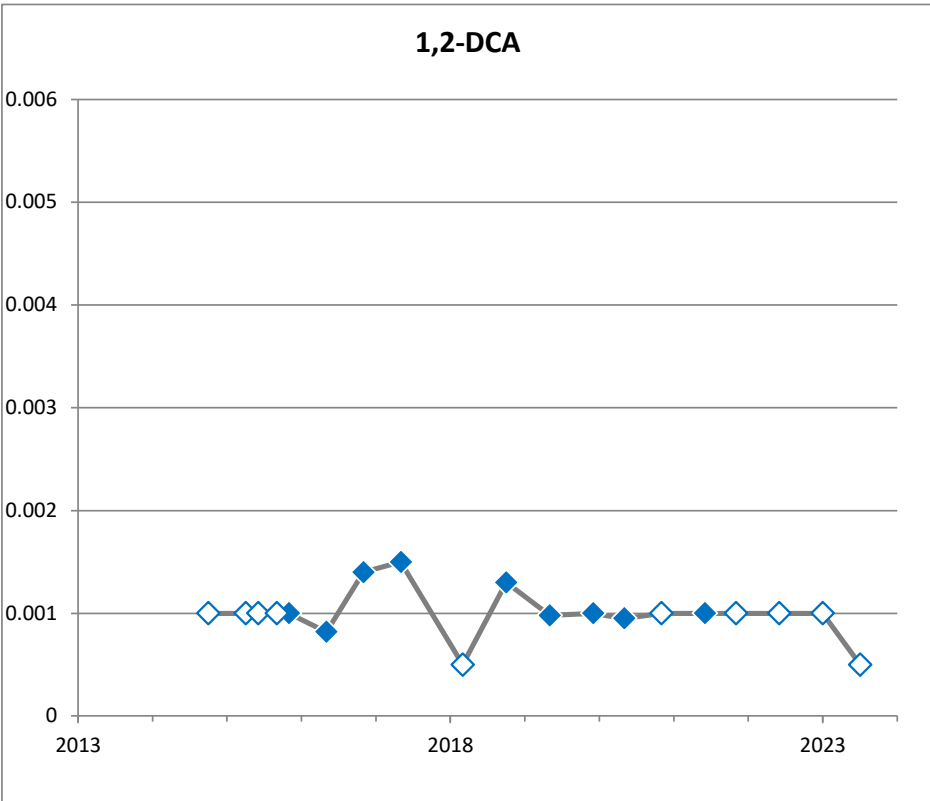
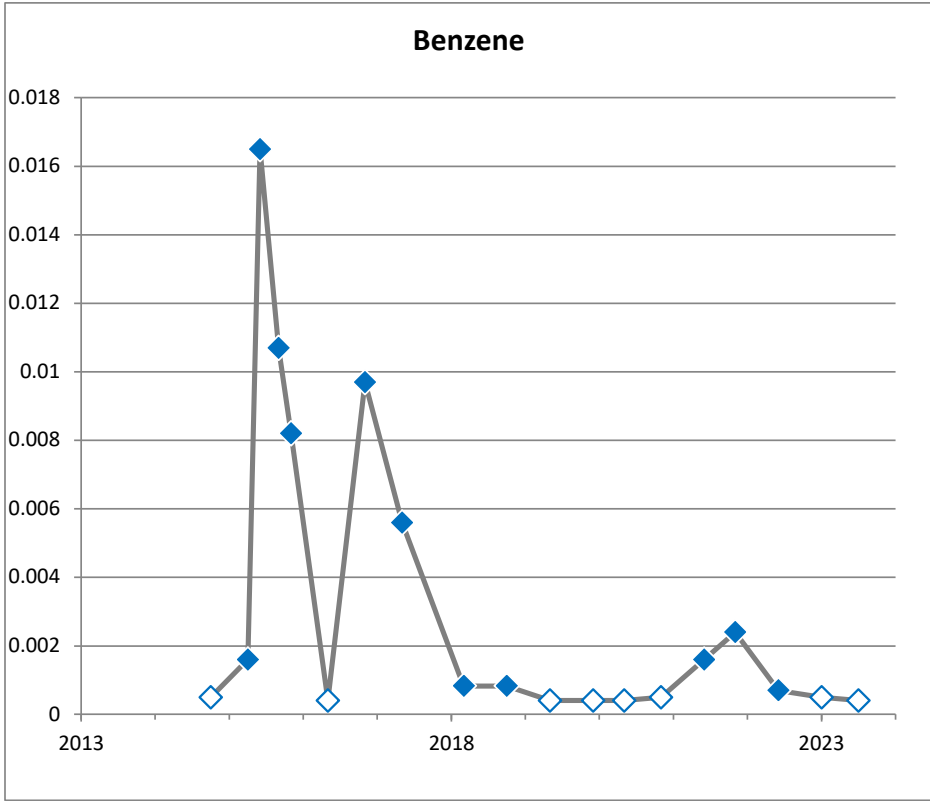


◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1907
(mg/L)

PARSONS

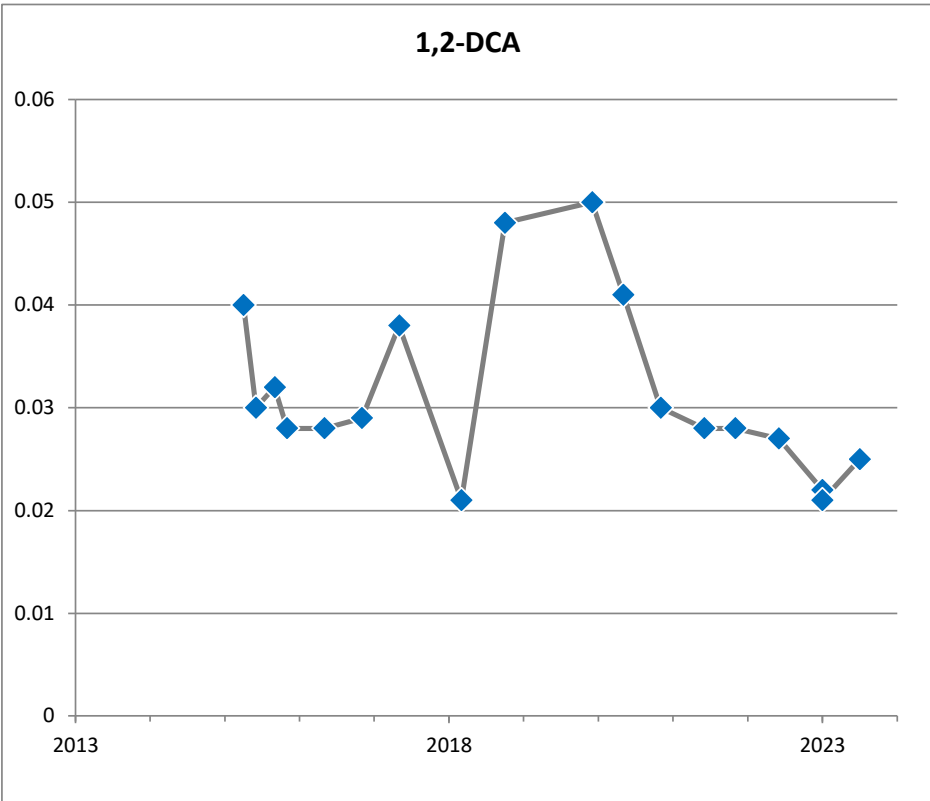
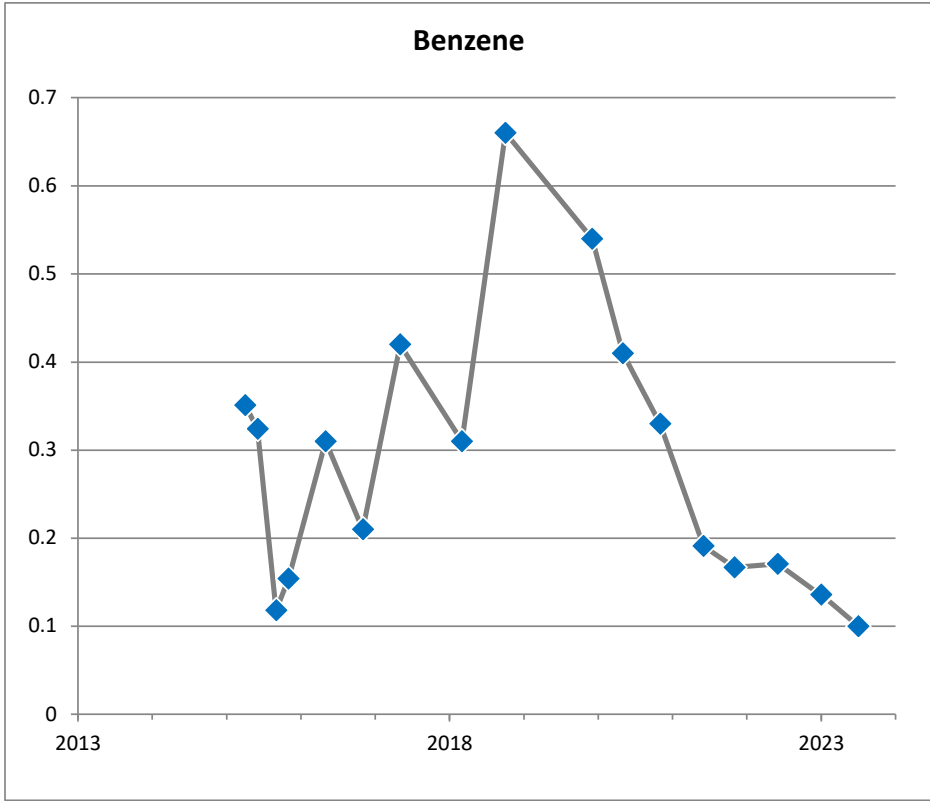
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-10	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1908
(mg/L)

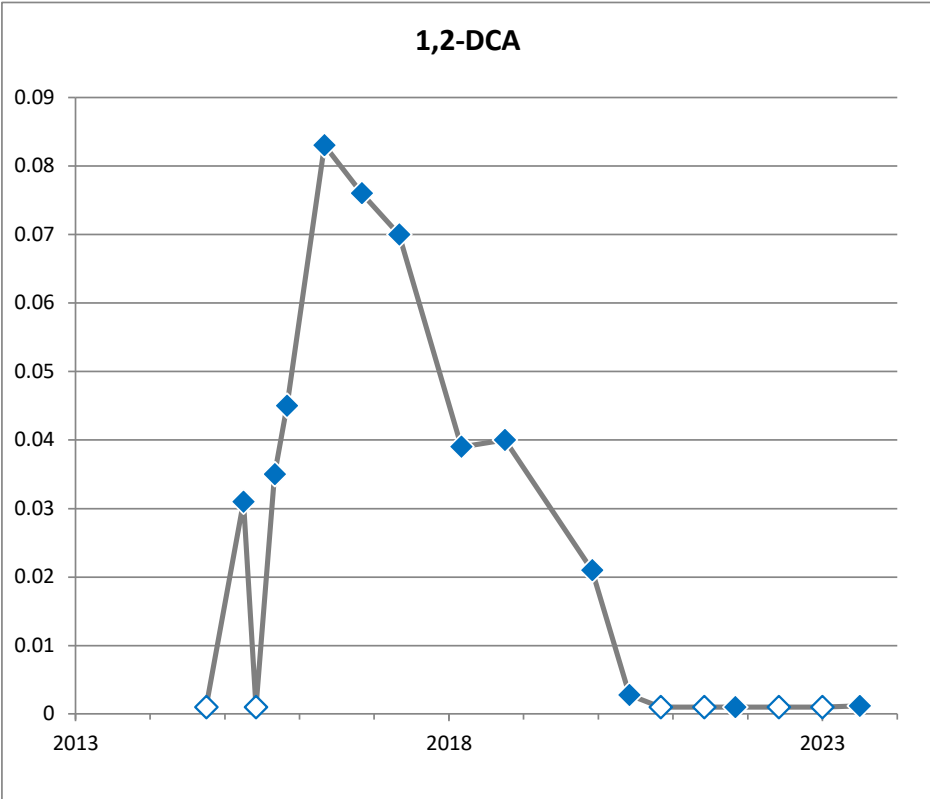
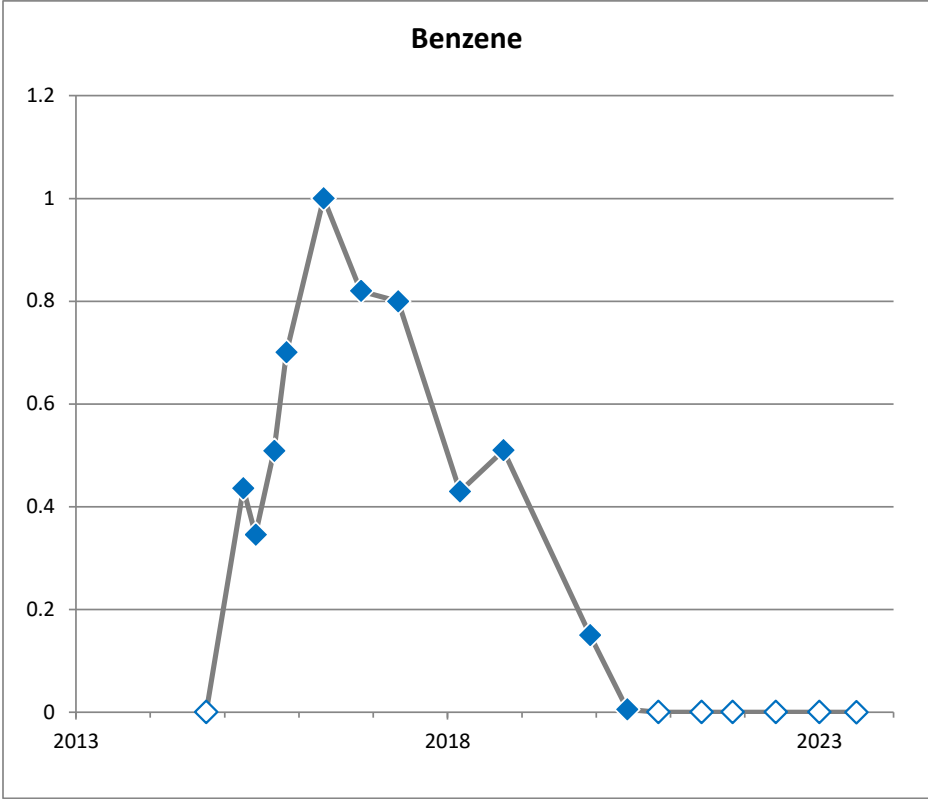
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-11	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1910
(mg/L)

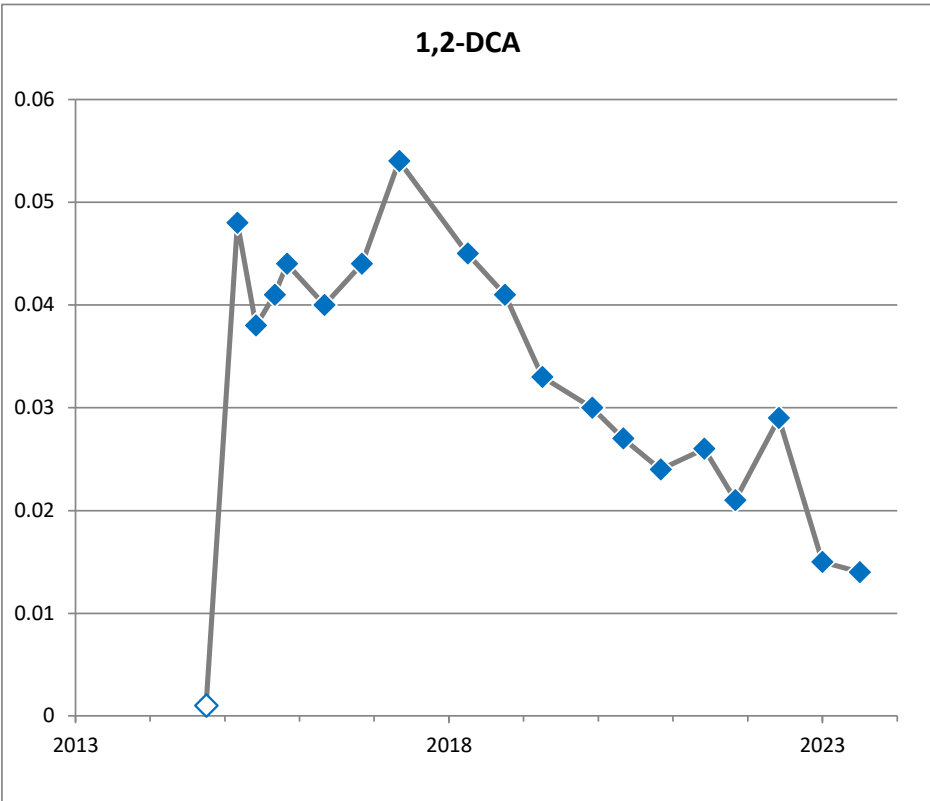
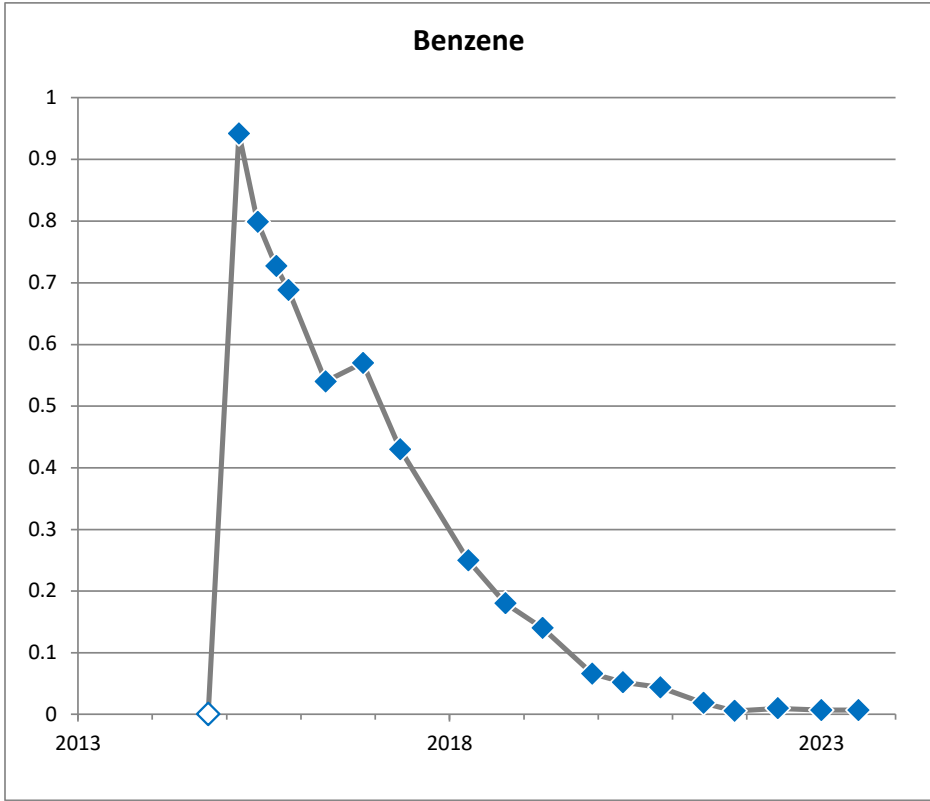
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-12	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1911
(mg/L)

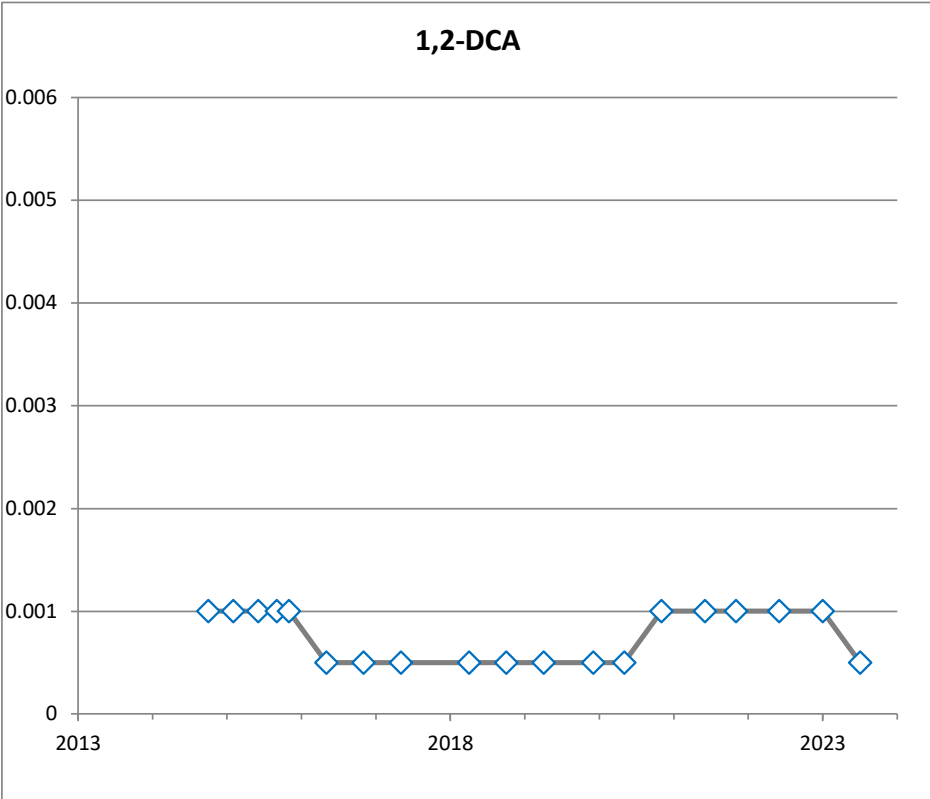
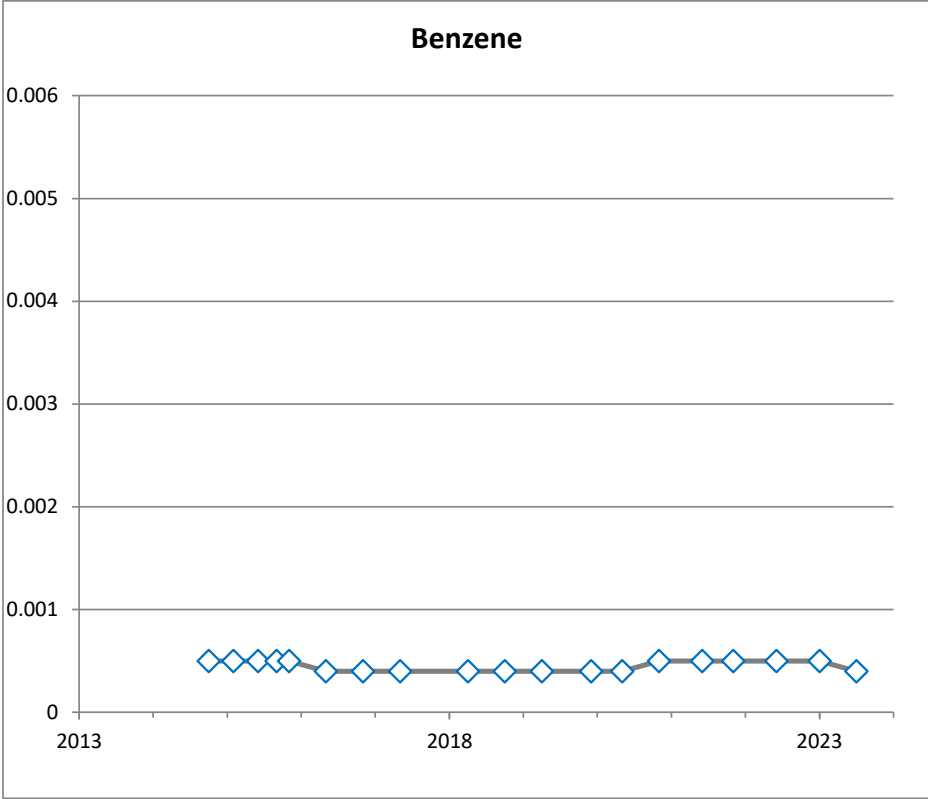
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-13	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1912
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-14	



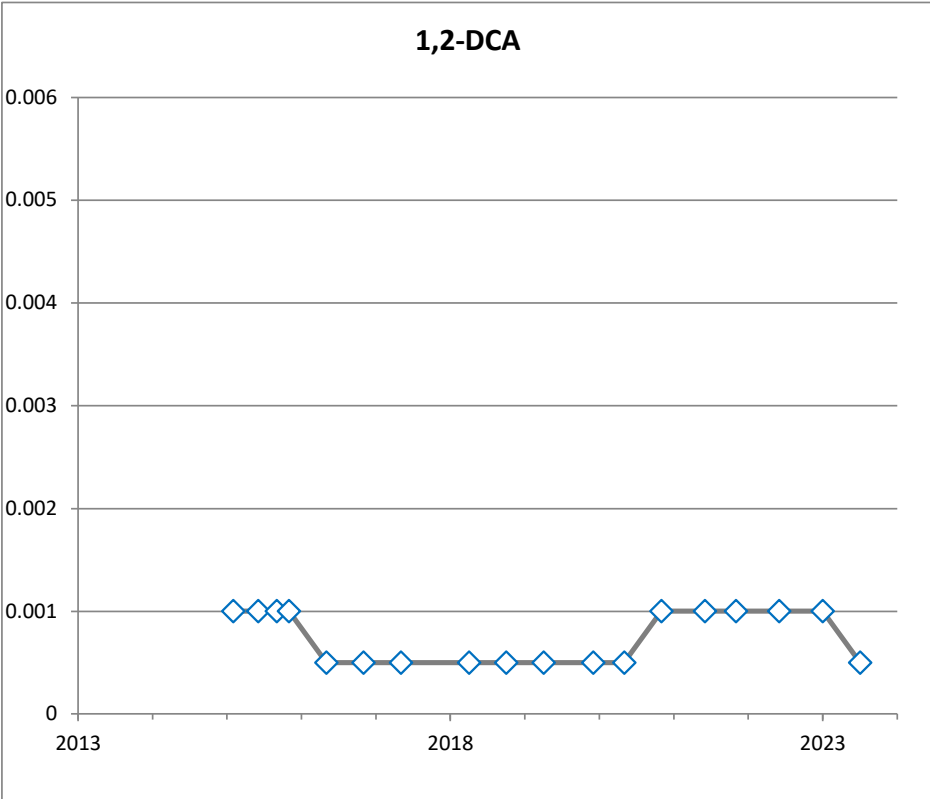
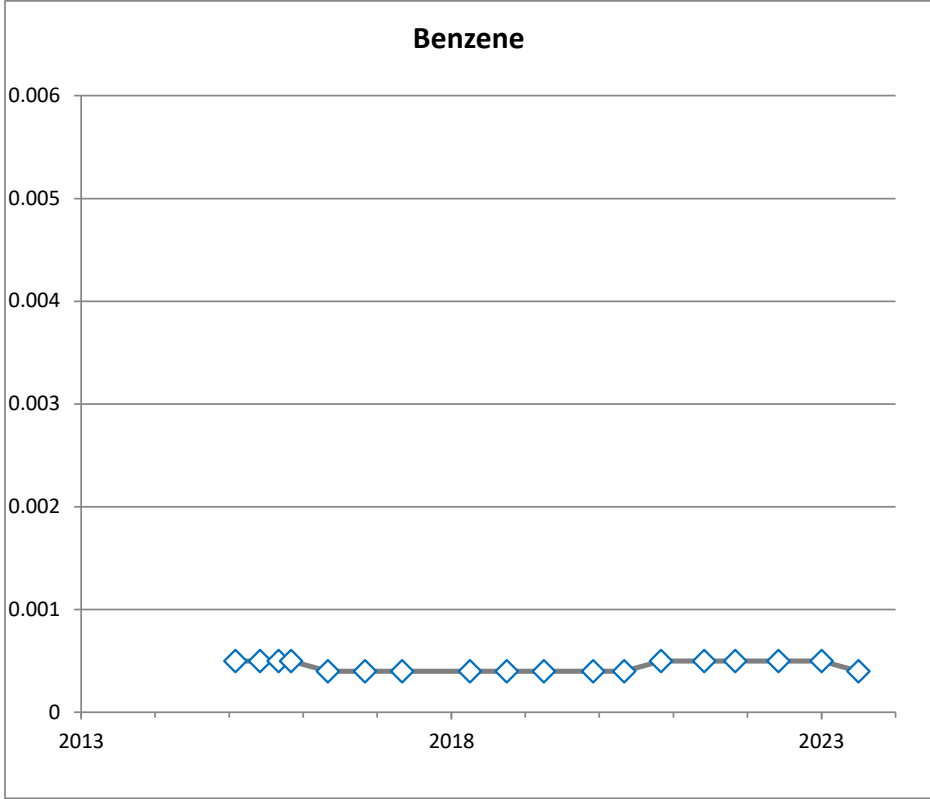
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

**BH1913
(mg/L)**

PARSONS

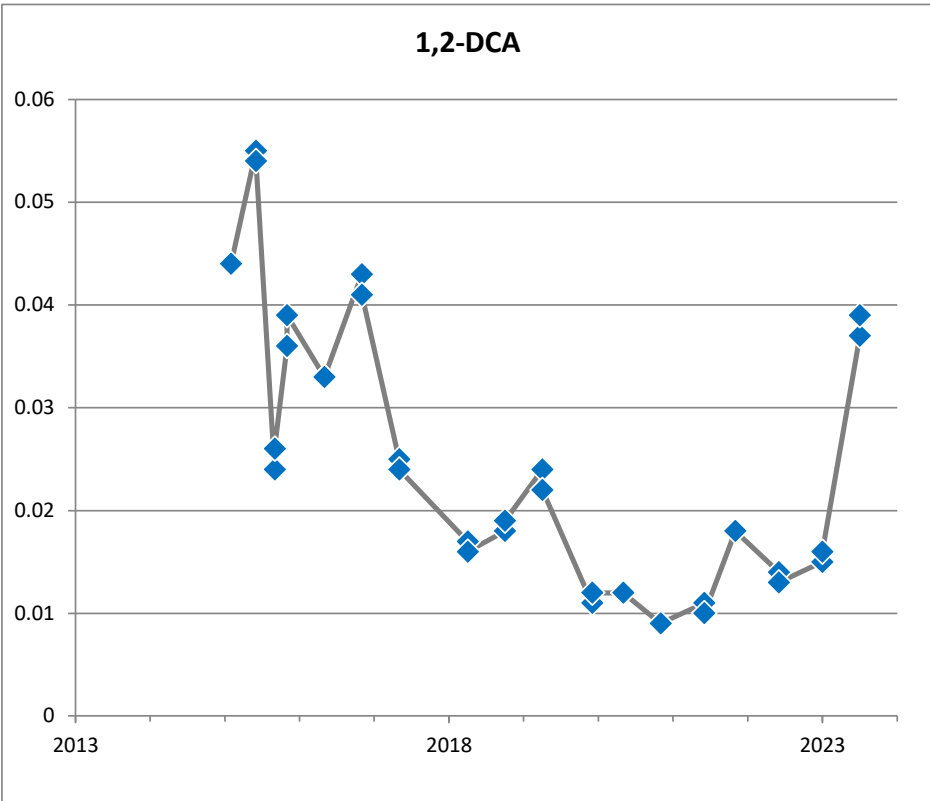
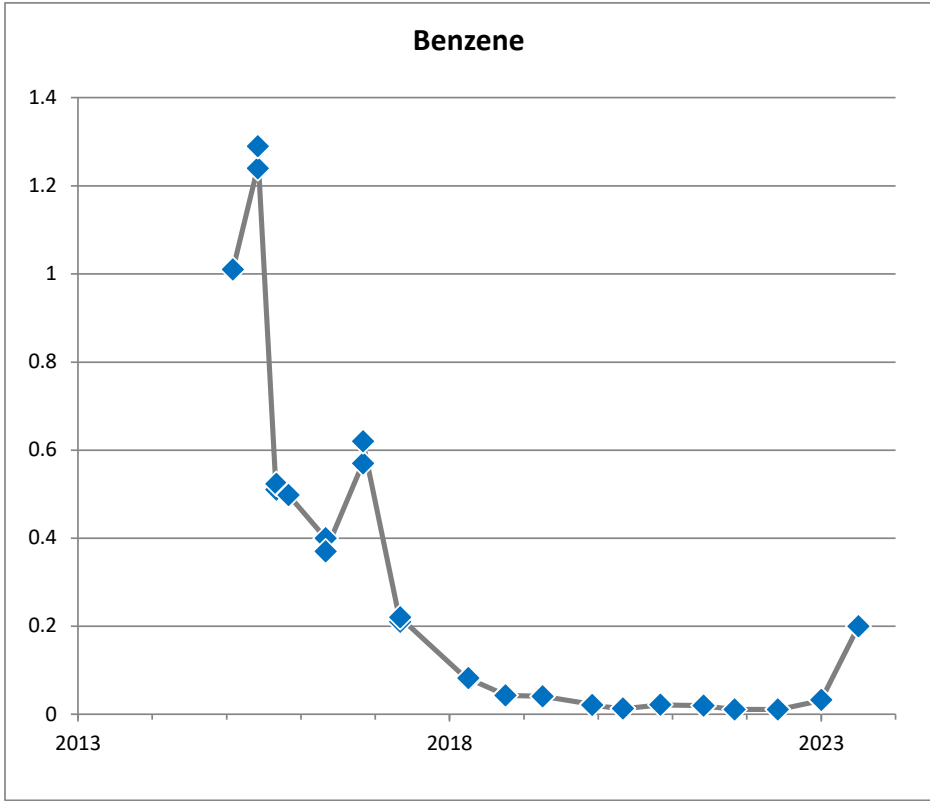
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-15	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1914
(mg/L)

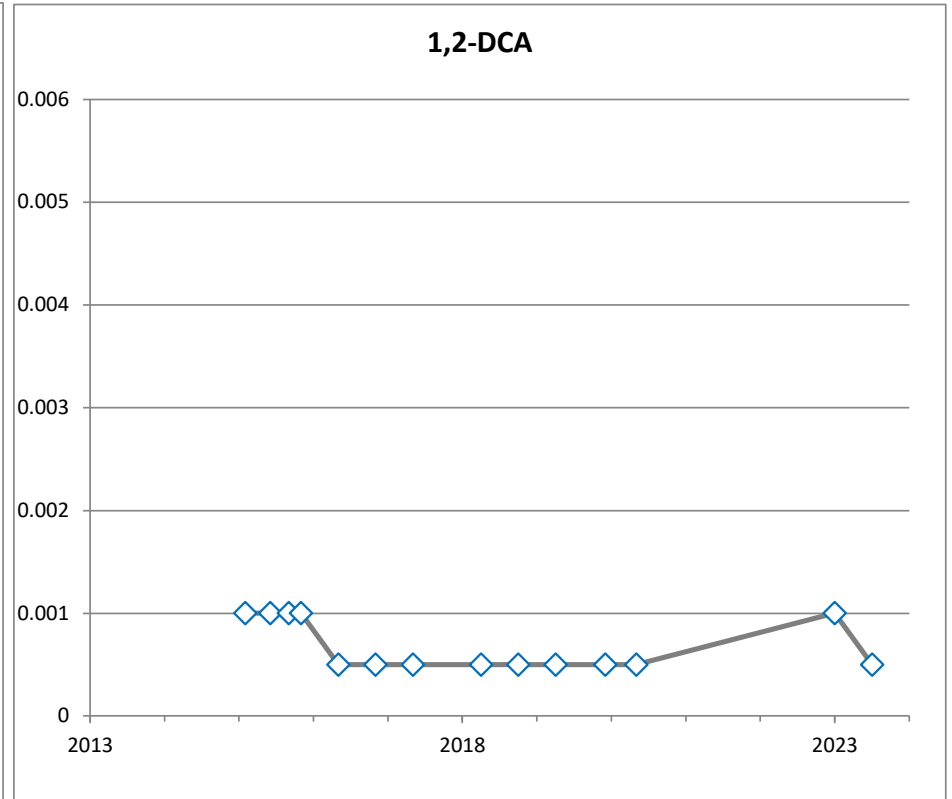
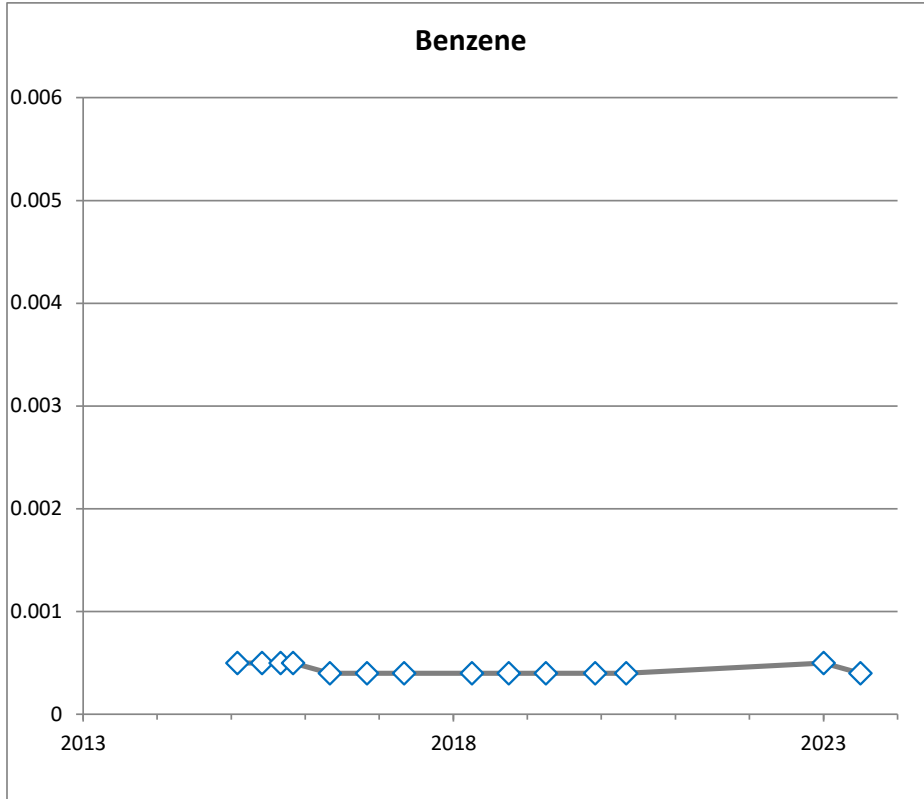
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-16	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1915
(mg/L)

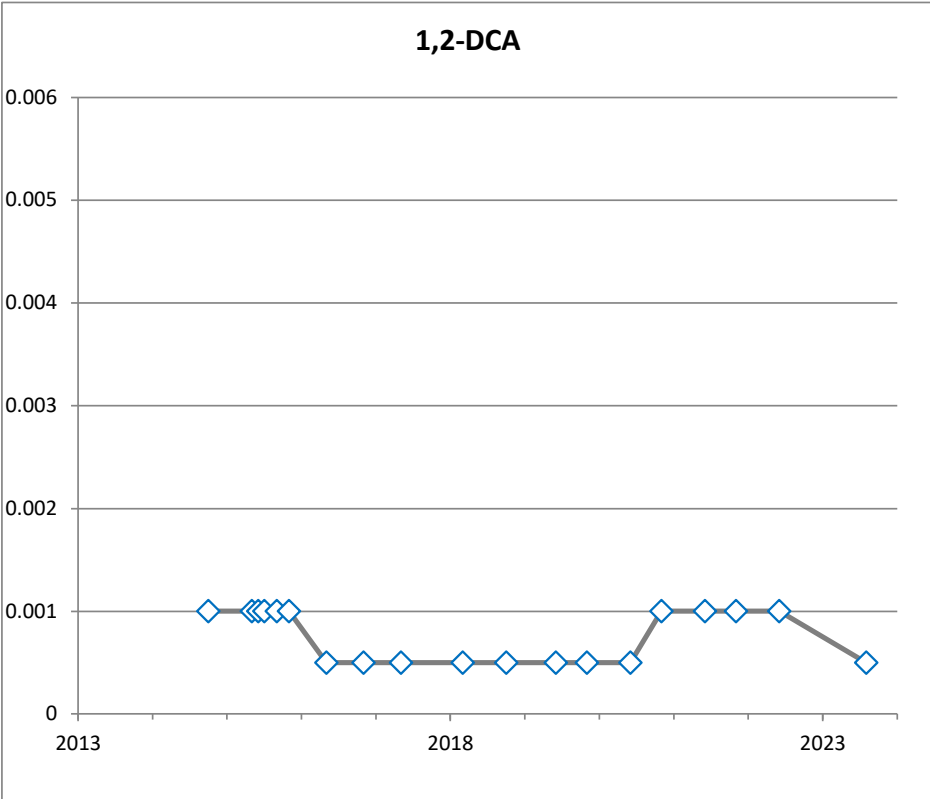
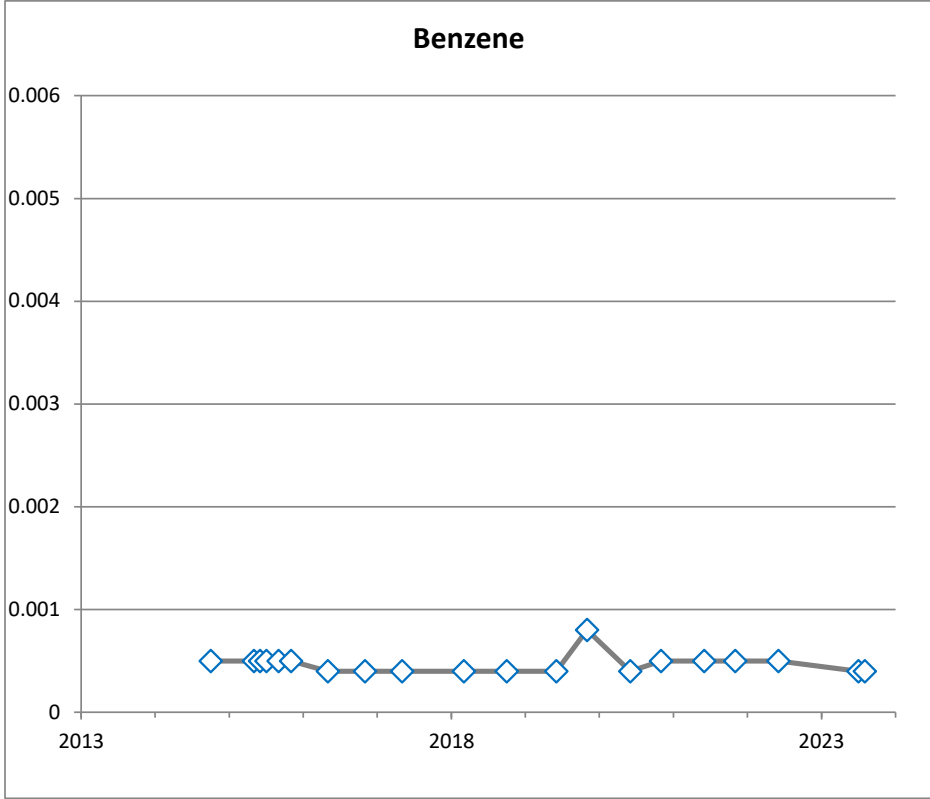
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-17	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH1916
(mg/L)**

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-18	



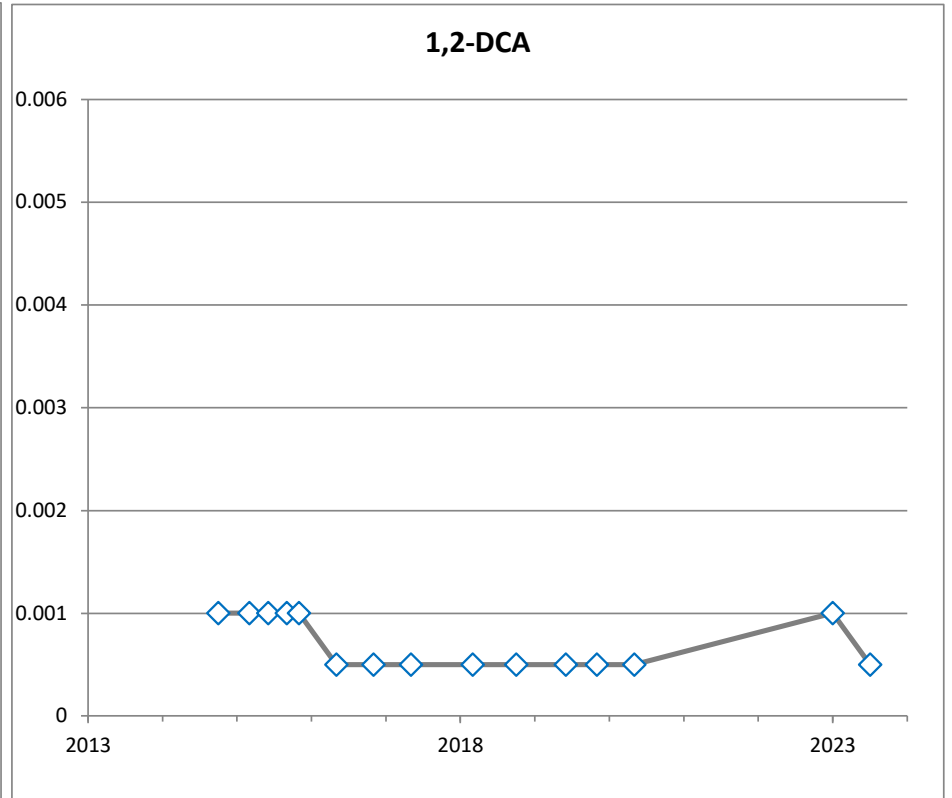
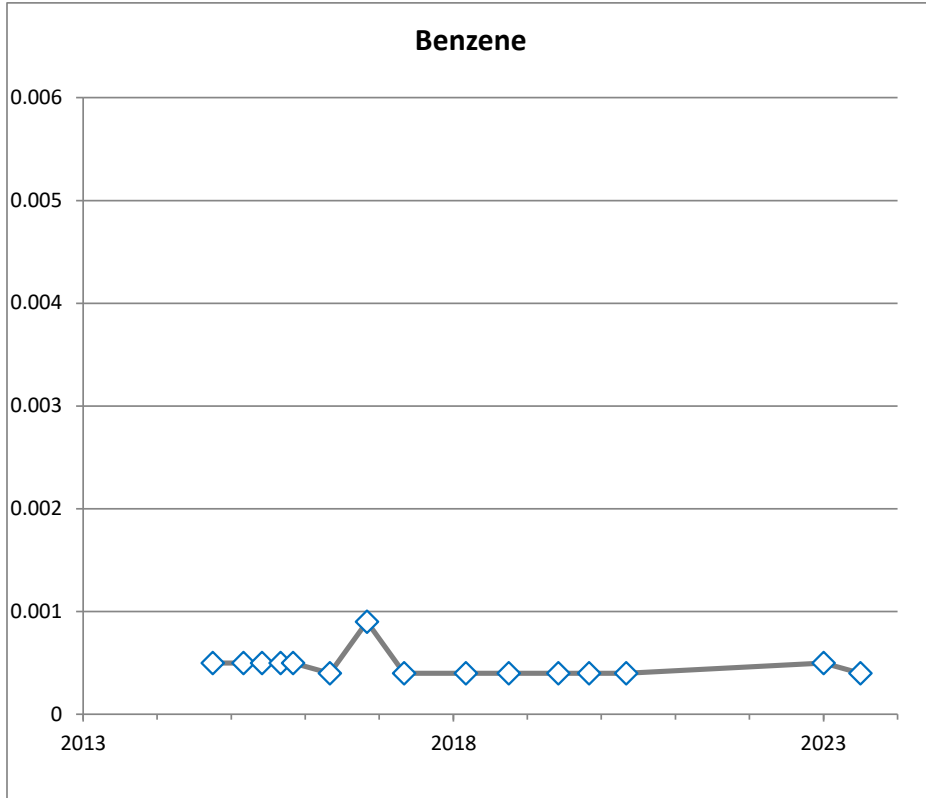
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1917
(mg/L)

PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-19	



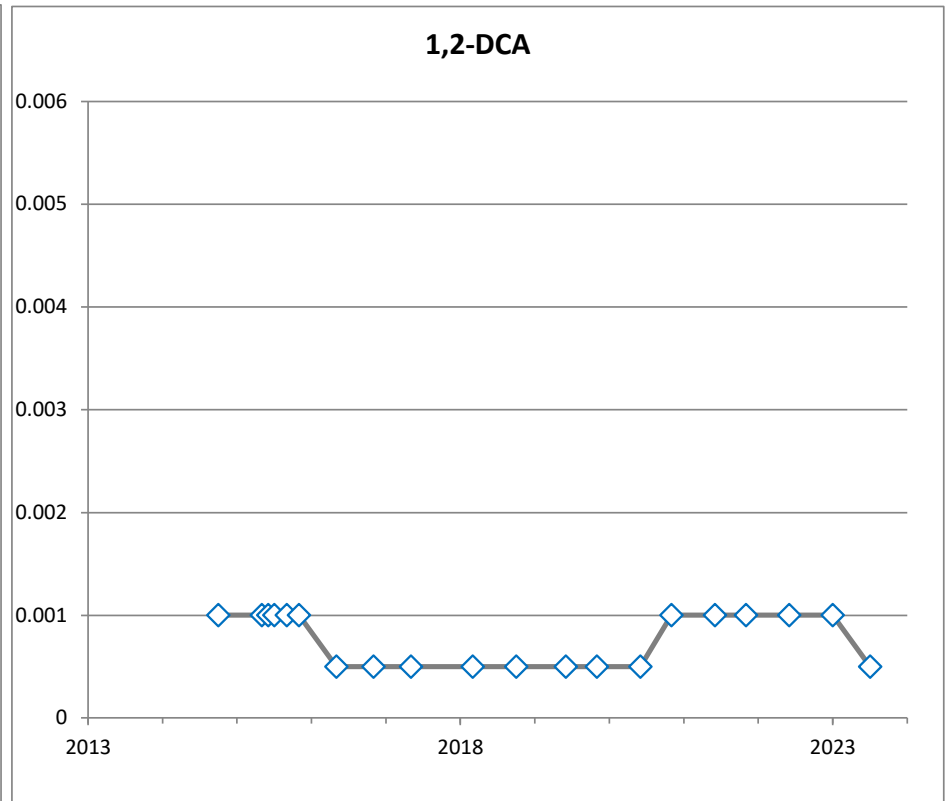
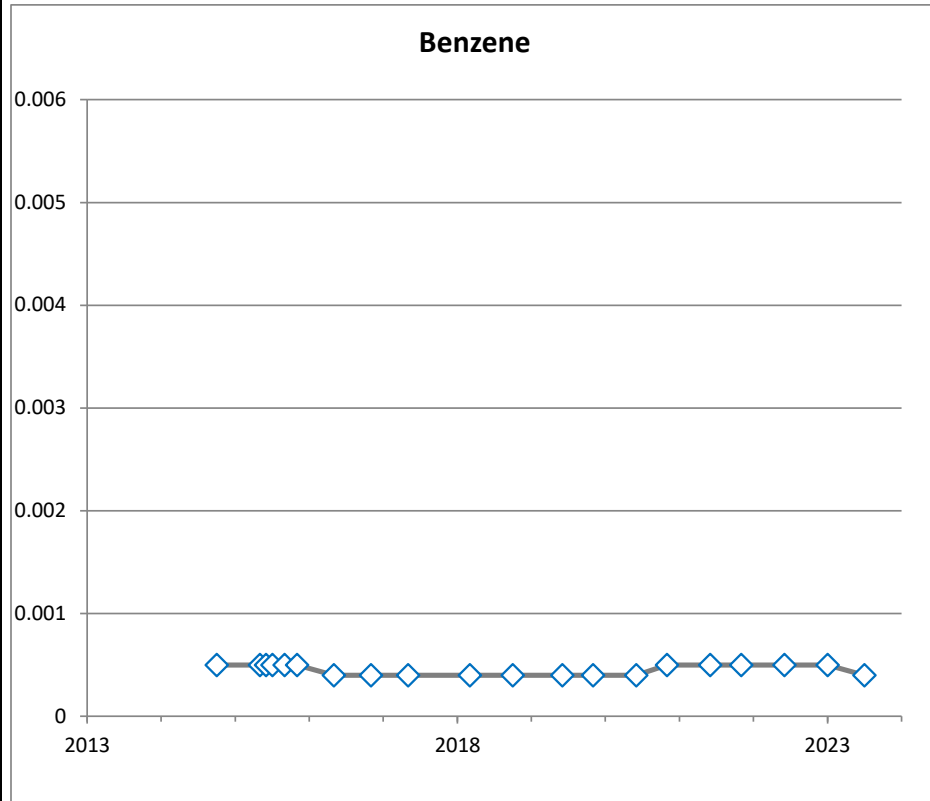
- ◆ Non-detect value
- ◆ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1918
(mg/L)

PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-20	



- ◆ Non-detect value
- ◆ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1919
(mg/L)

PARSONS

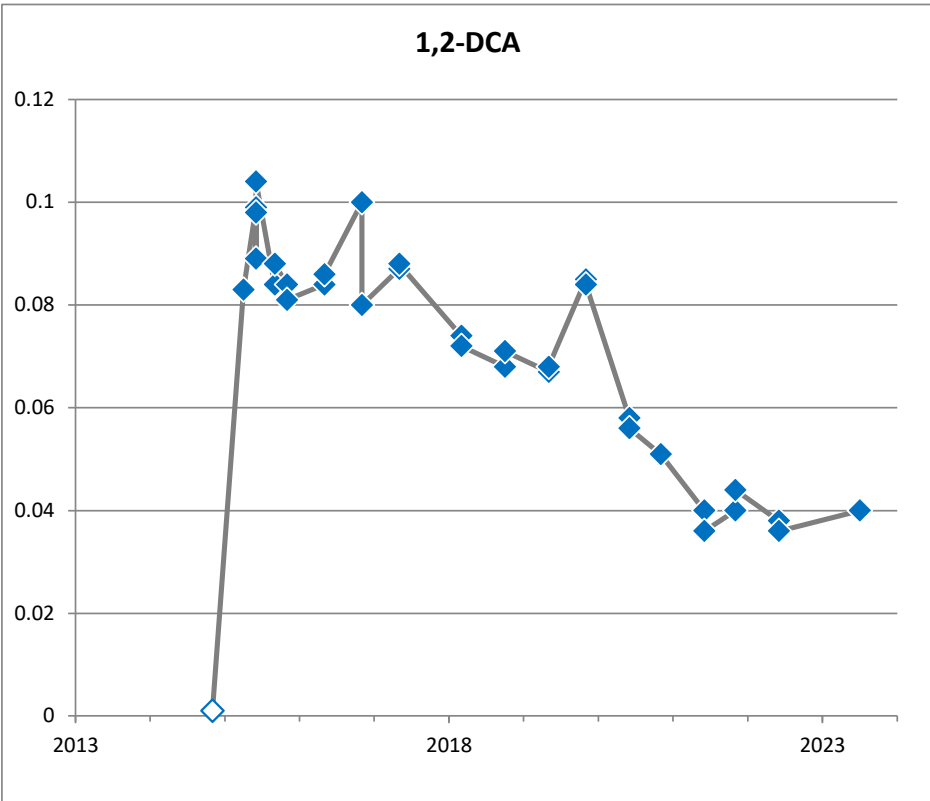
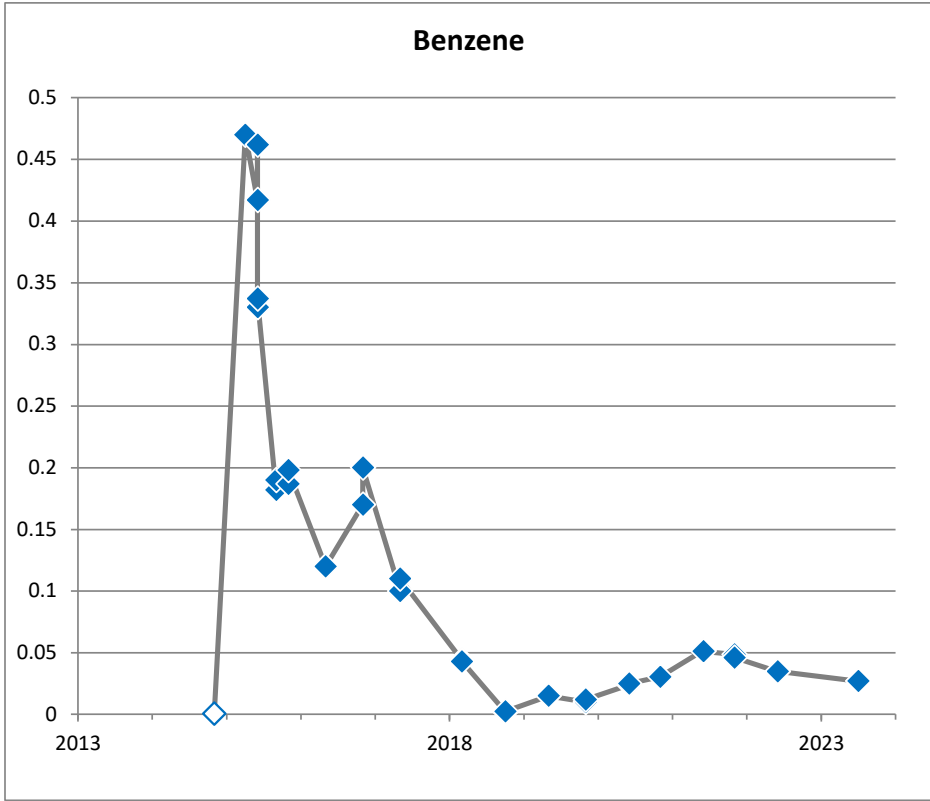
JOB NO.: 10-12832

DATE: Feb 24, 2024

REF. NO.: 478903.17100

DRAWN BY: MR/SLD

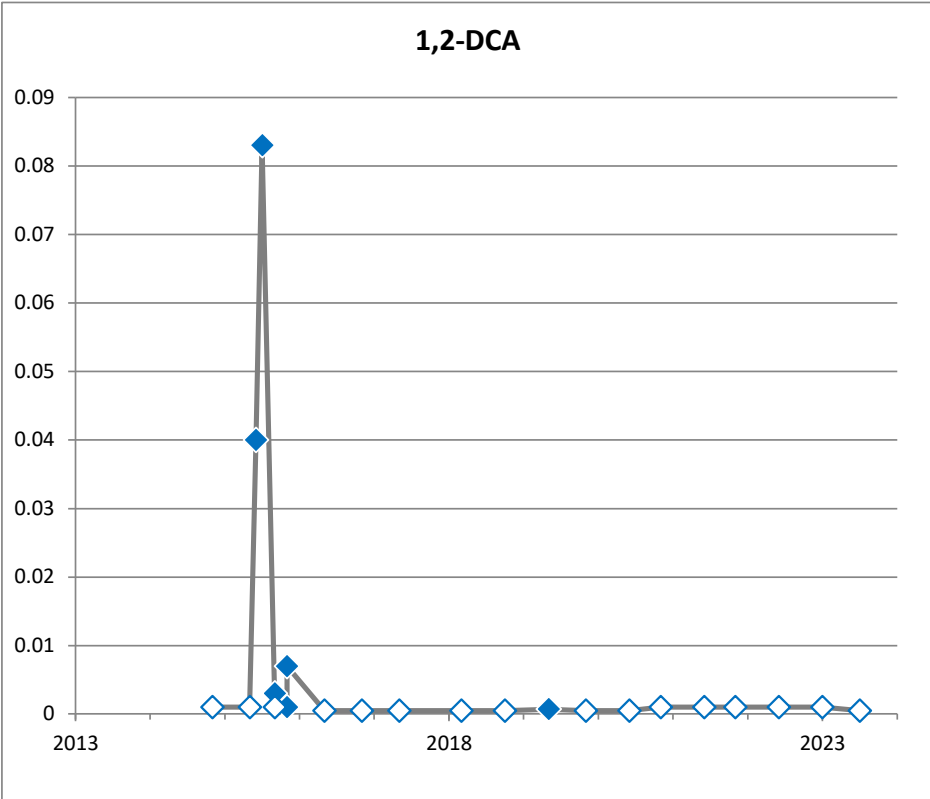
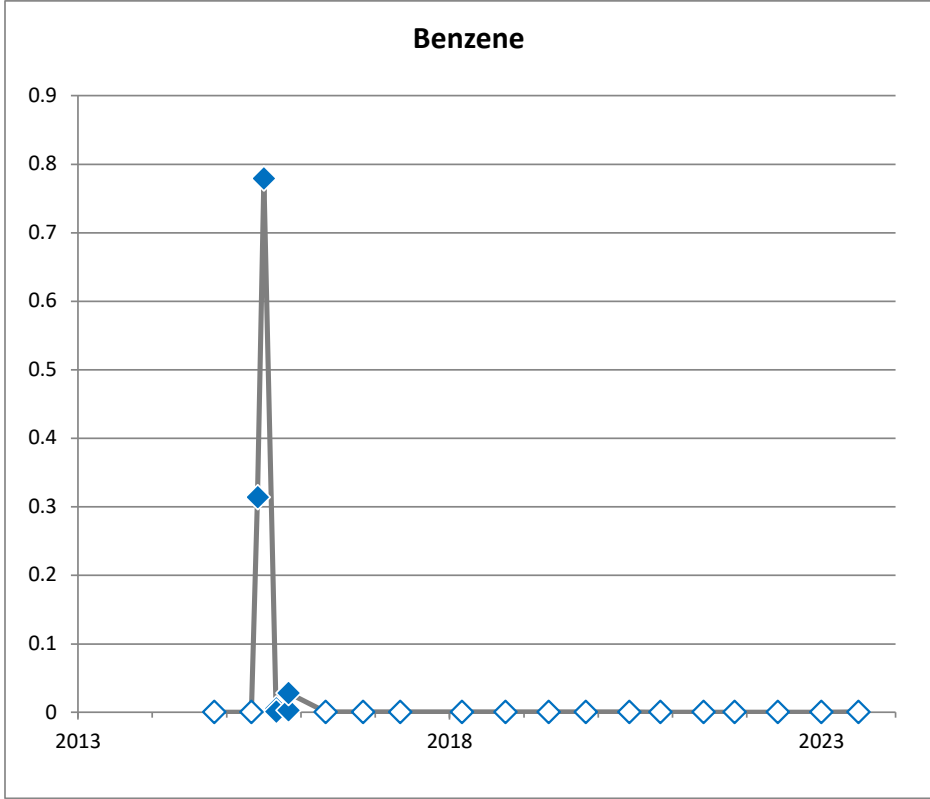
DWG NO.: E-21



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplides and multiple samples on the same date.

BH1921
(mg/L)

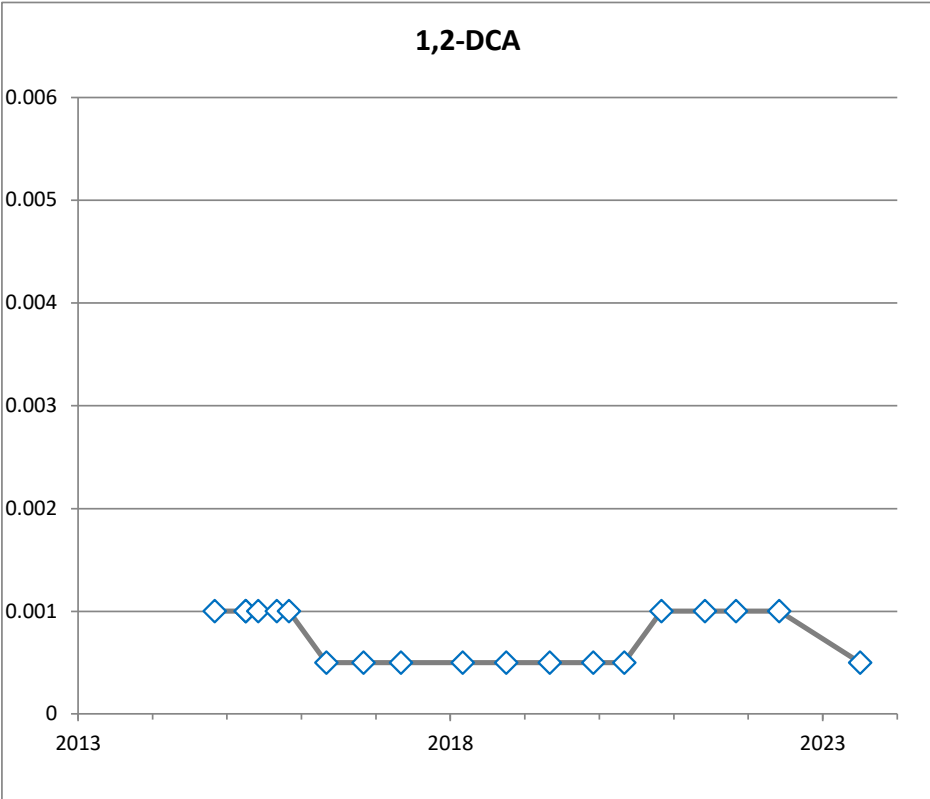
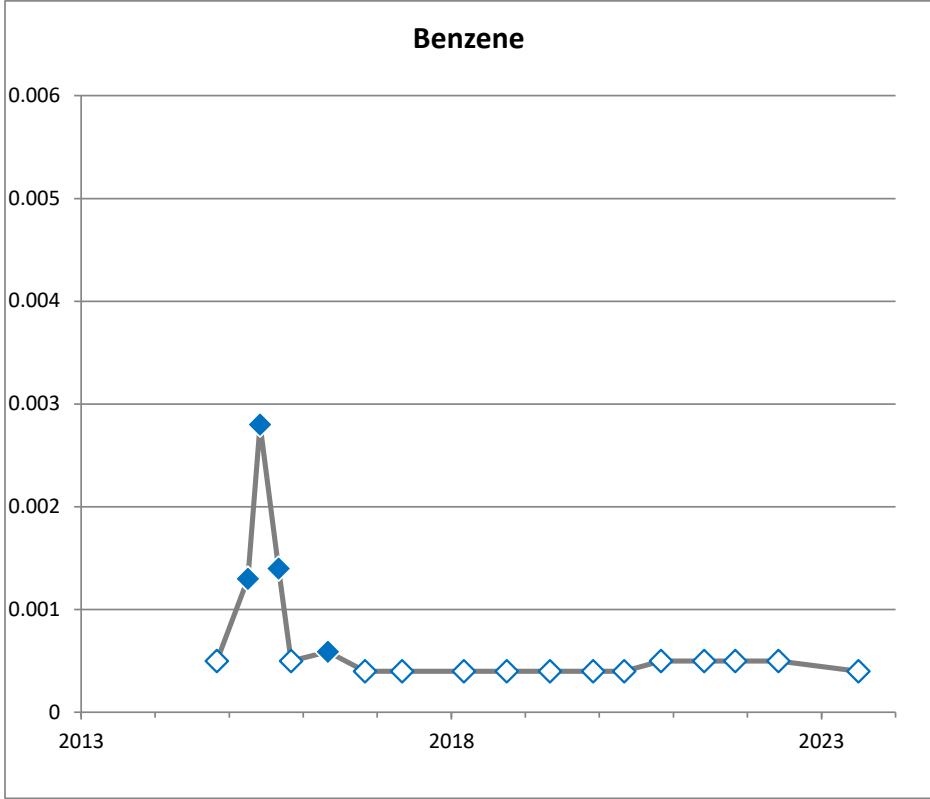
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-22	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1922
(mg/L)

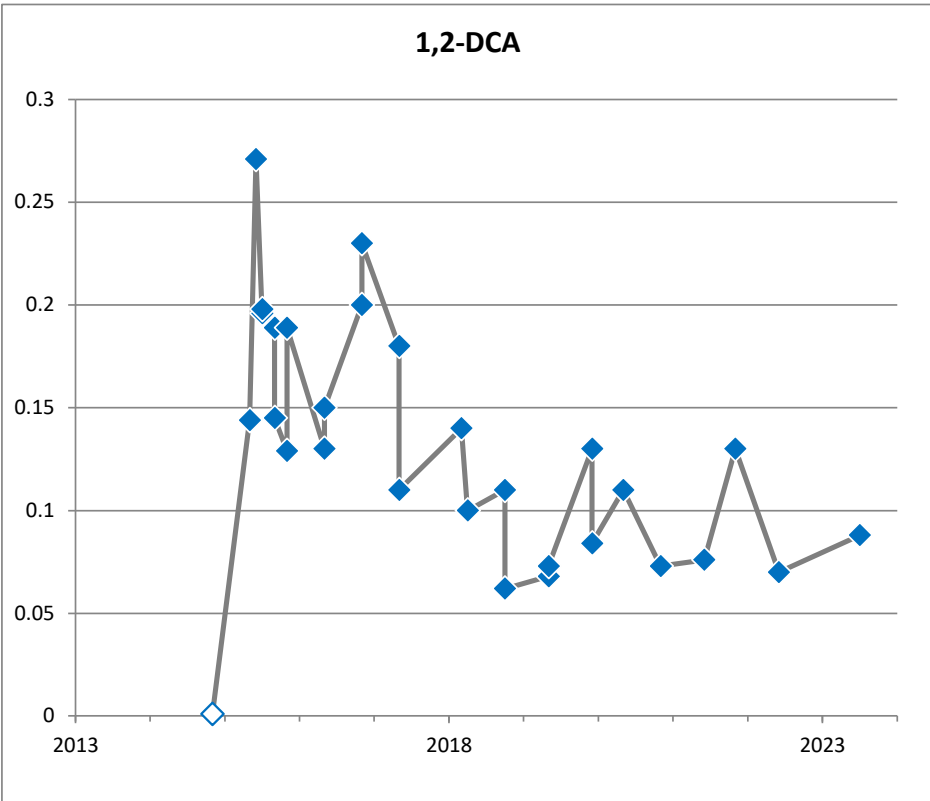
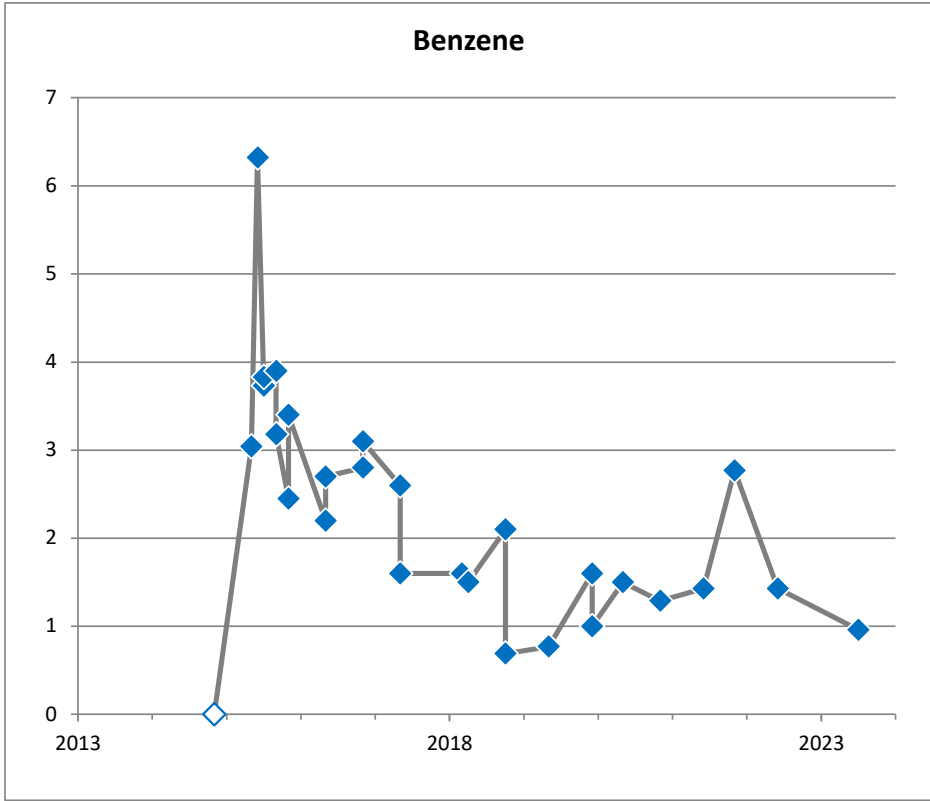
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-23	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1923
(mg/L)

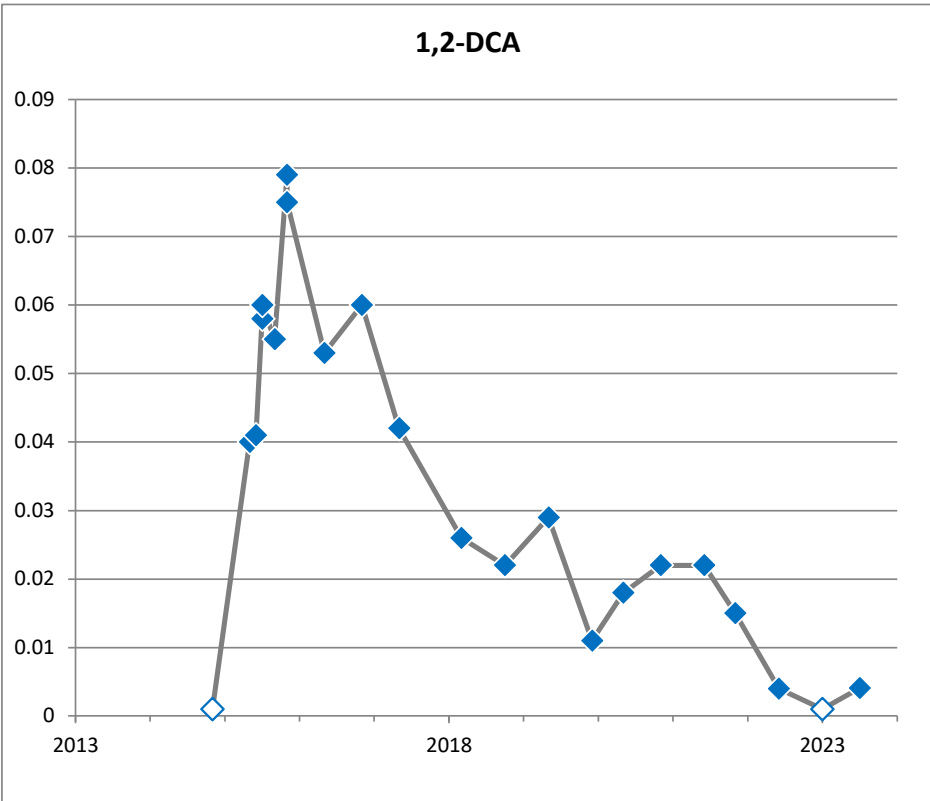
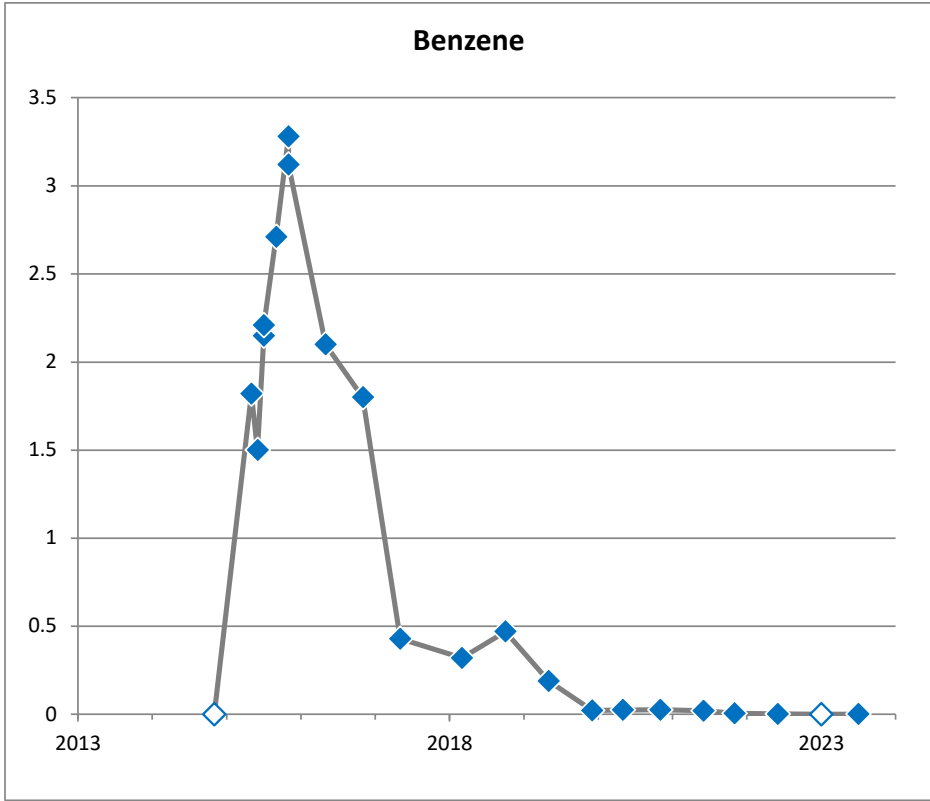
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-24	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1924
(mg/L)

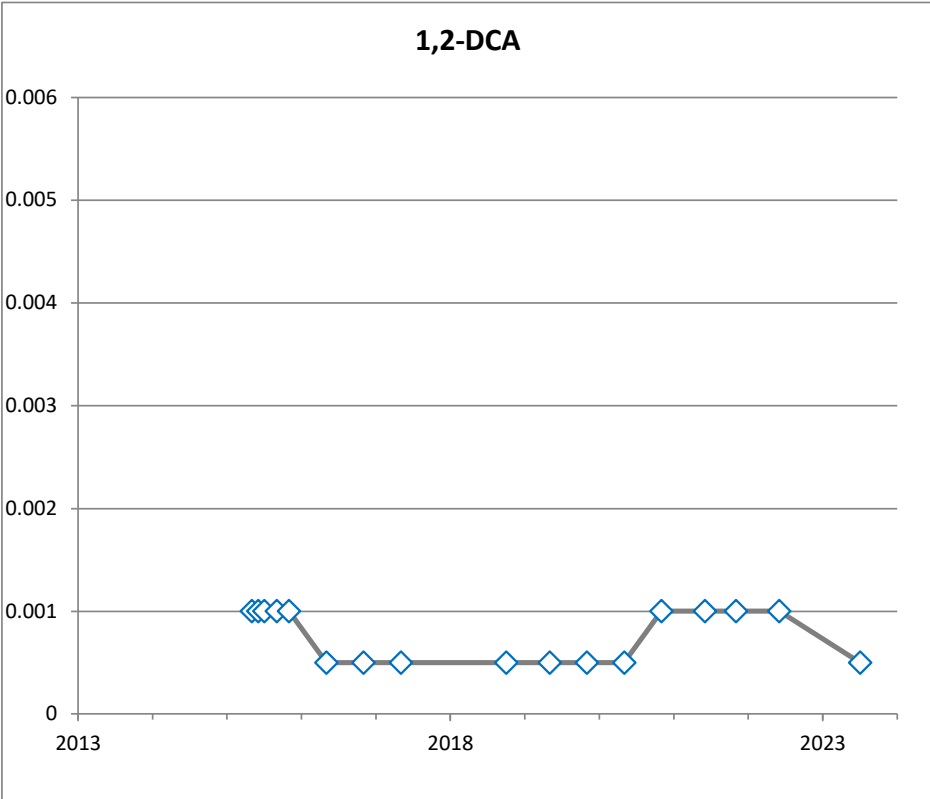
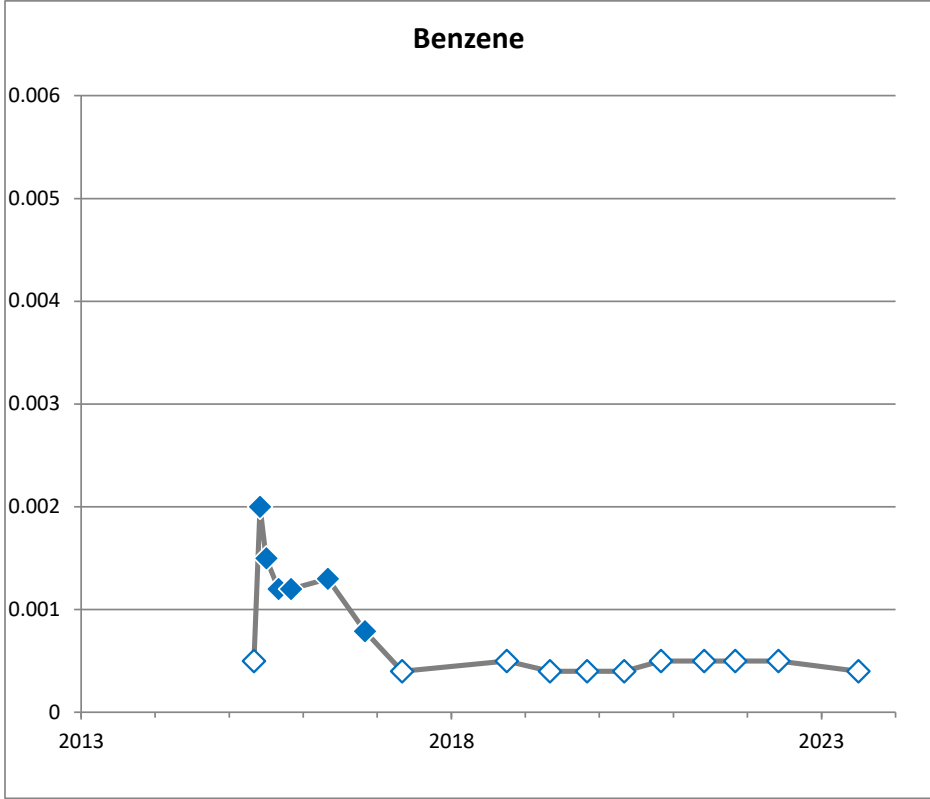
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-25	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1925
(mg/L)

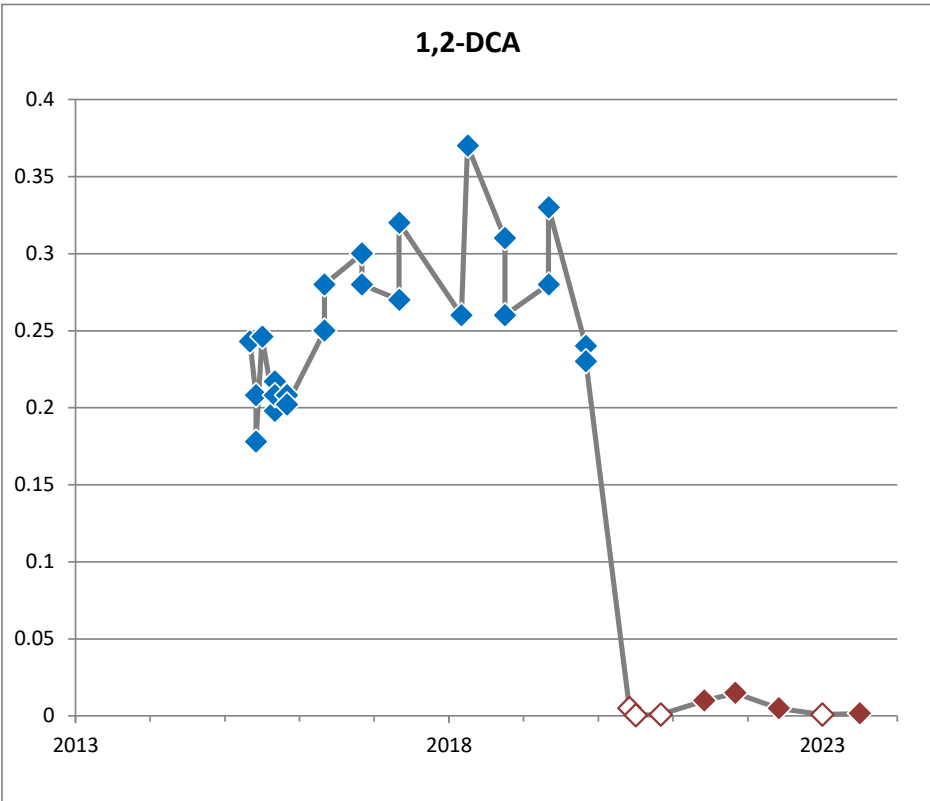
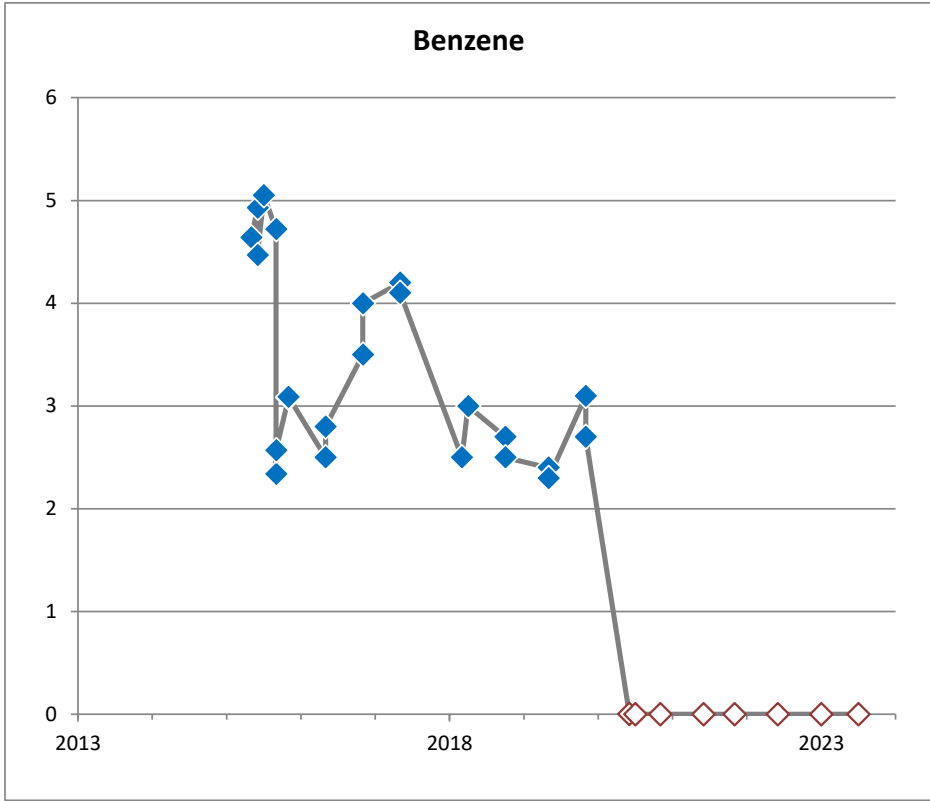
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-26	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1927
(mg/L)

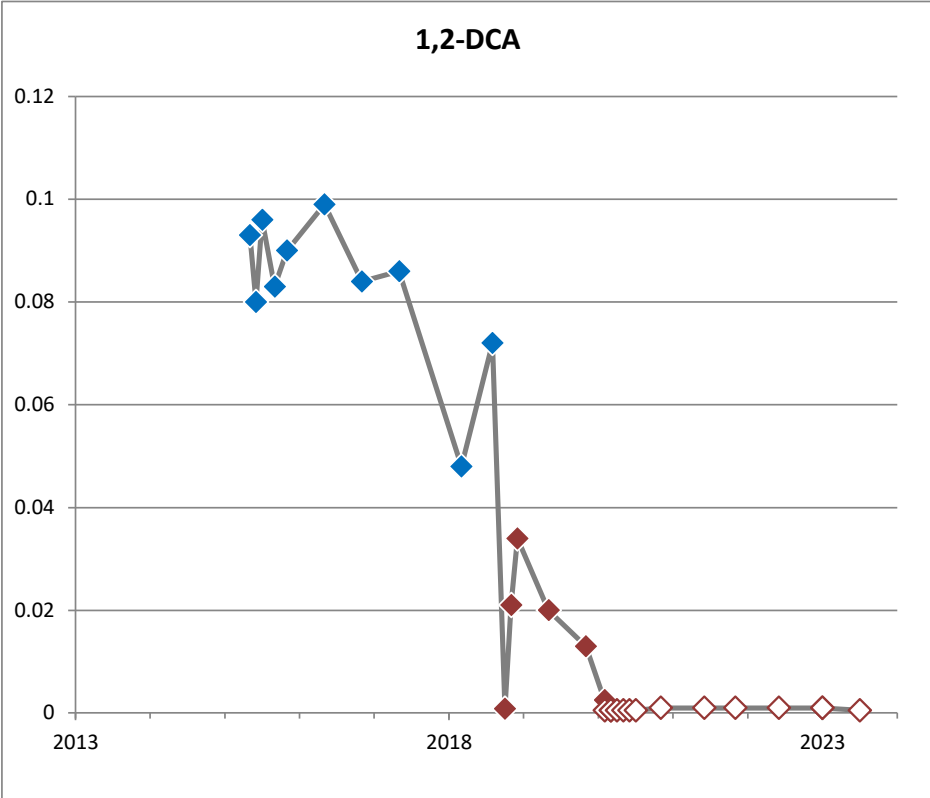
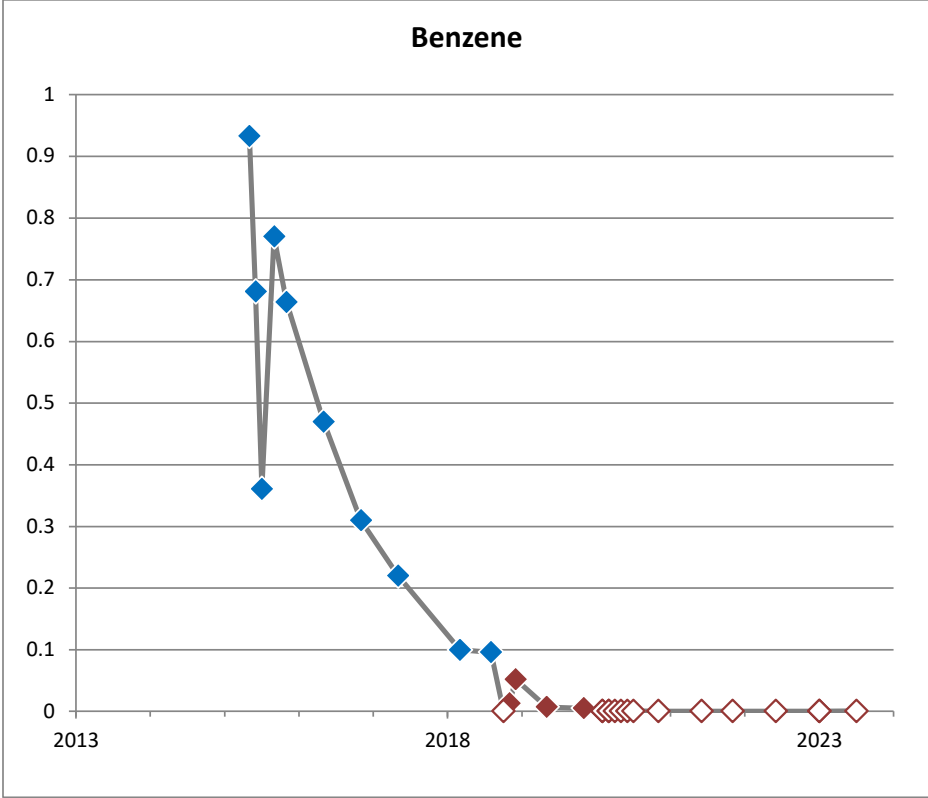
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-27	



◆ Non-detect value
◆ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1928
(mg/L)

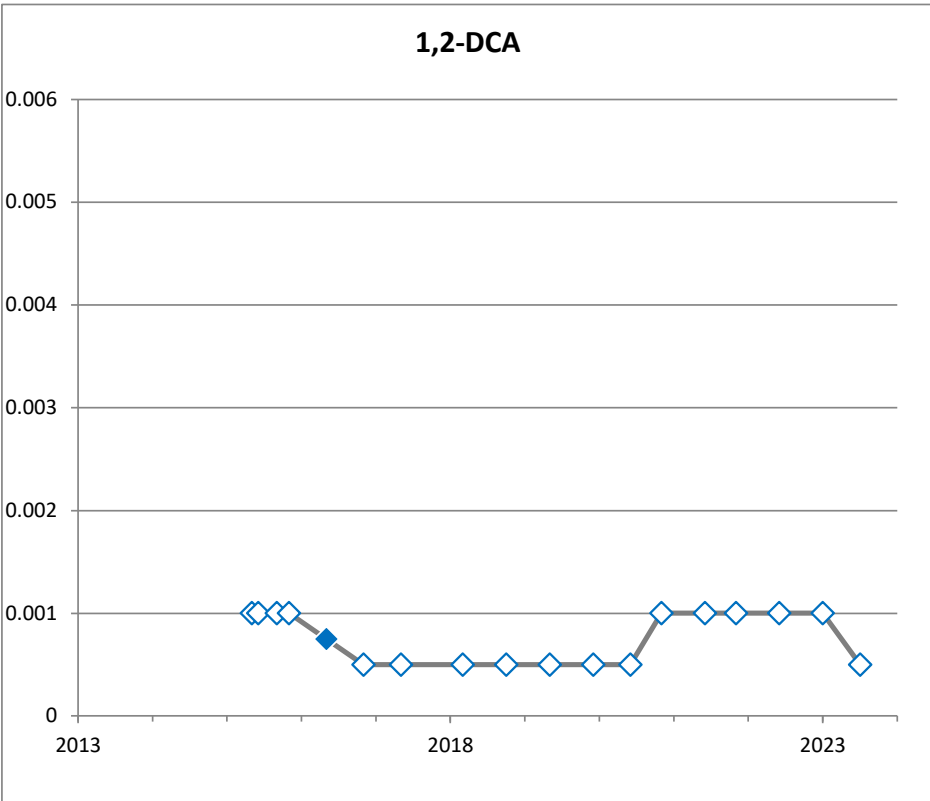
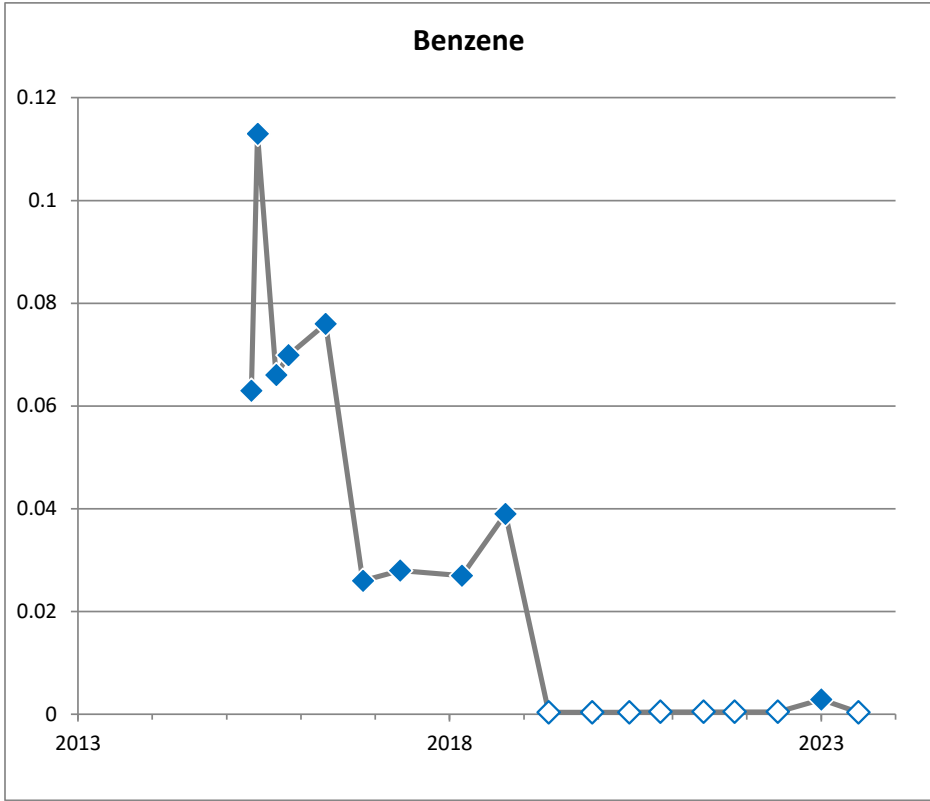
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-28	



◊ Non-detect value
◊ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1929
(mg/L)

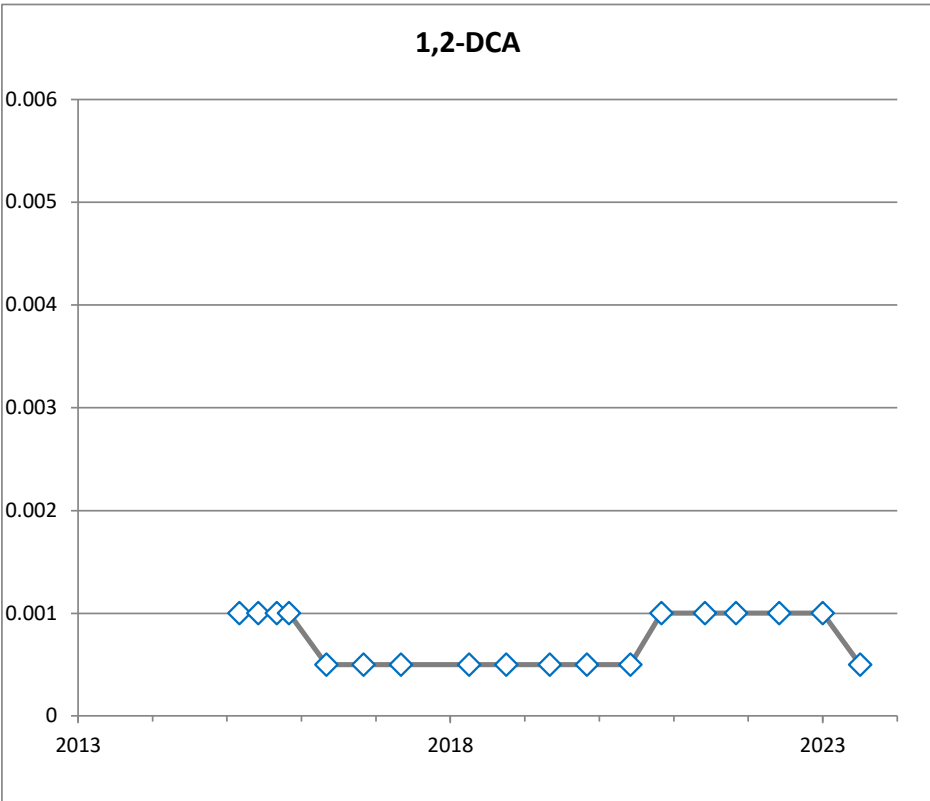
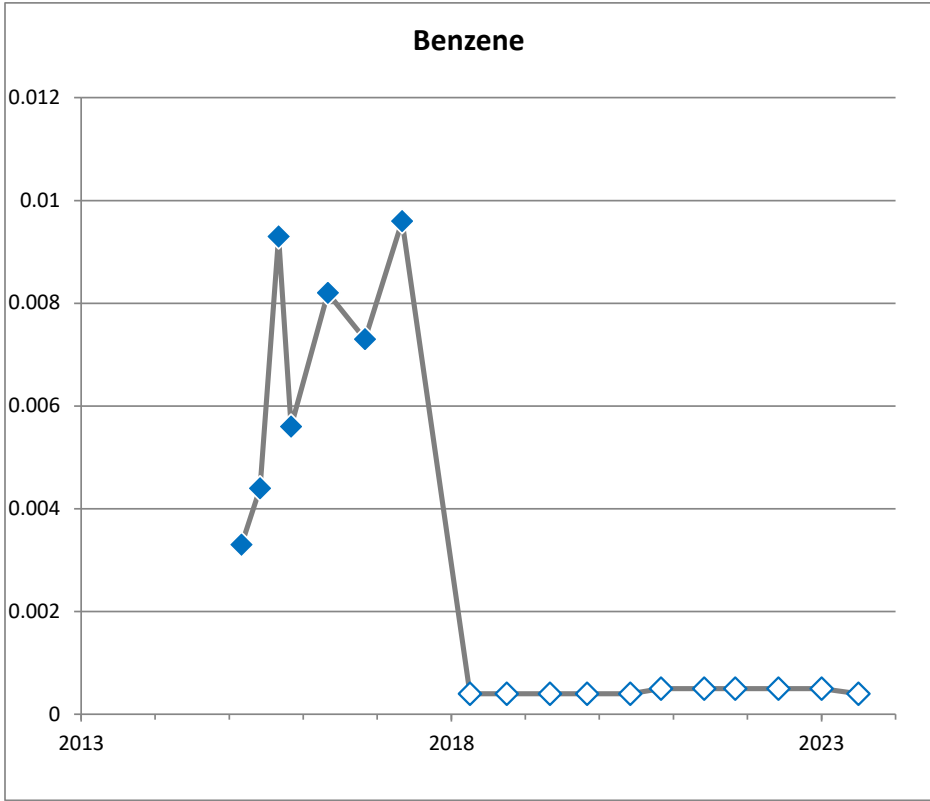
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-29	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1930
(mg/L)

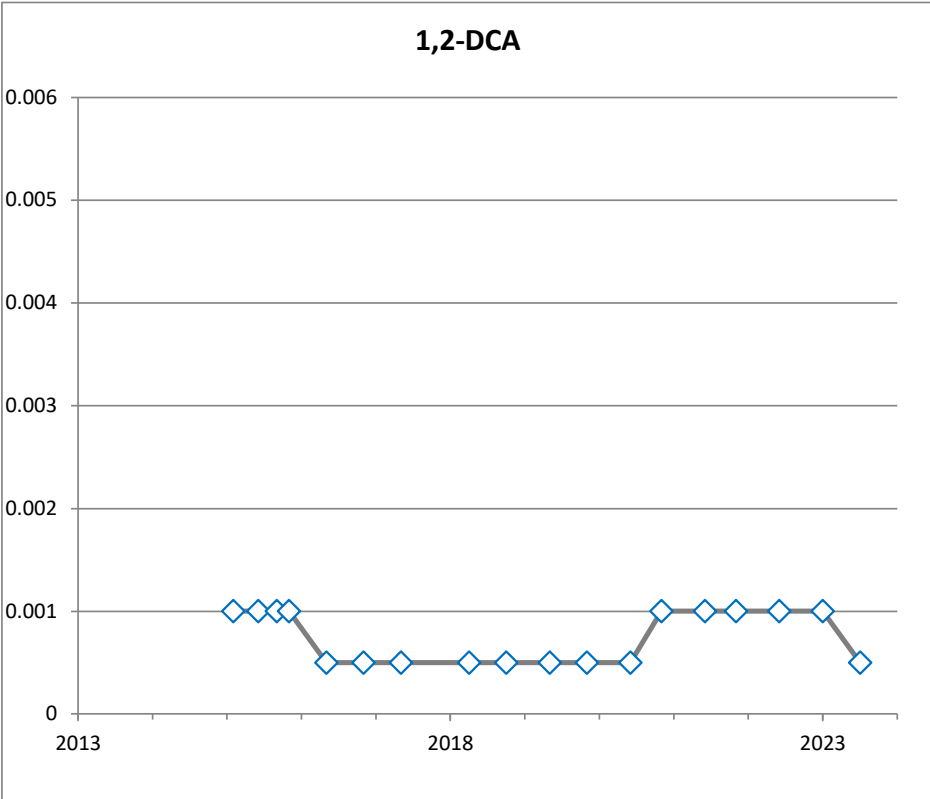
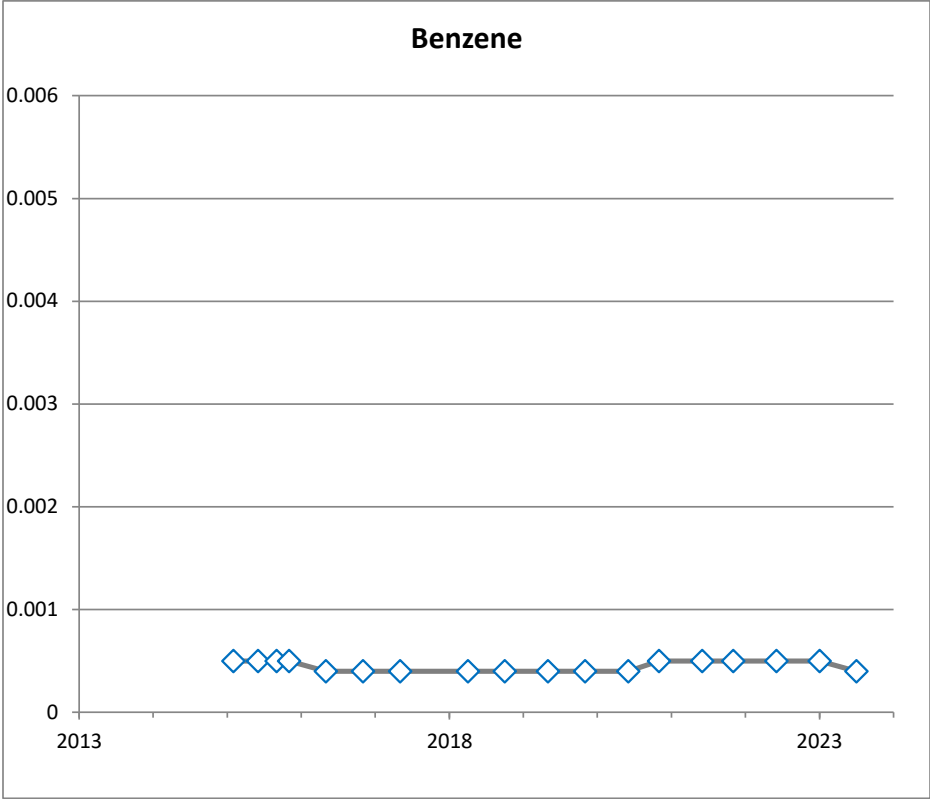
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-30	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1933
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-31	



◇ Non-detect value
 ◆ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1934
(mg/L)

PARSONS

JOB NO.: 10-12832

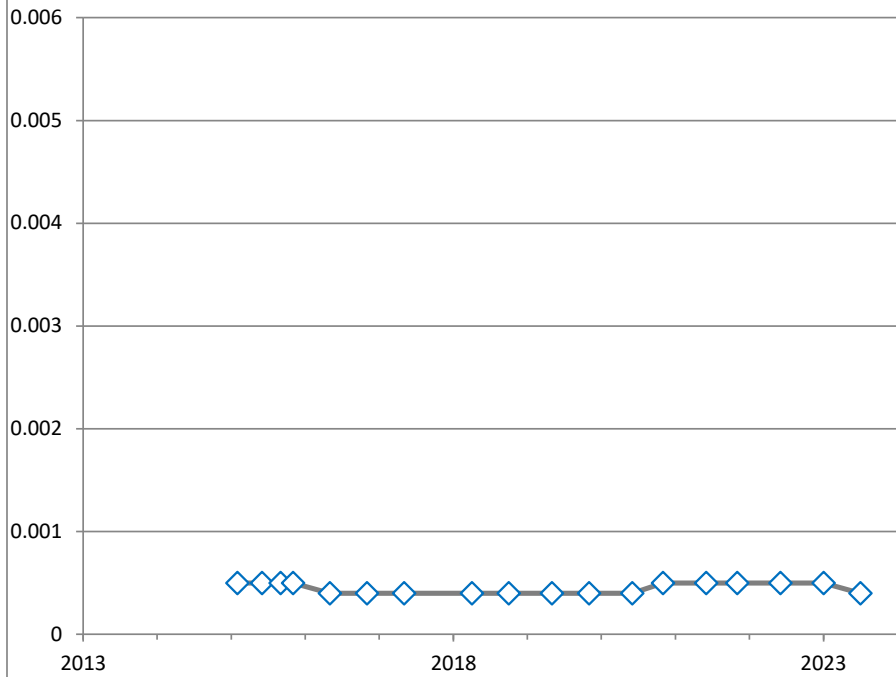
DATE: Feb 24, 2024

REF. NO.: 478903.17100

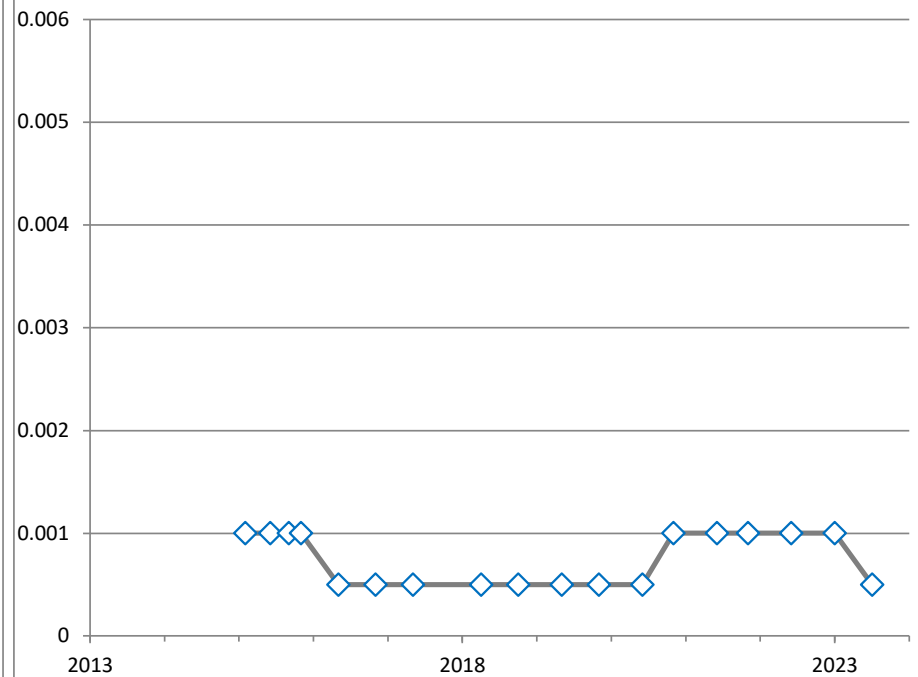
DRAWN BY: MR/SLD

DWG NO.: E-32

Benzene



1,2-DCA



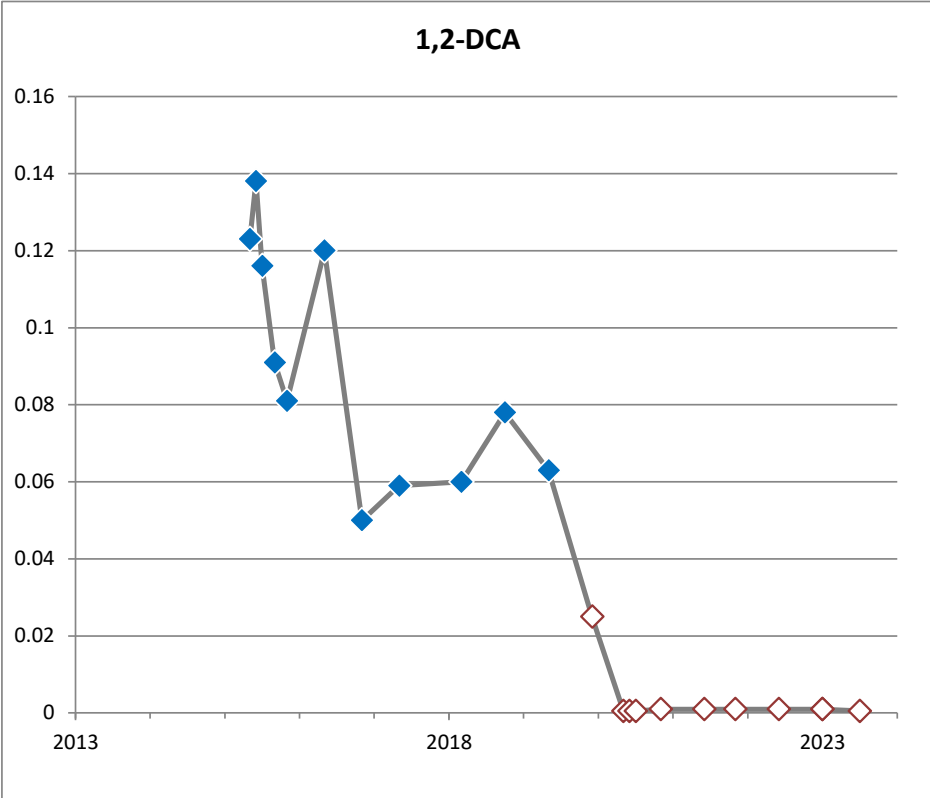
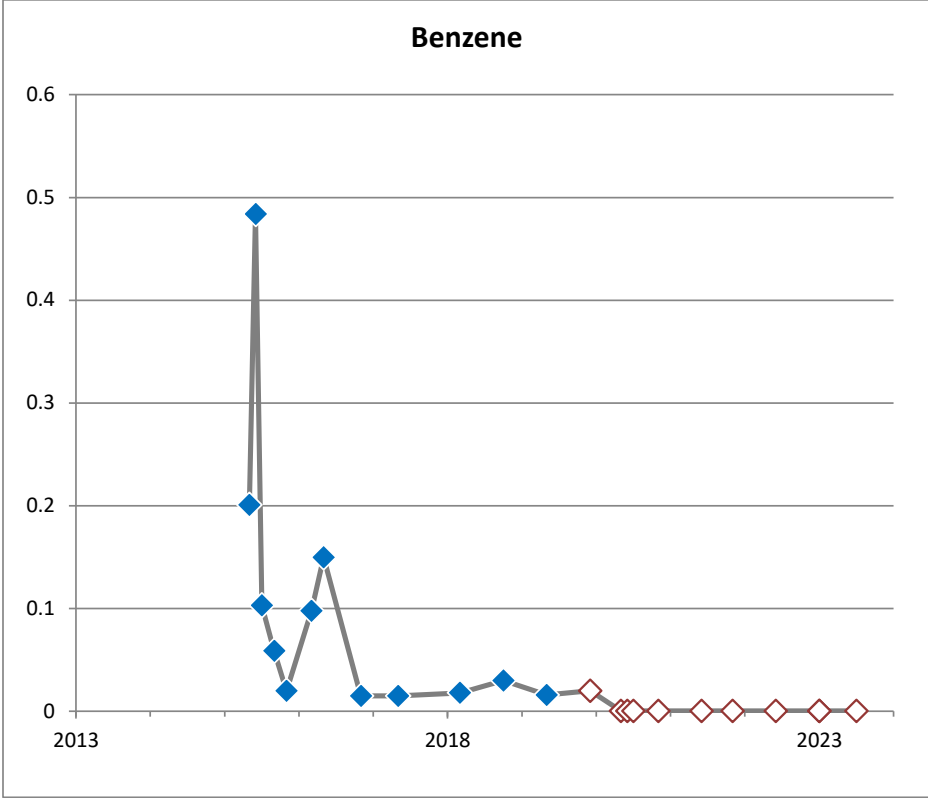
◊ Non-detect value
 ◊ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

**BH1935
(mg/L)**

PARSONS

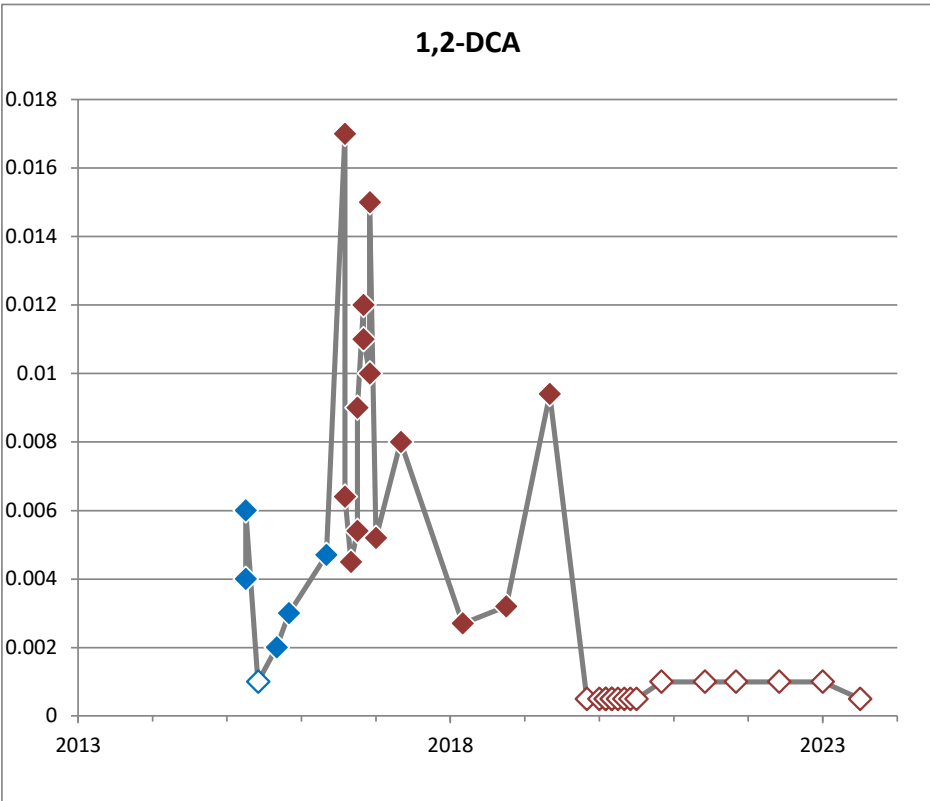
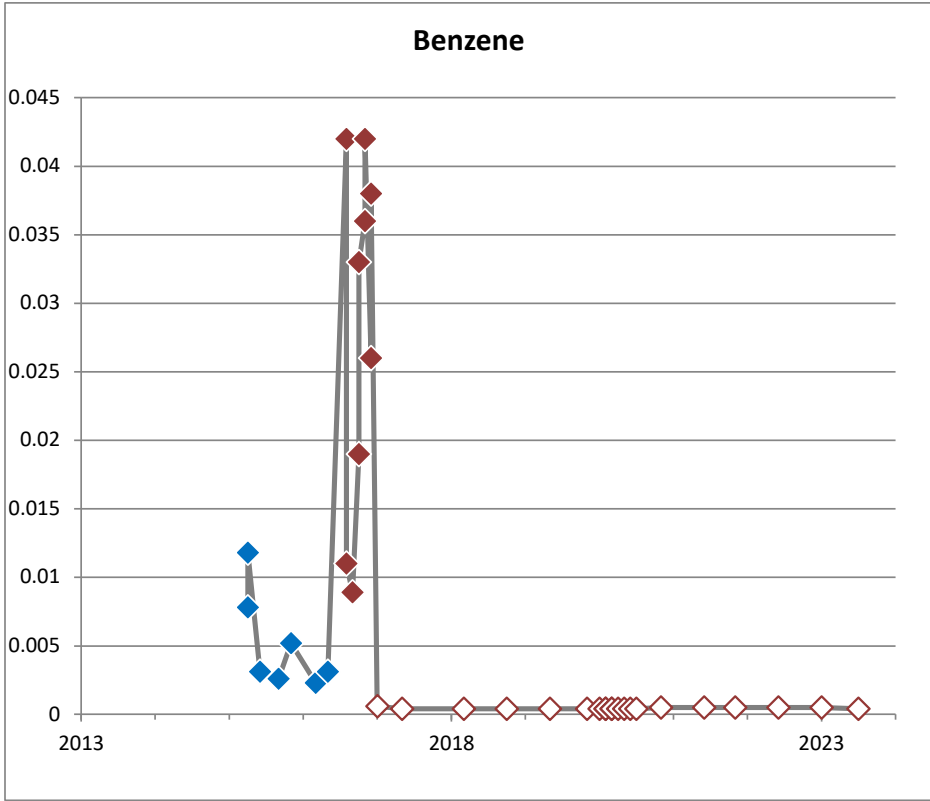
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-33	



◆ Non-detect value
◆ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1936
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-34	



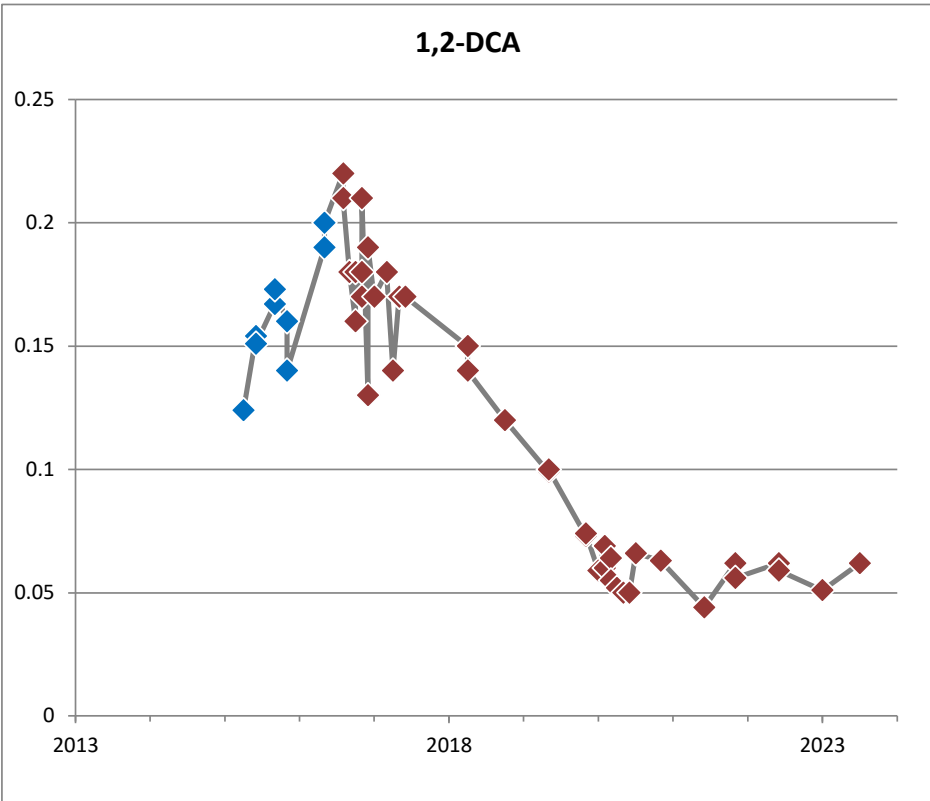
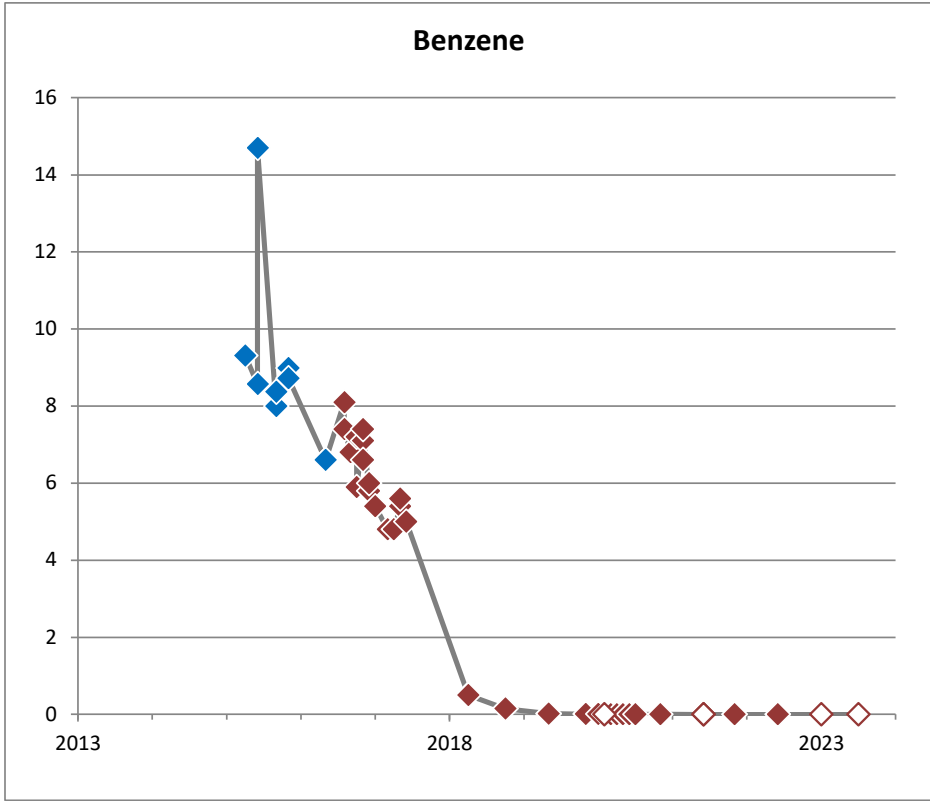
BH1937/BH1939: analytical data for samples collected on October 28, 2016 were identified as anomalous and are not presented herein.

◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH1937
(mg/L)**

PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-35	

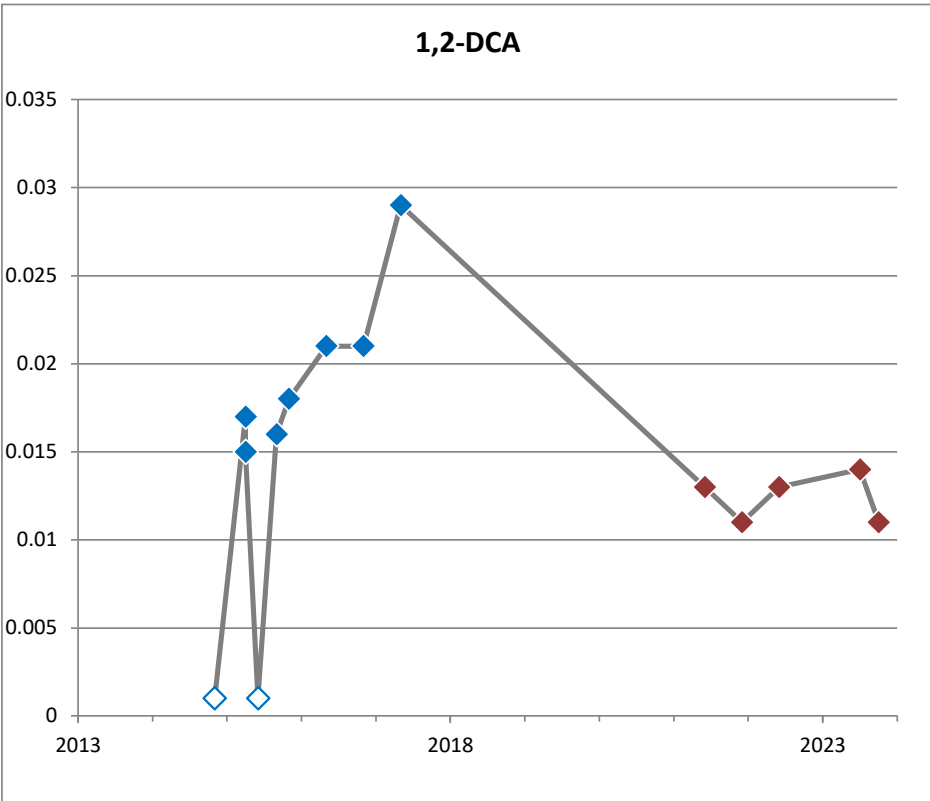
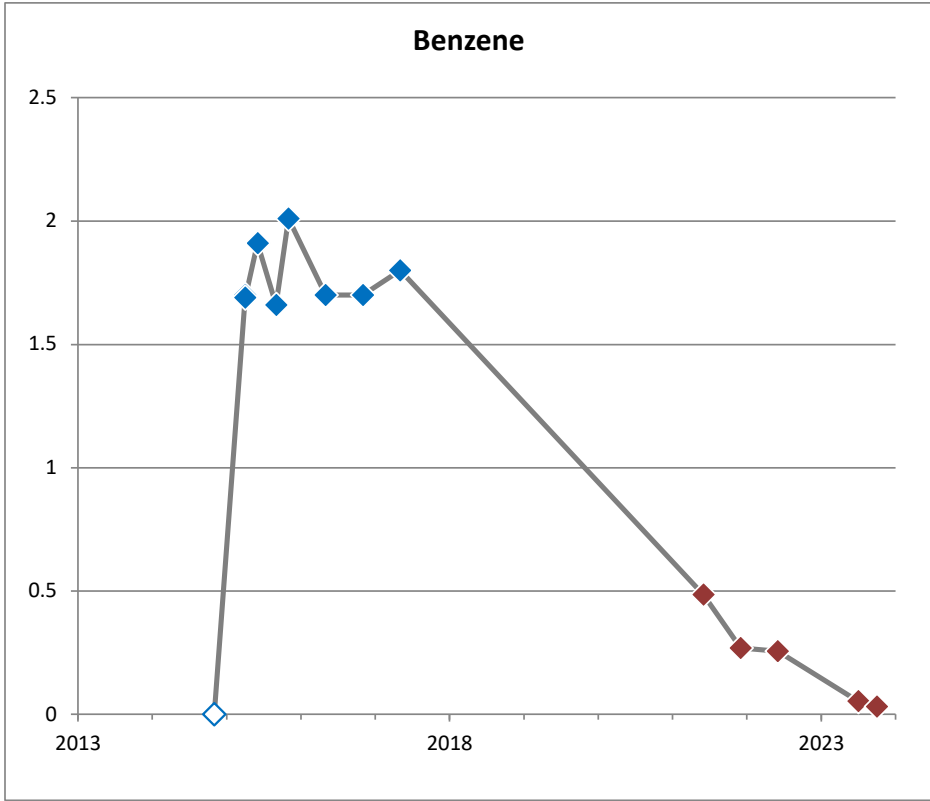


BH1937/BH1939: analytical data for samples collected on October 28, 2016 were identified as anomalous and are not presented herein.

◆ Non-detect value
◆ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1939
(mg/L)

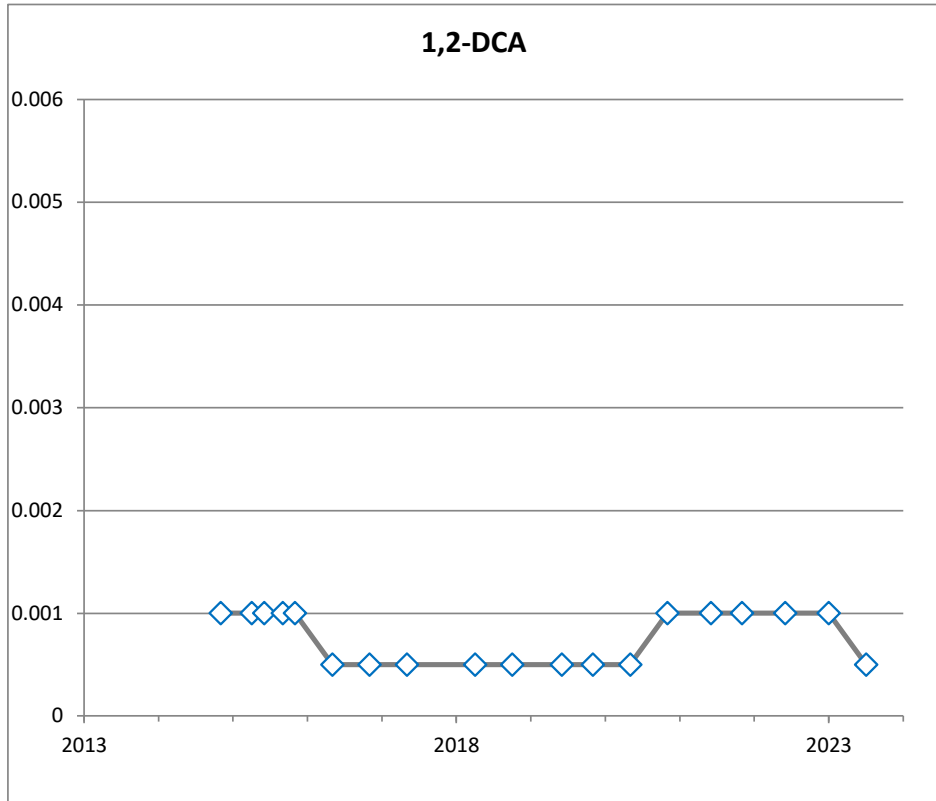
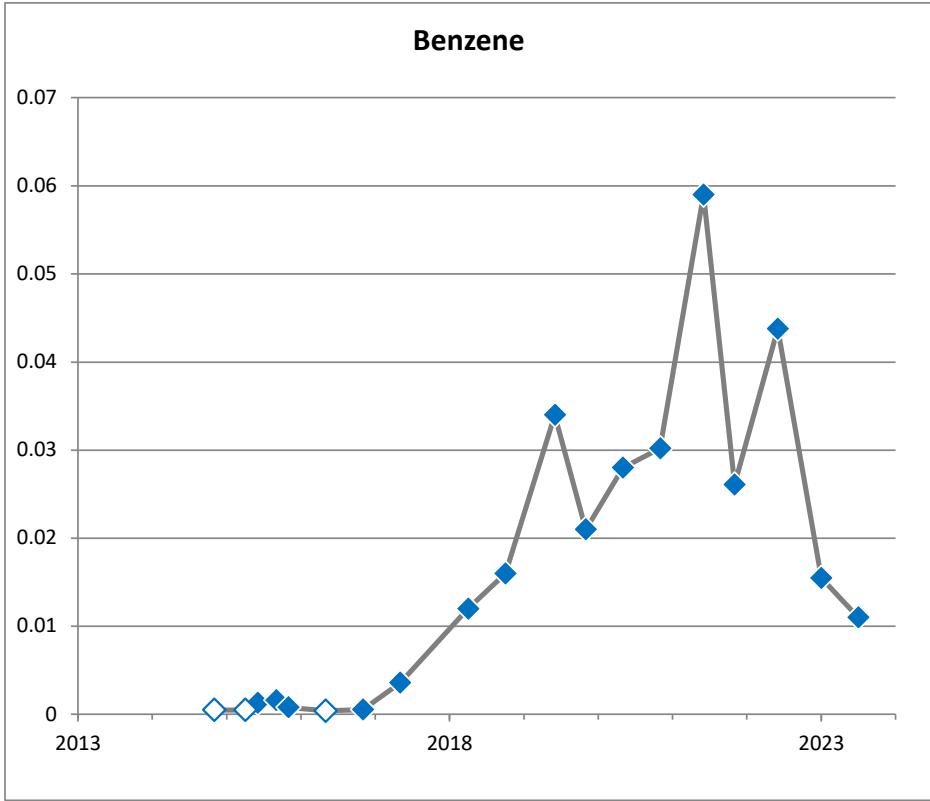
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-36	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1943
(mg/L)

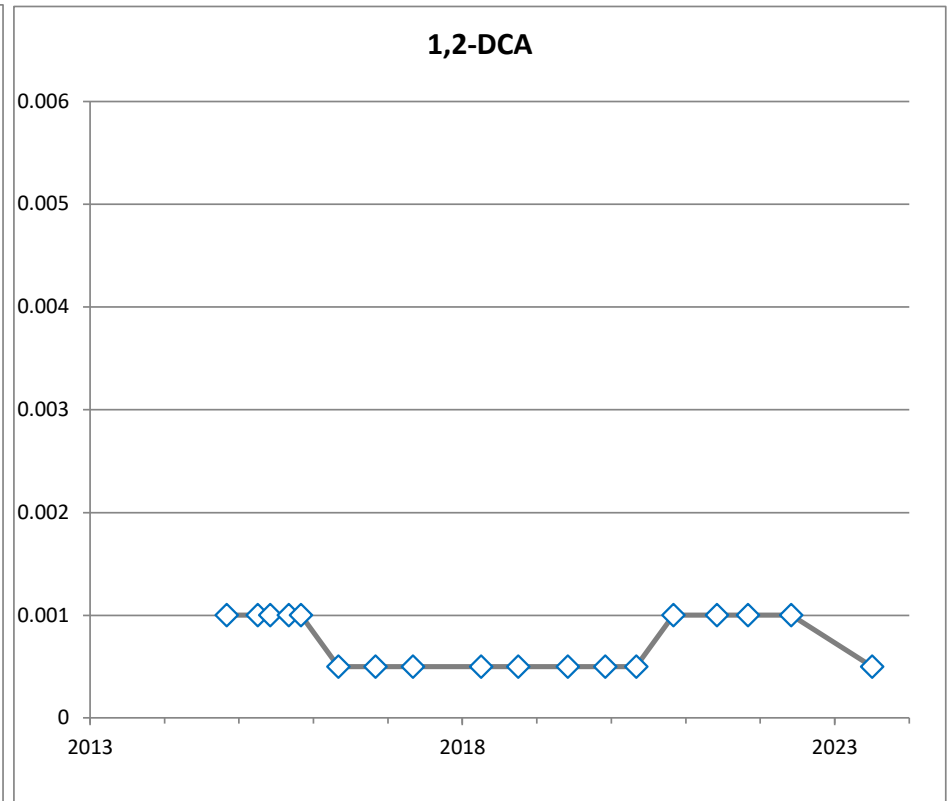
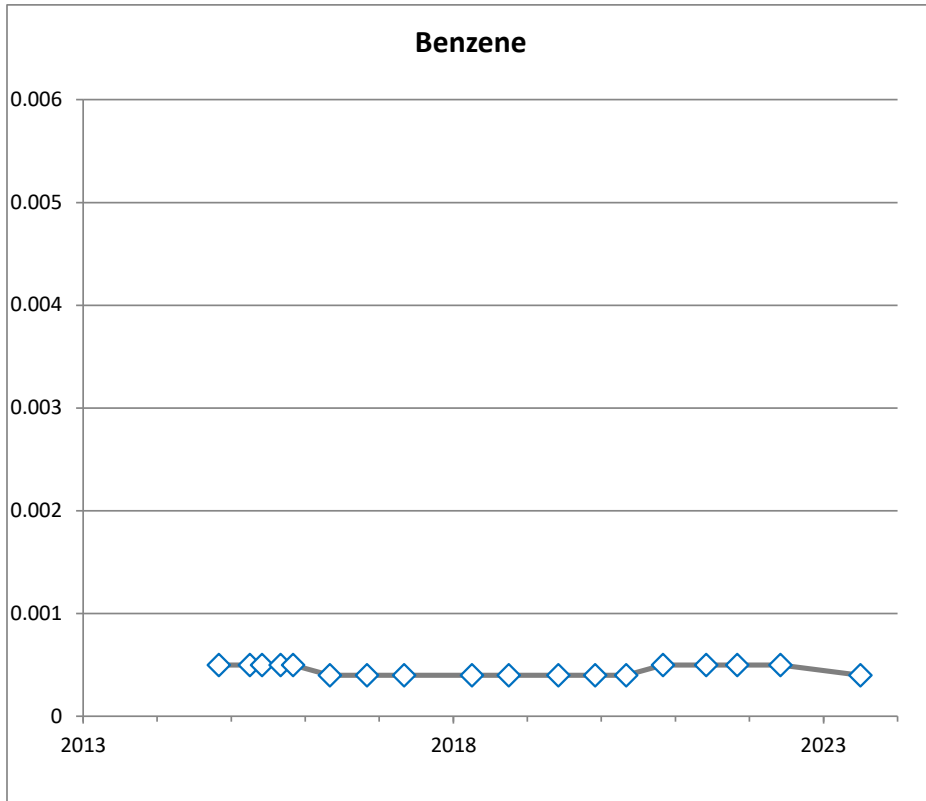
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-39	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1944
(mg/L)

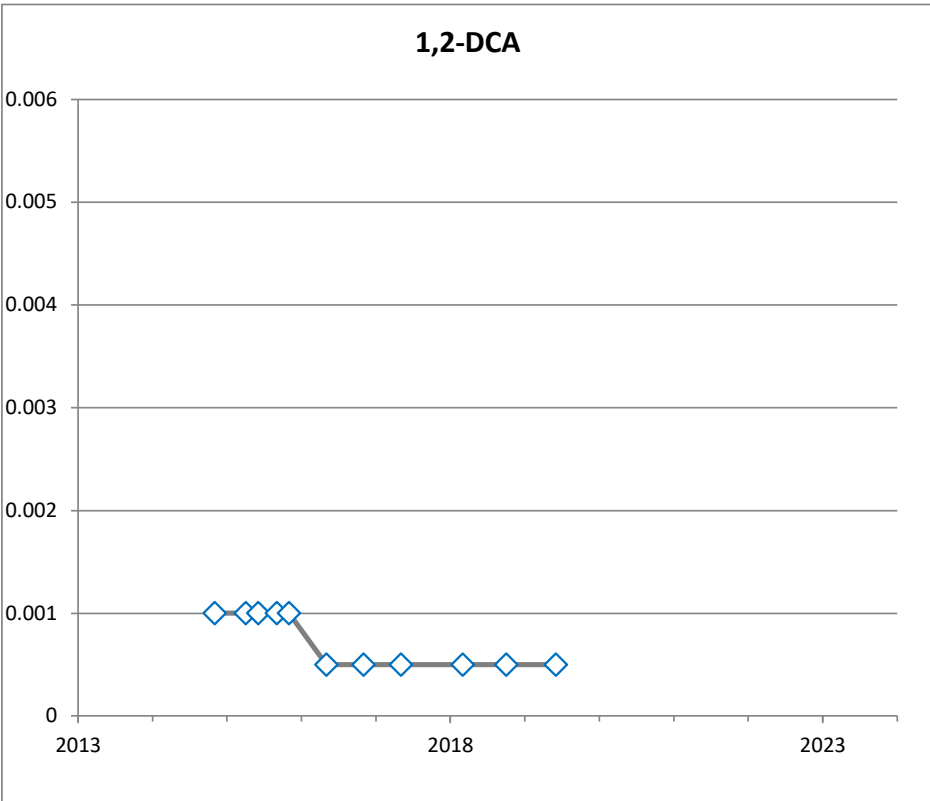
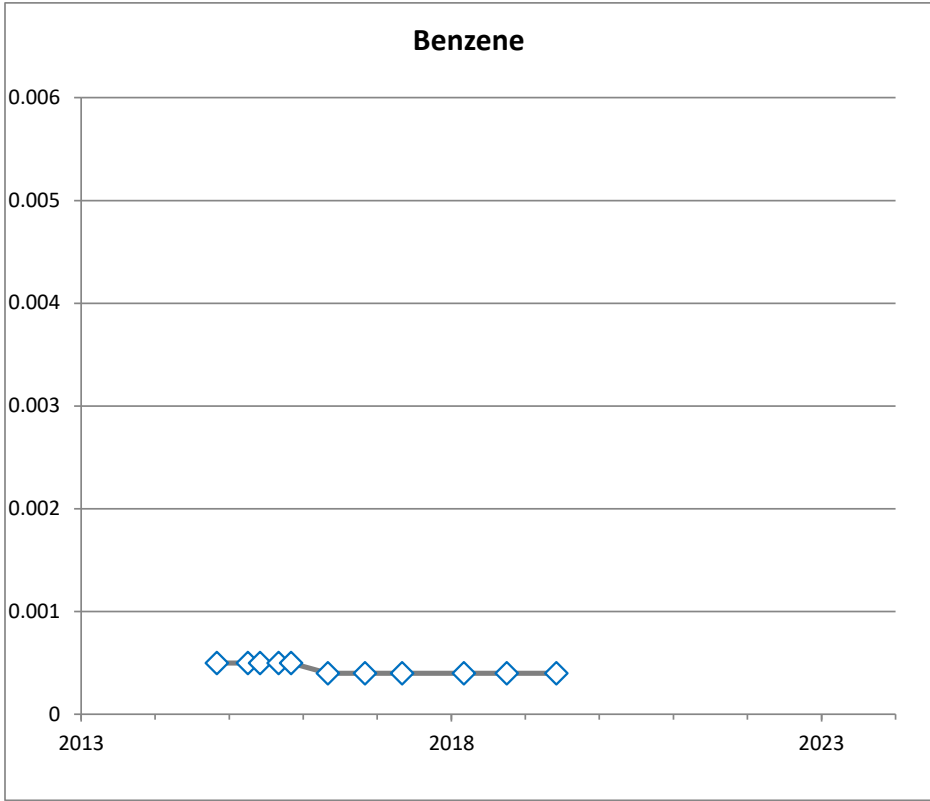
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-40	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1946
(mg/L)

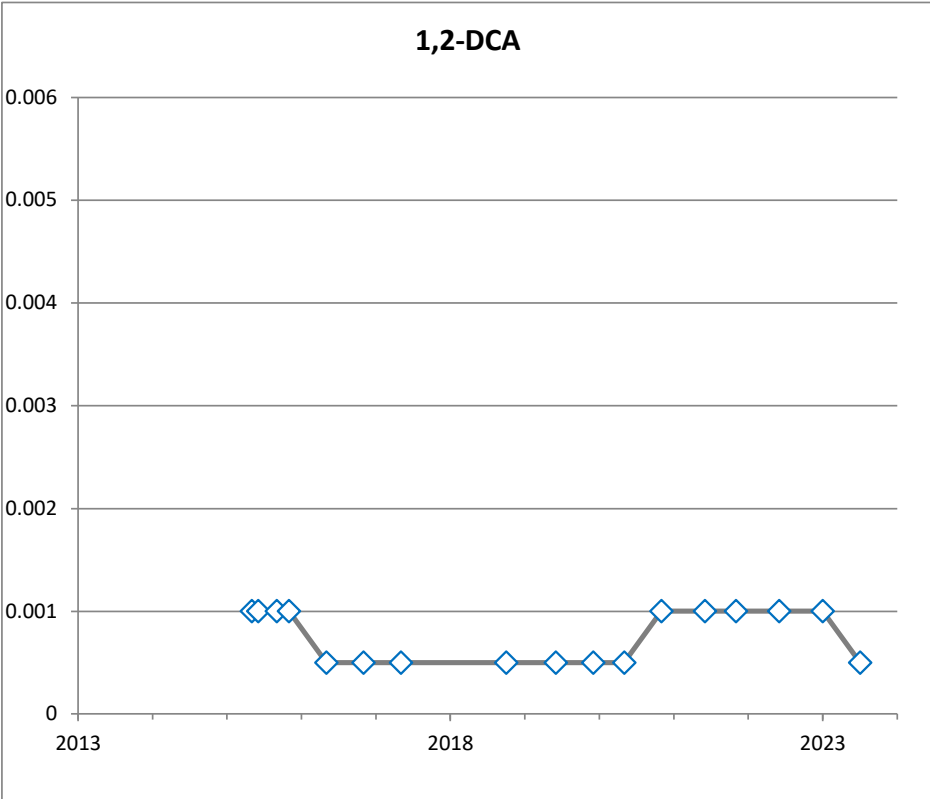
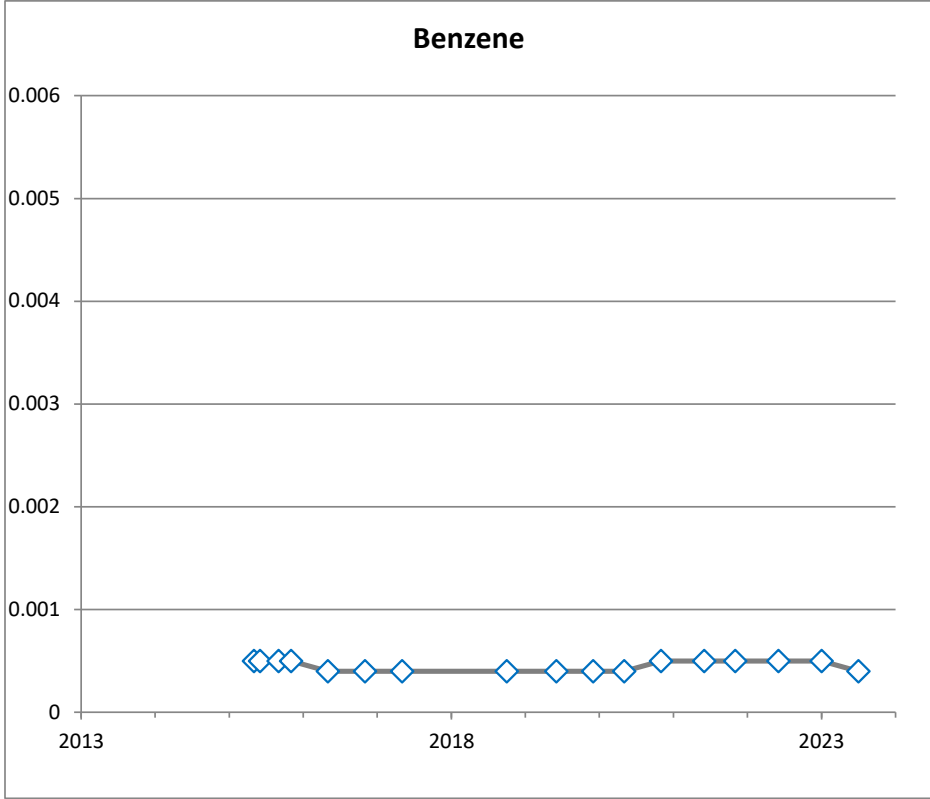
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-42	



◆ Non-detect value
◆ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1948
(mg/L)

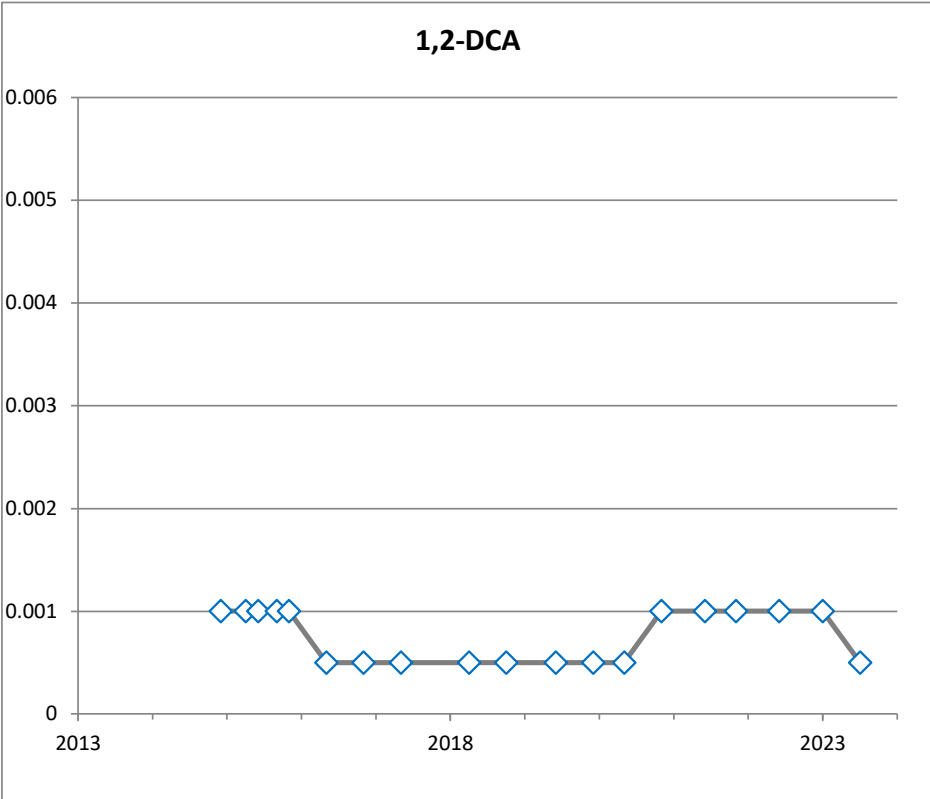
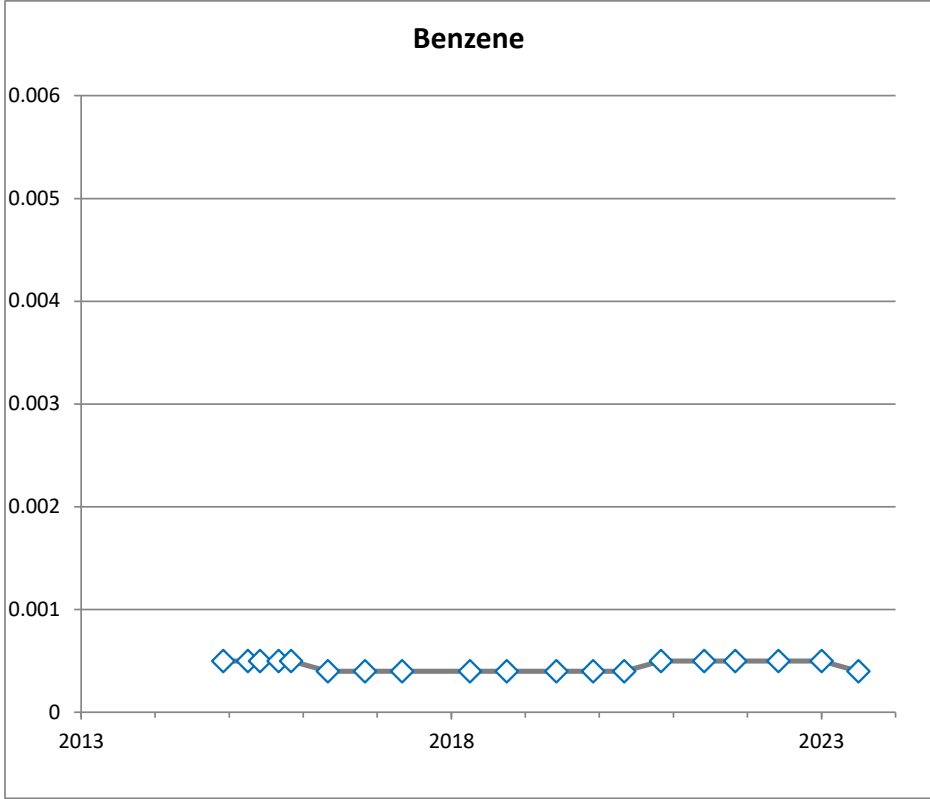
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-44	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1950A
(mg/L)

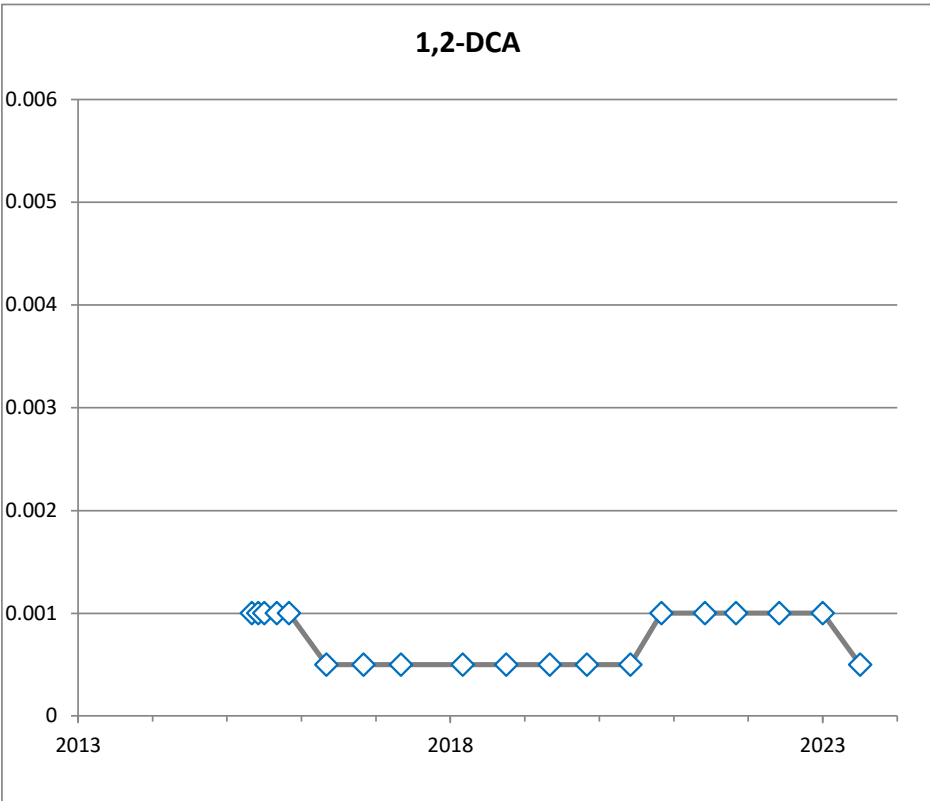
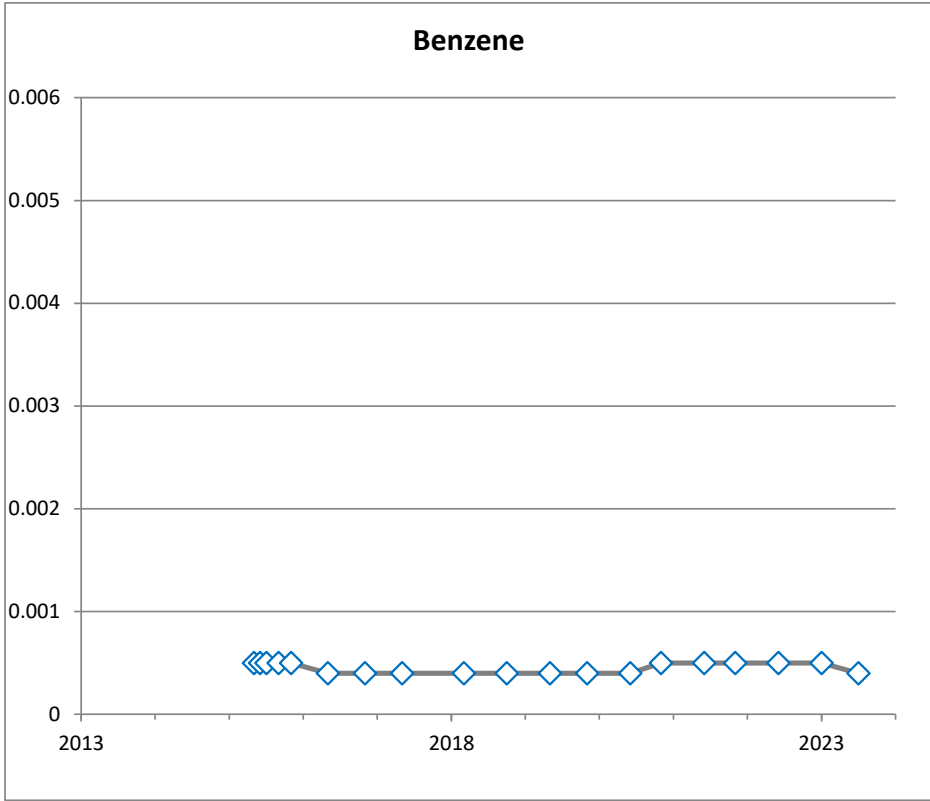
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-45	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates
 and multiple samples on the same date.

**BH1951
(mg/L)**

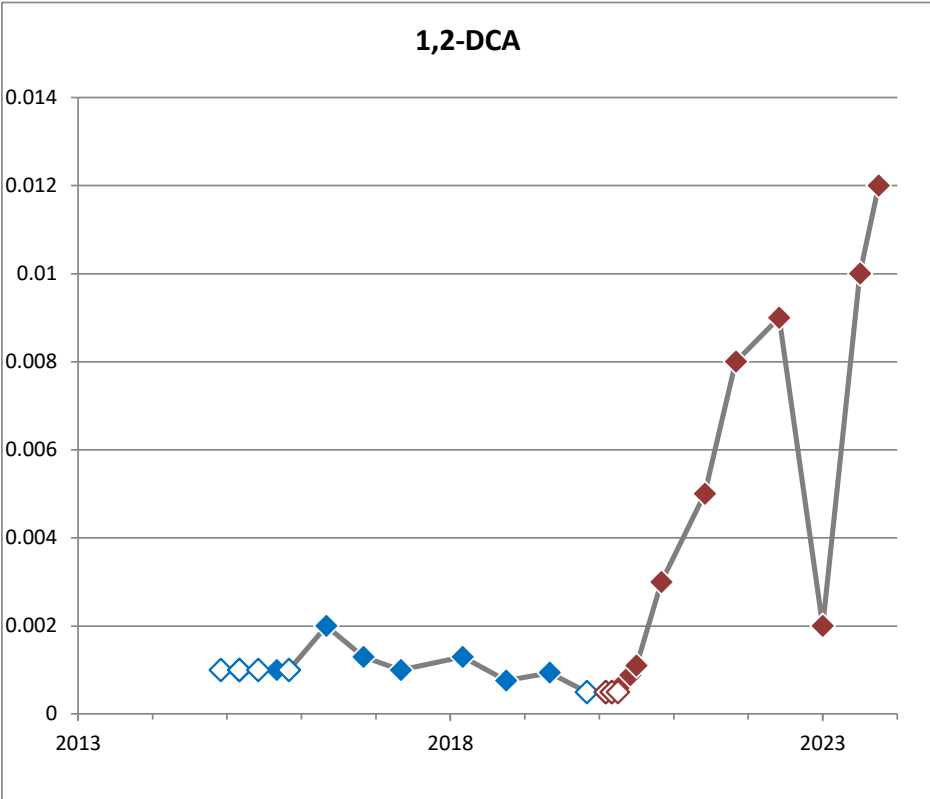
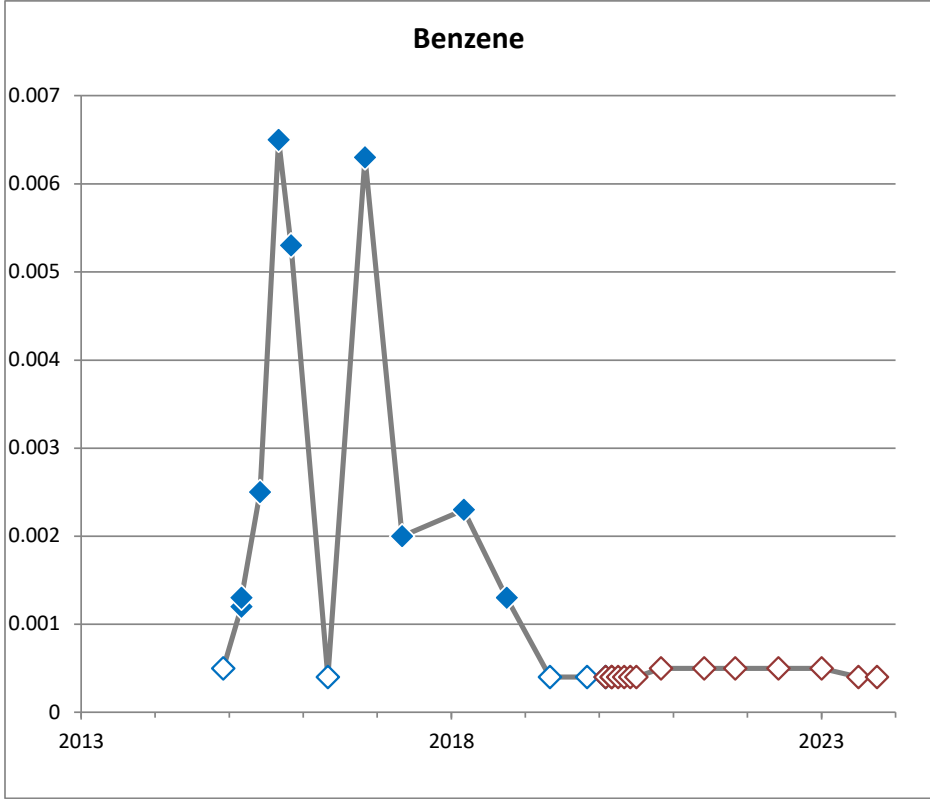
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-46	



Non-detect value
 Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH1952
(mg/L)**

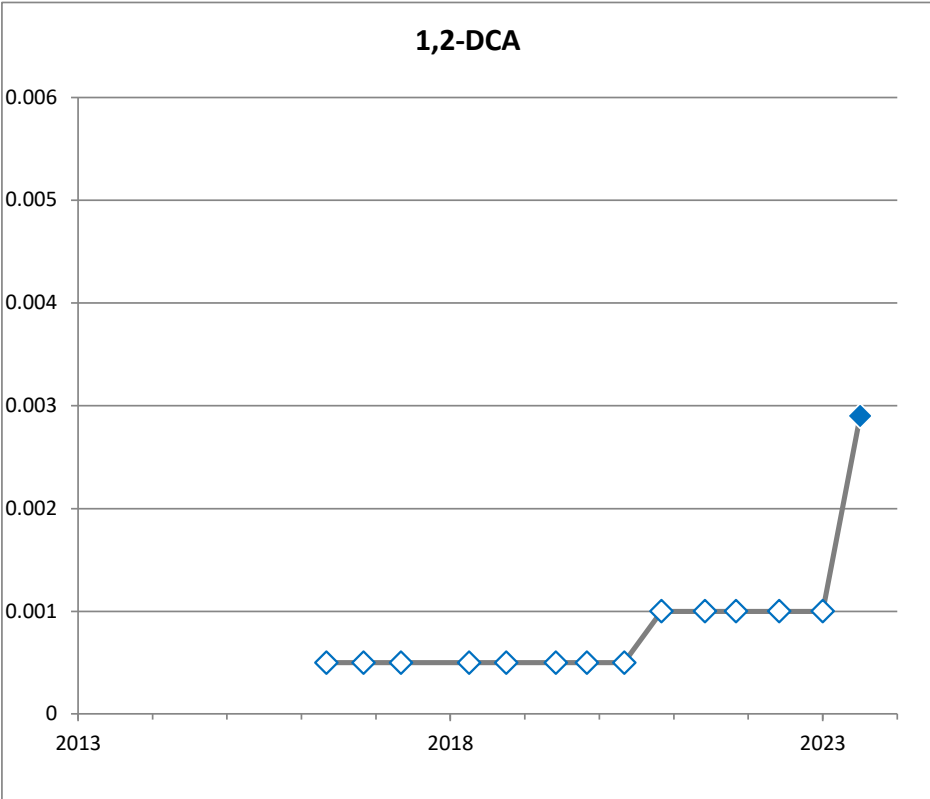
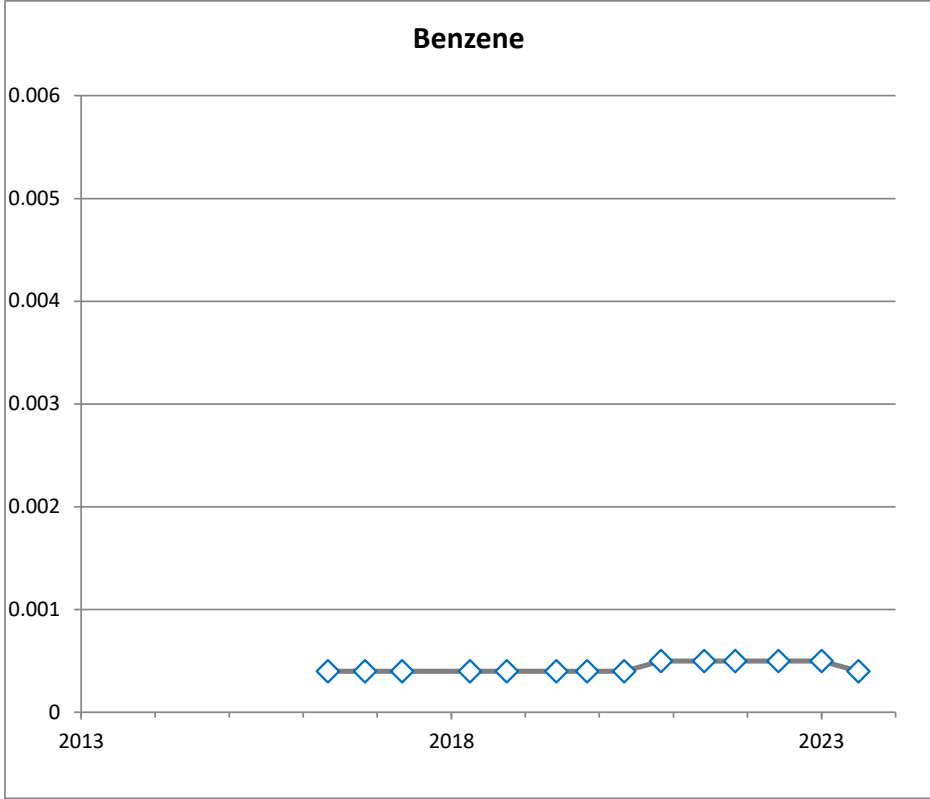
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-47	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH1954
(mg/L)**

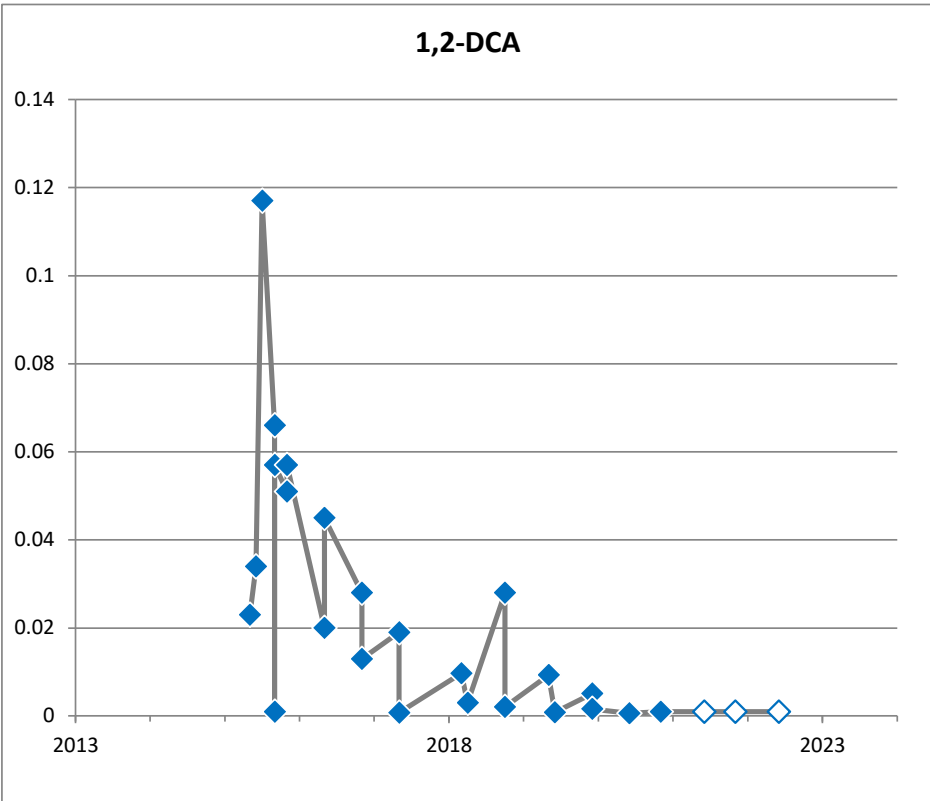
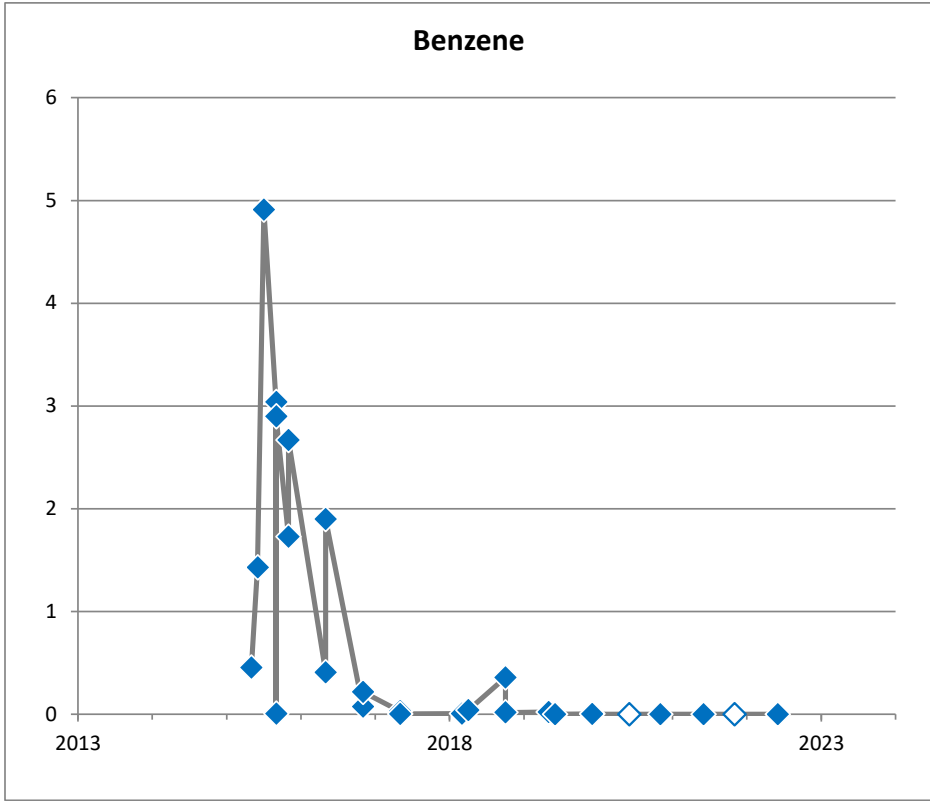
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-49	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1955A
(mg/L)

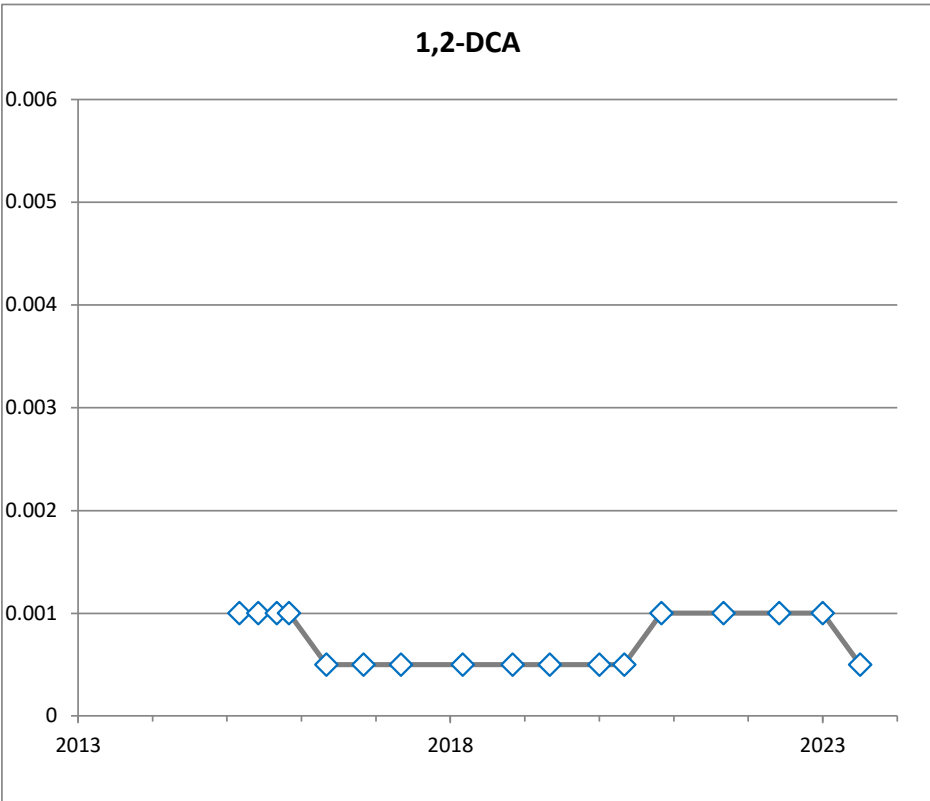
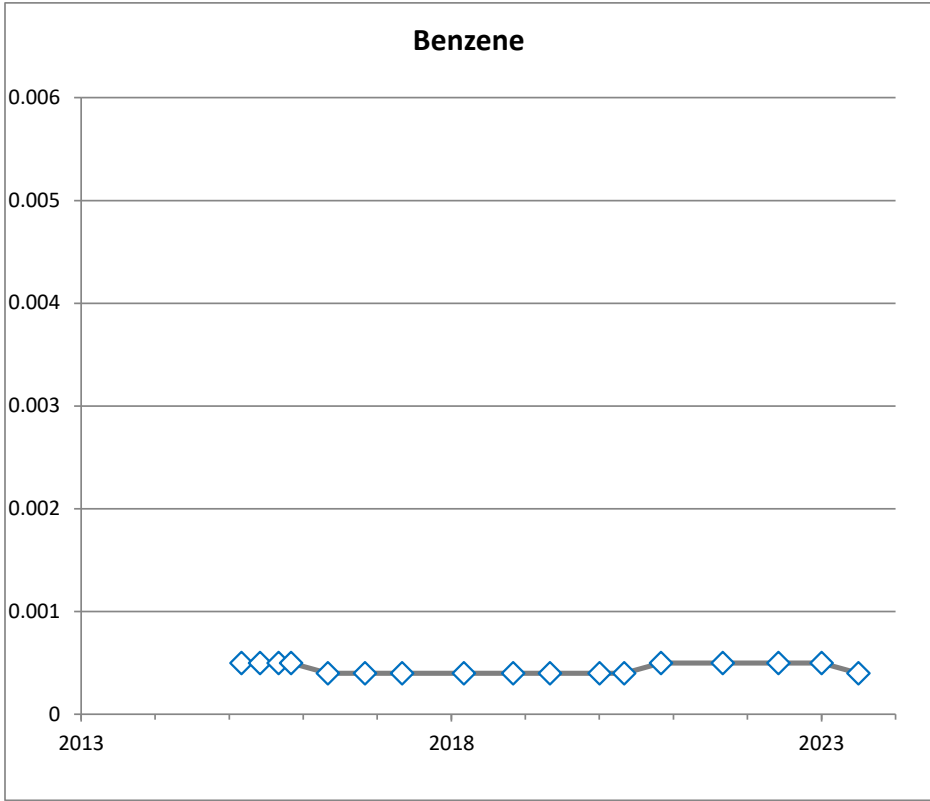
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-50	



◊ Non-detect value
◊ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1956
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-51	



◇ Non-detect value
◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1957
(mg/L)

PARSONS

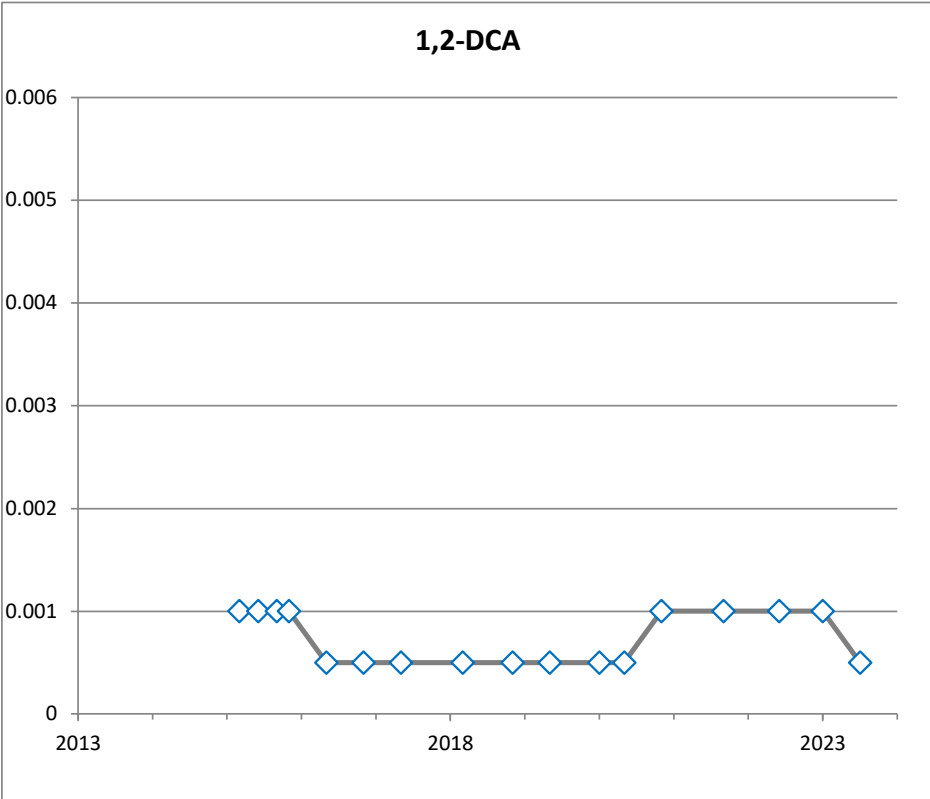
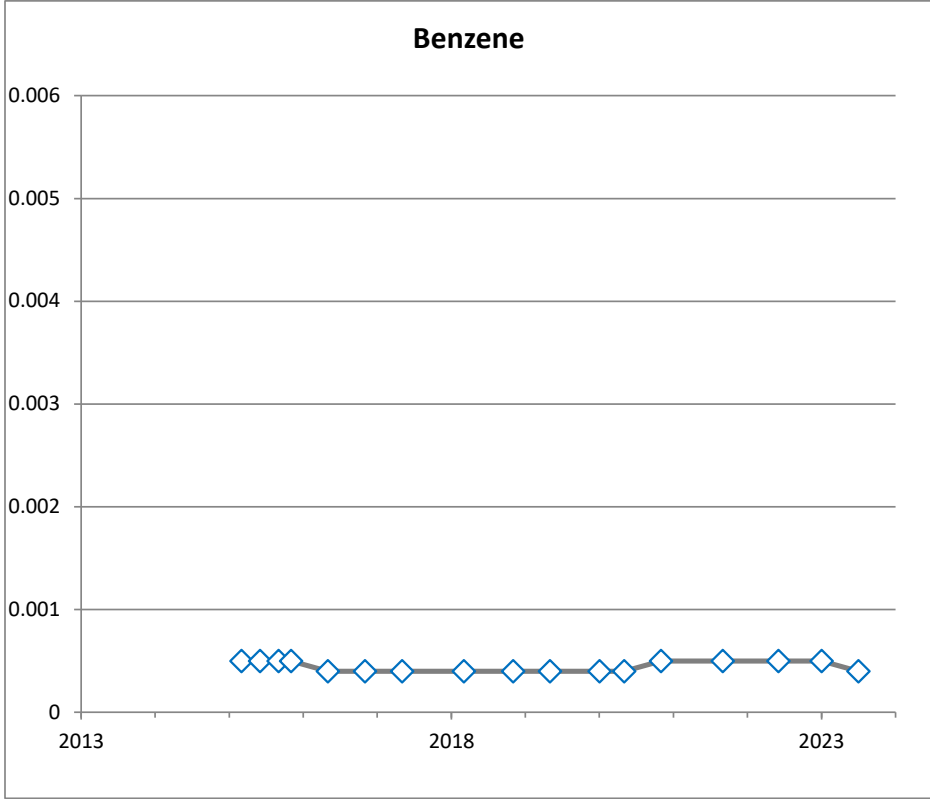
JOB NO.: 10-12832



DATE: Feb 24, 2024

REF. NO.: 478903.17100

DRAWN BY: MR/SLD

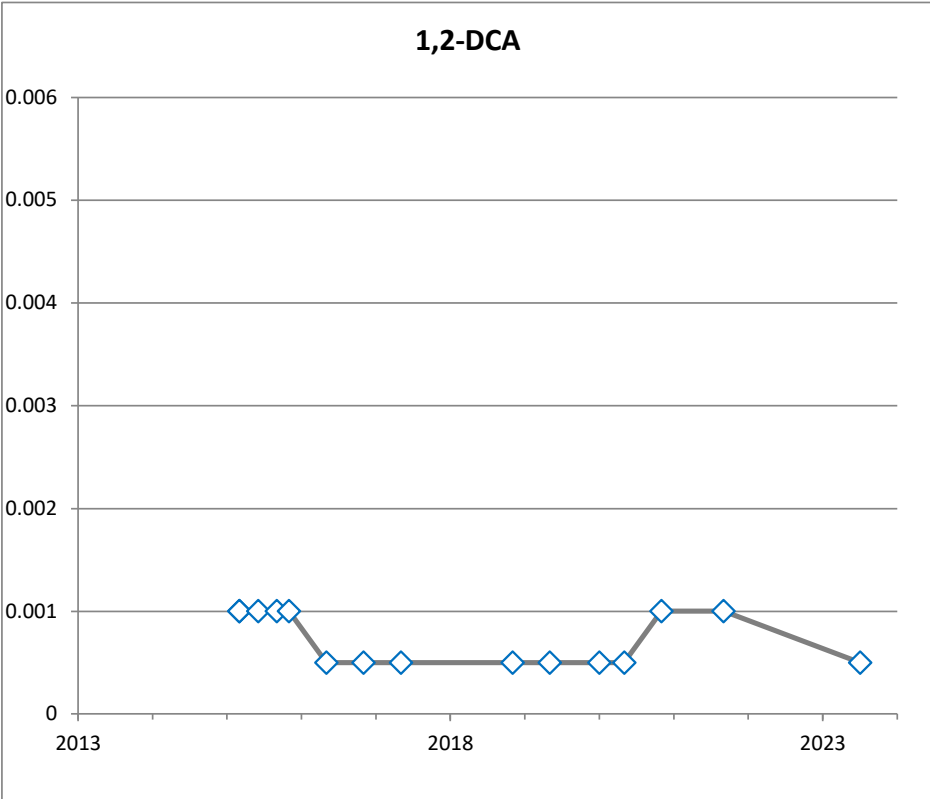
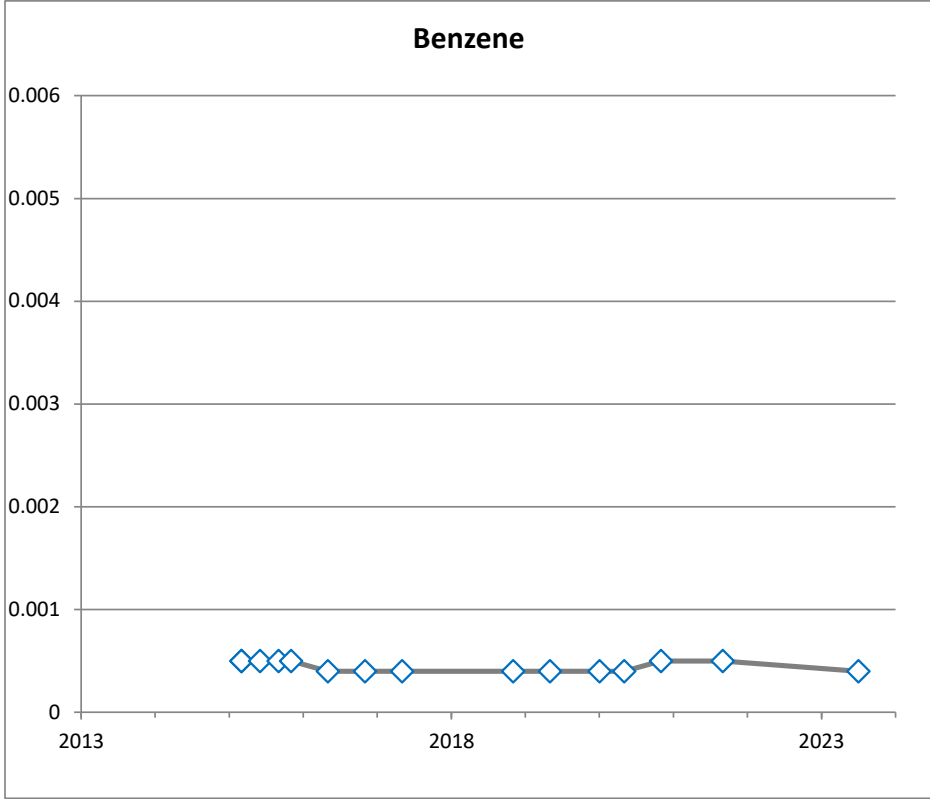
DWG NO.: E-52



 Non-detect value
 Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1958
(mg/L)

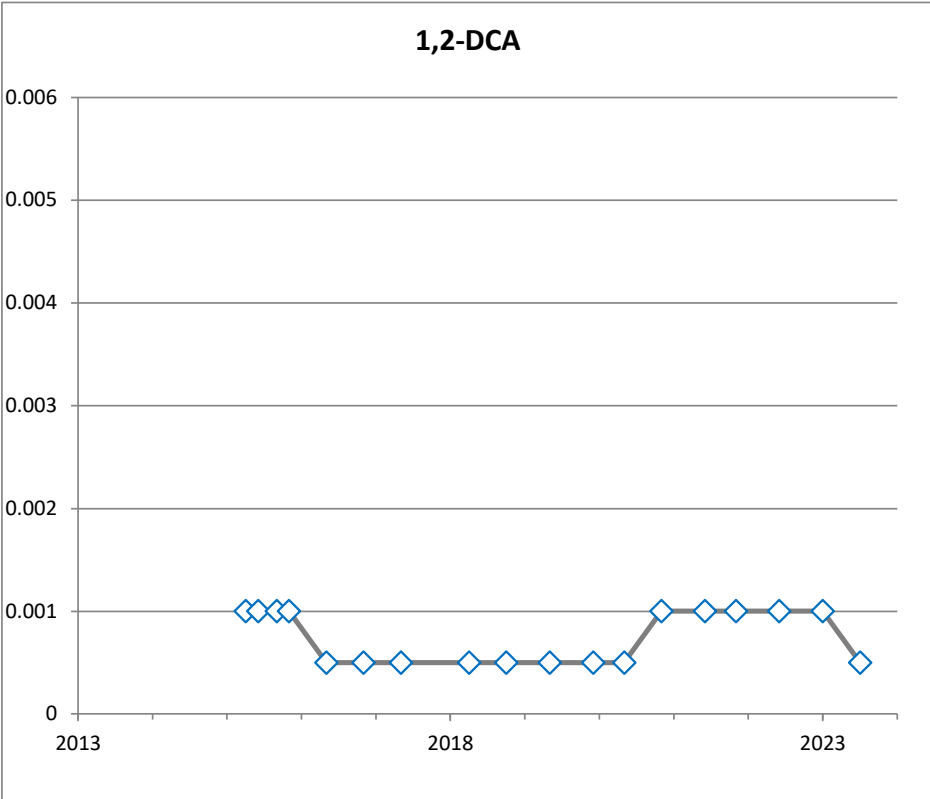
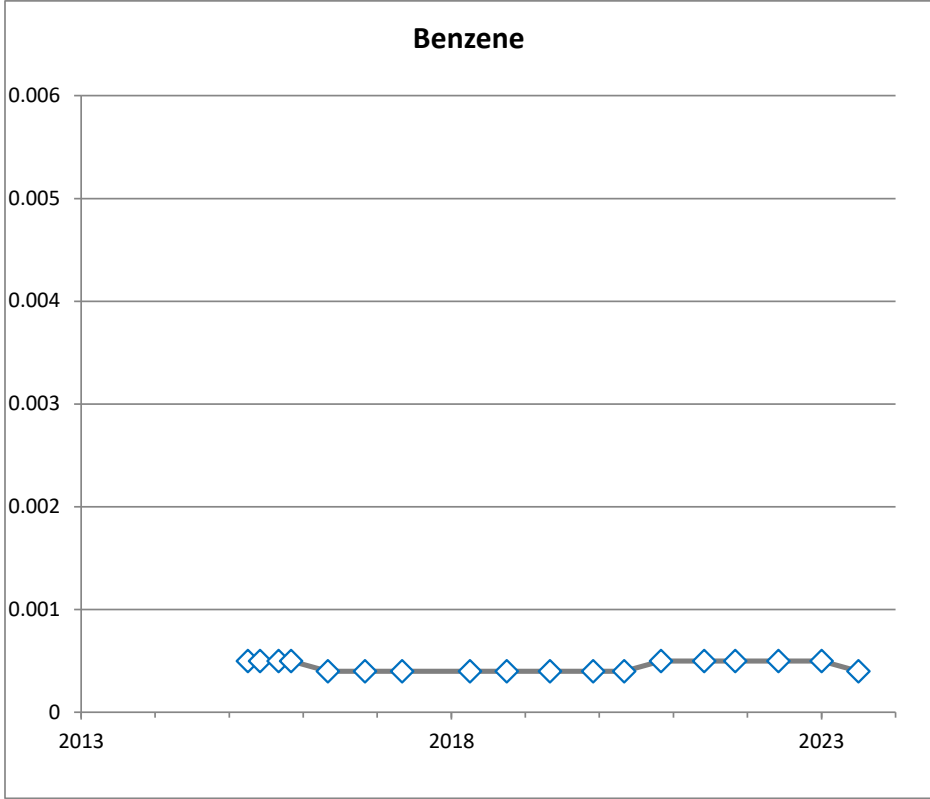
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-53	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1959
(mg/L)

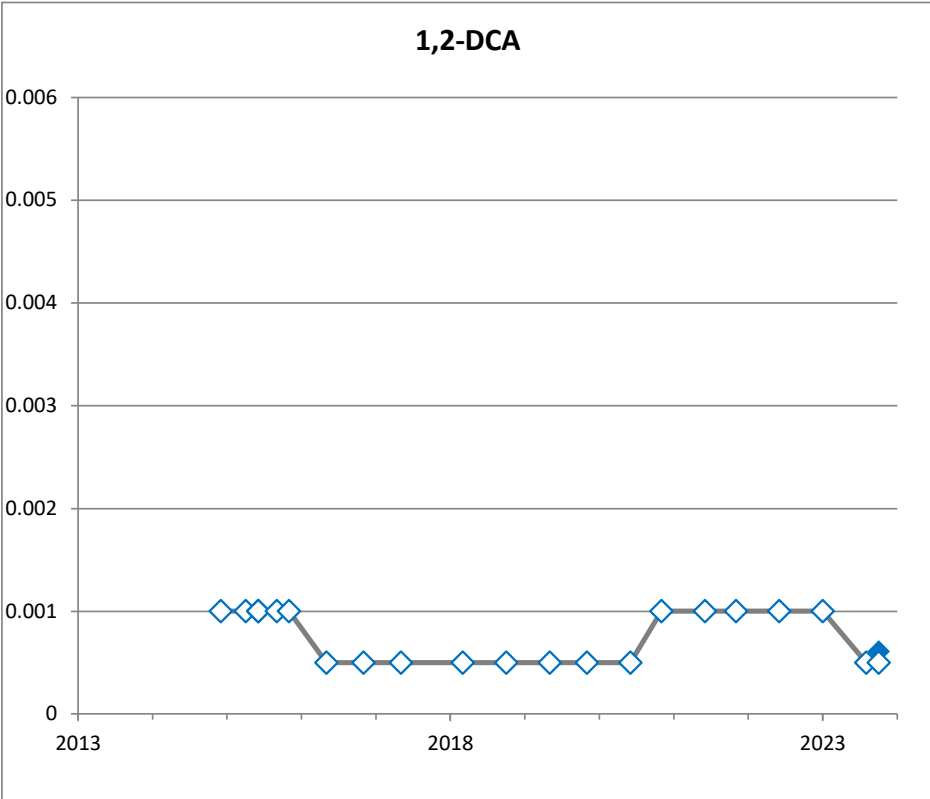
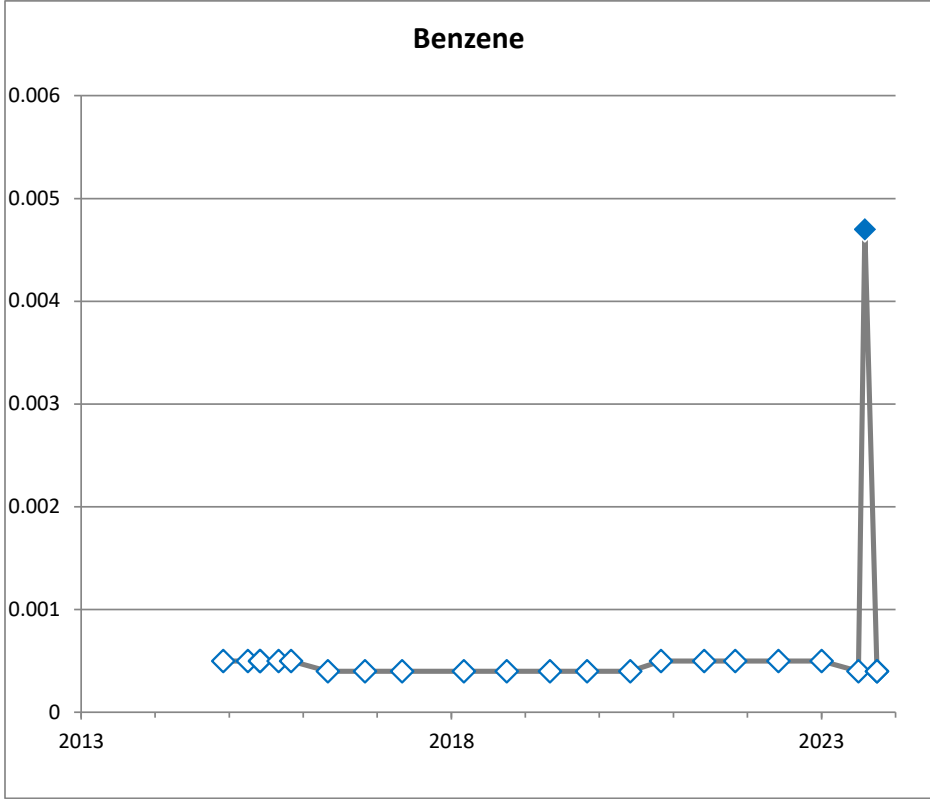
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-54	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1962
(mg/L)

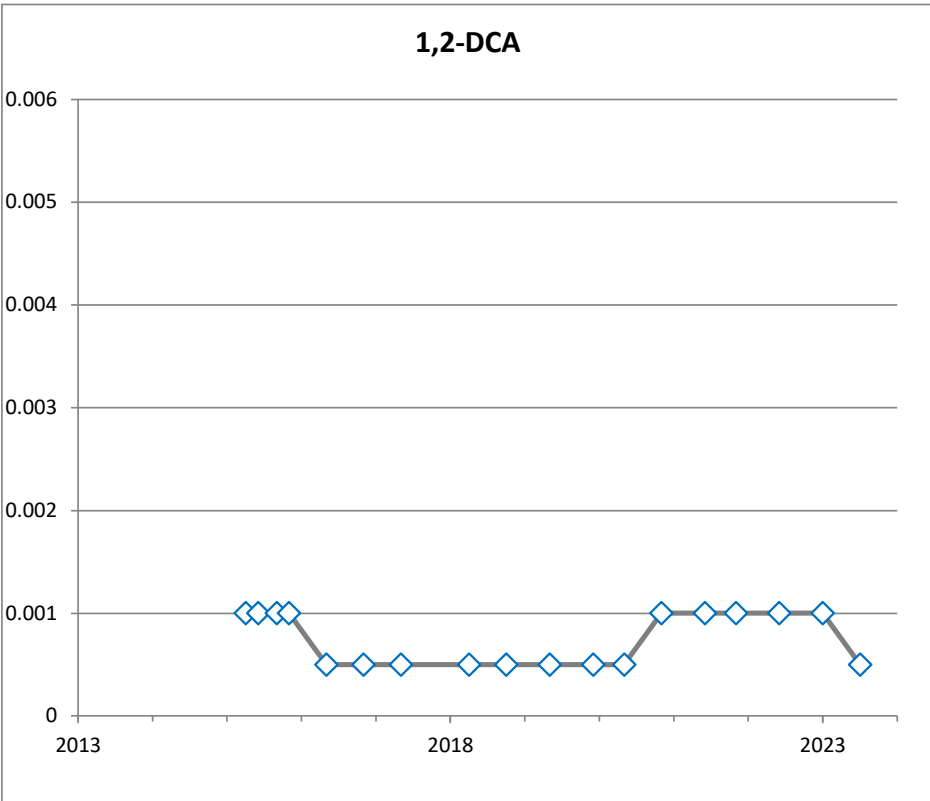
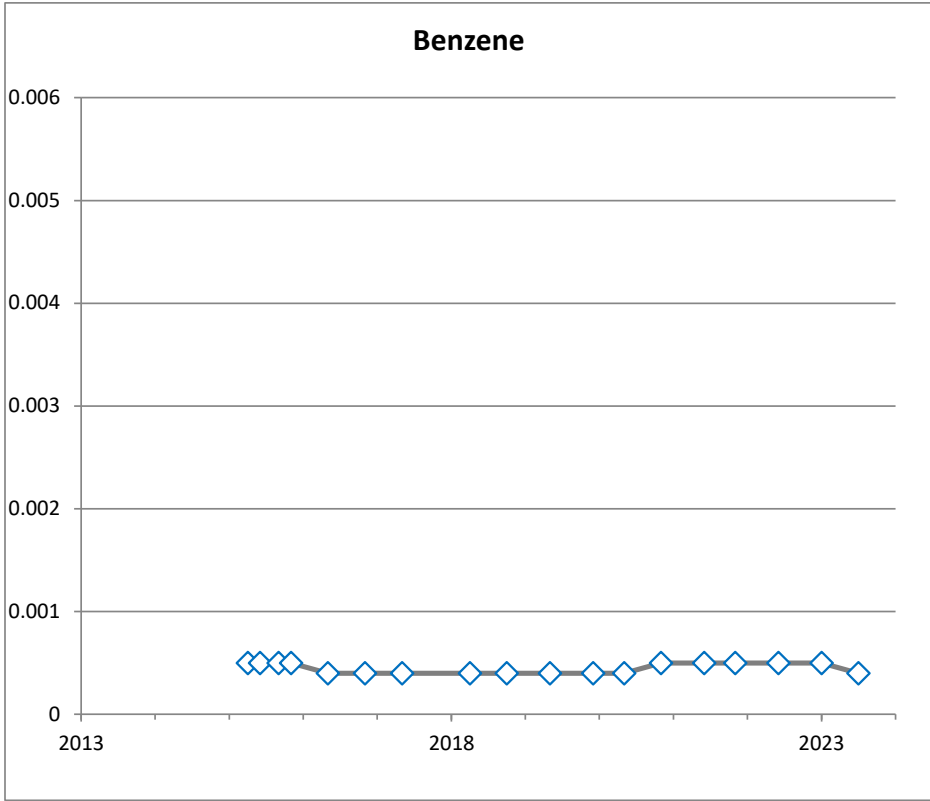
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-56	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1963
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-57	



◇ Non-detect value

◆ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

**BH1964
(mg/L)**

PARSONS

JOB NO.: 10-12832

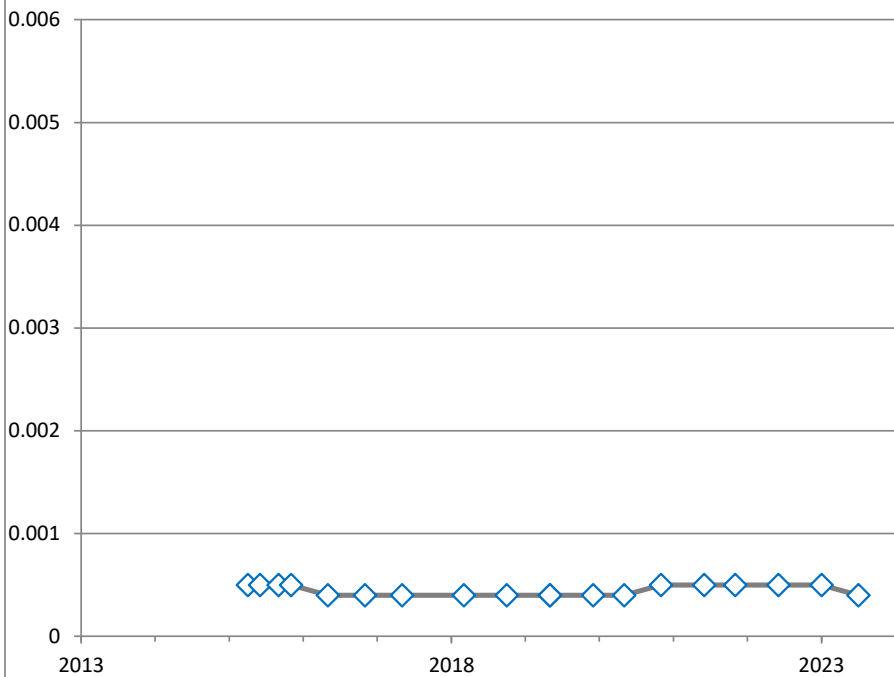
DATE: Feb 24, 2024

REF. NO.: 478903.17100

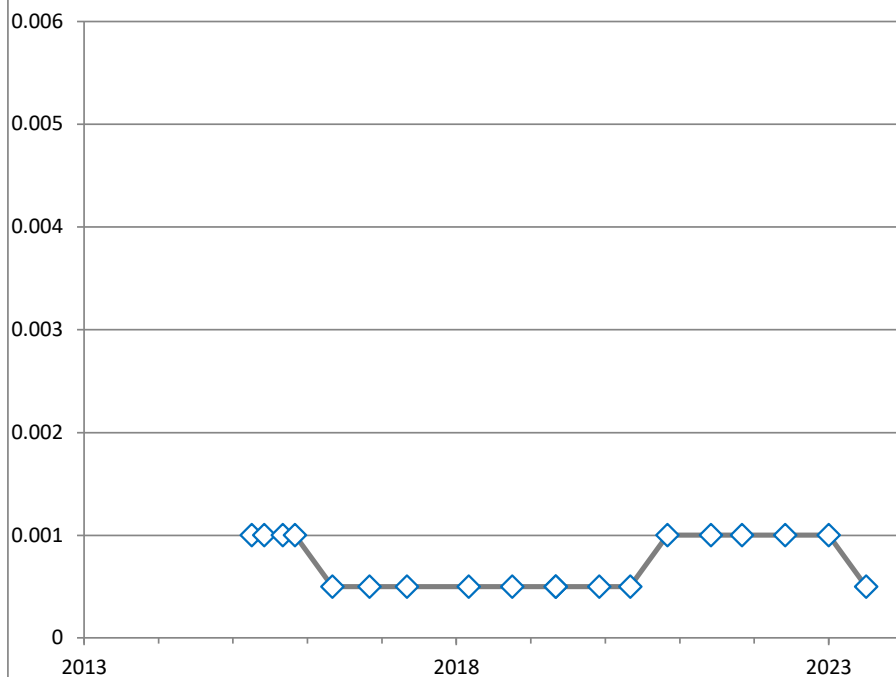
DRAWN BY: MR/SLD

DWG NO.: E-58

Benzene



1,2-DCA



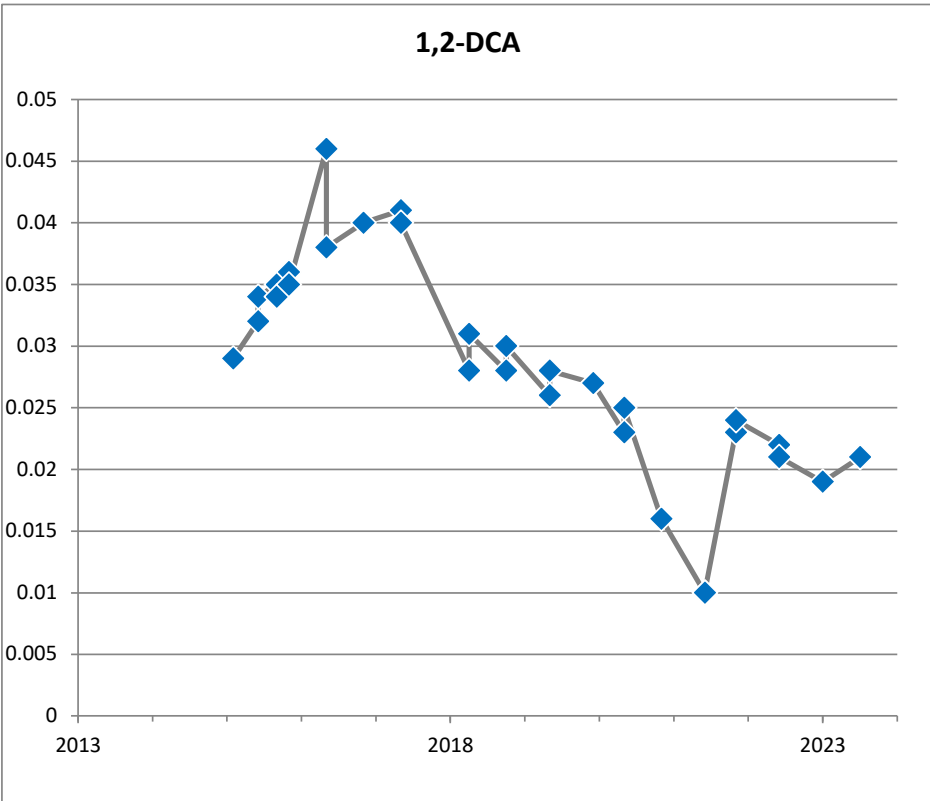
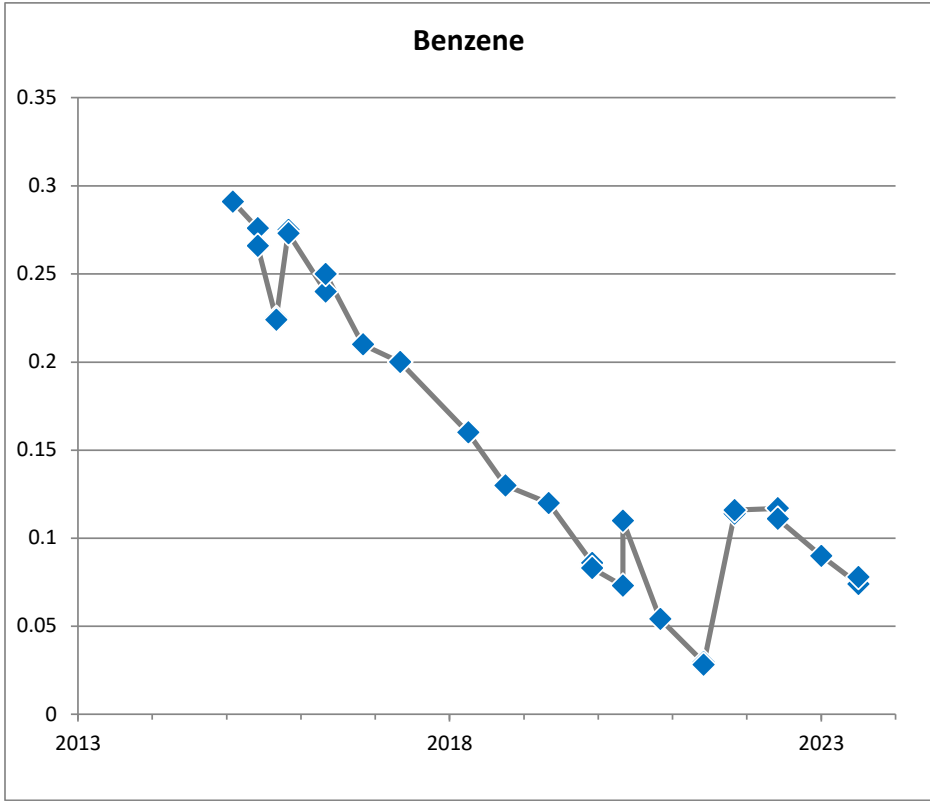
- ◆ Non-detect value
- ◆ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

**BH1966
(mg/L)**

PARSONS

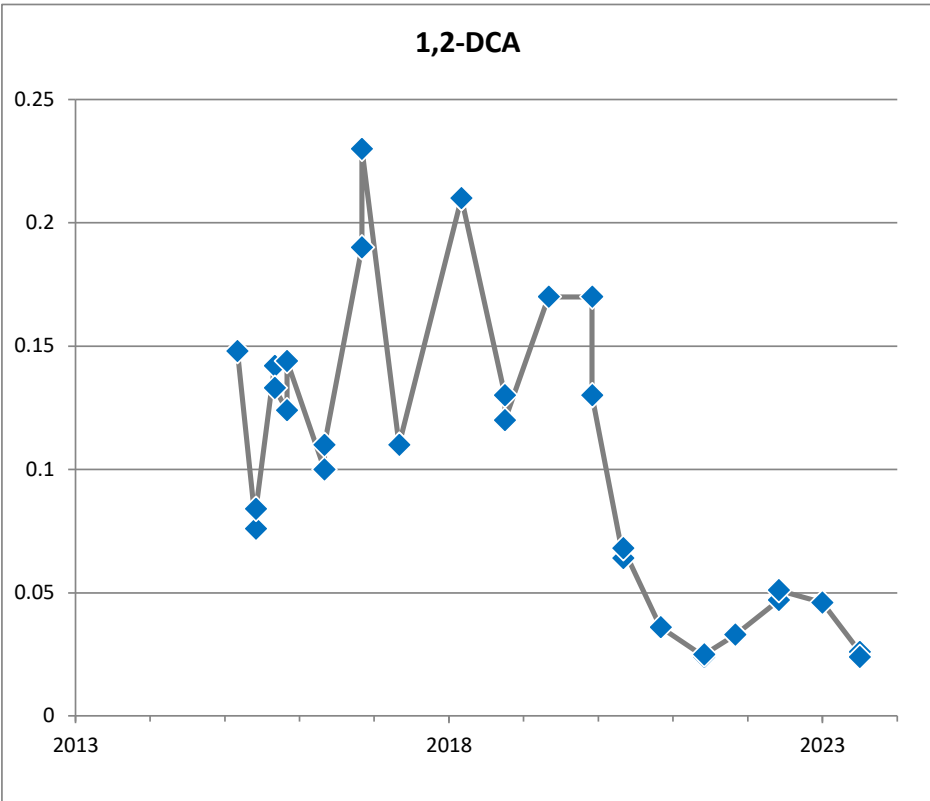
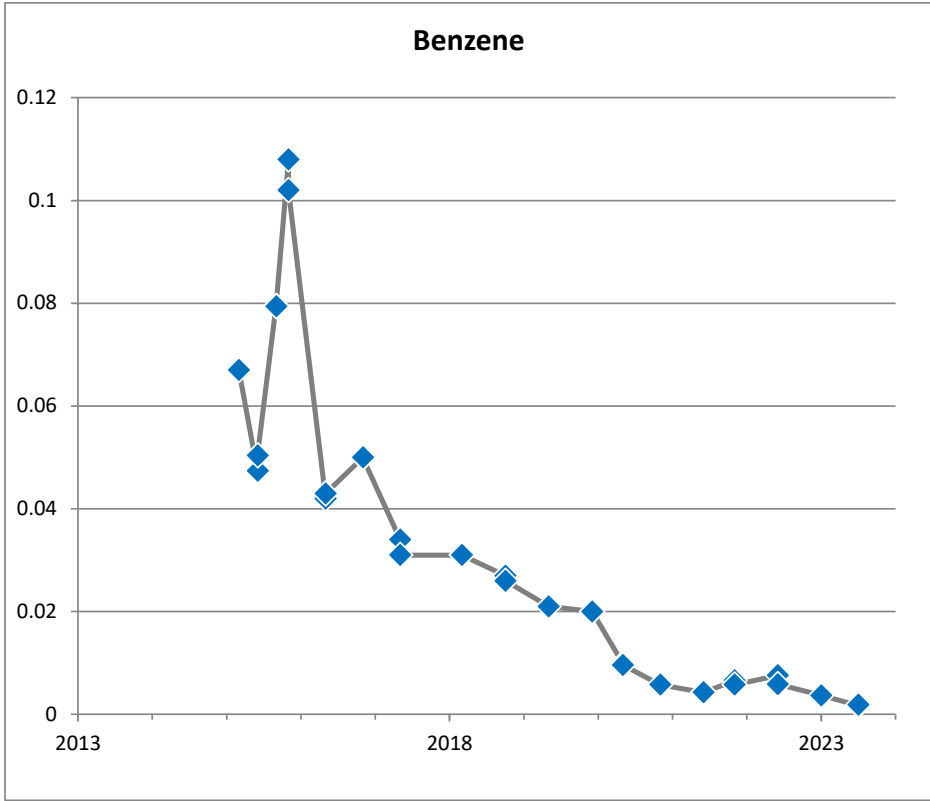
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-59	



◊ Non-detect value
◊ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1967
(mg/L)

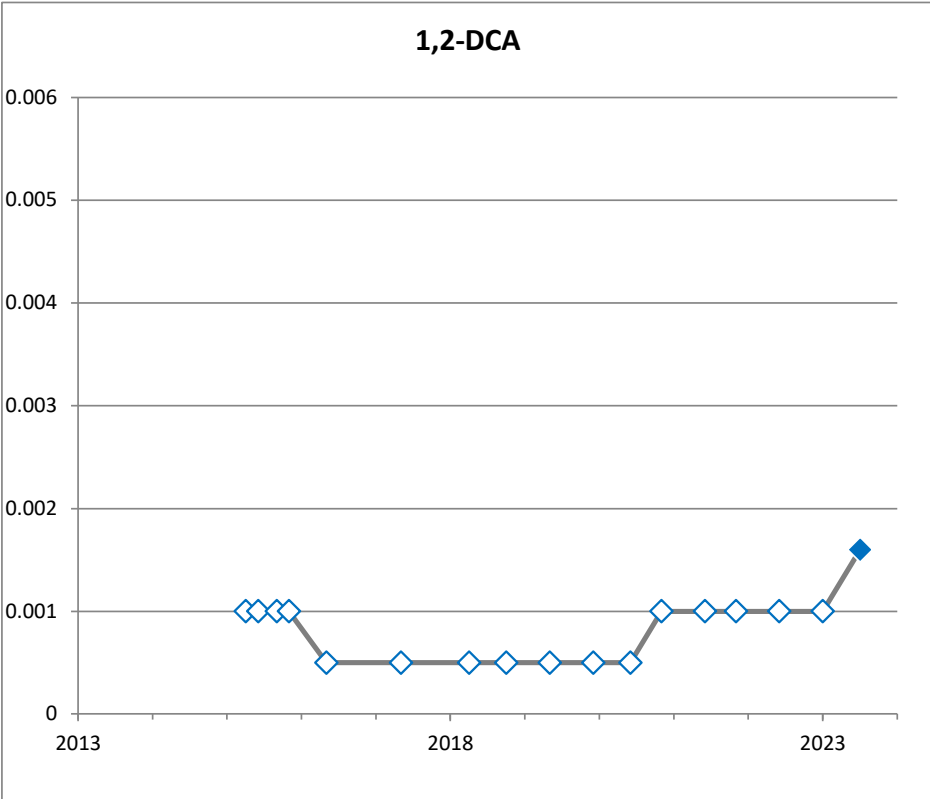
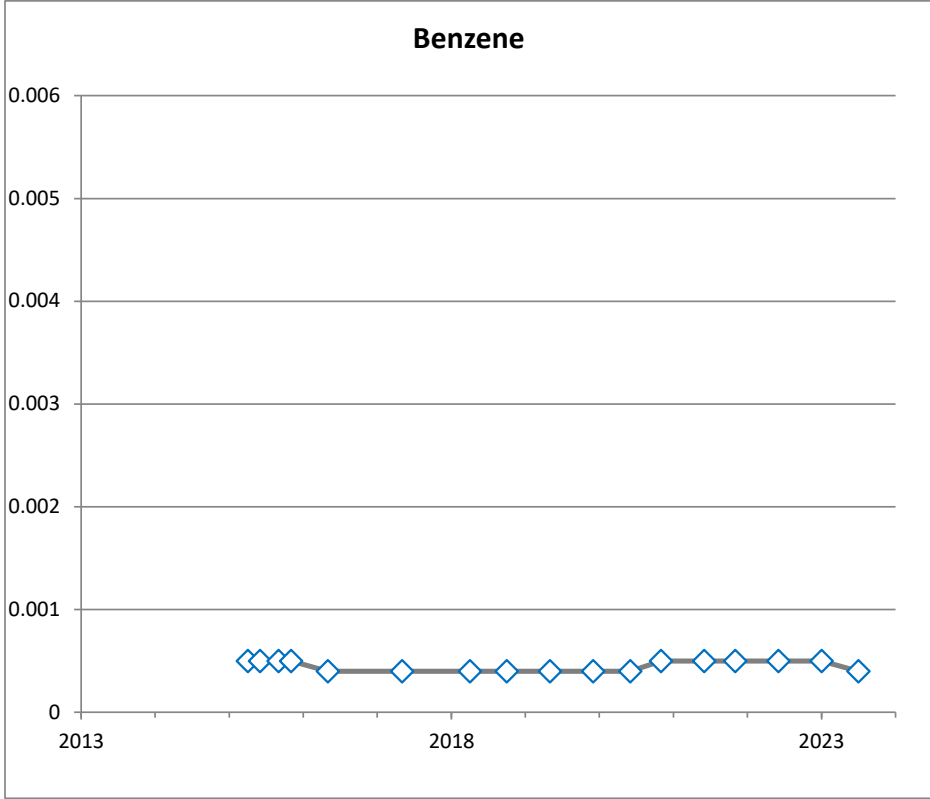
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-60	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1971
(mg/L)

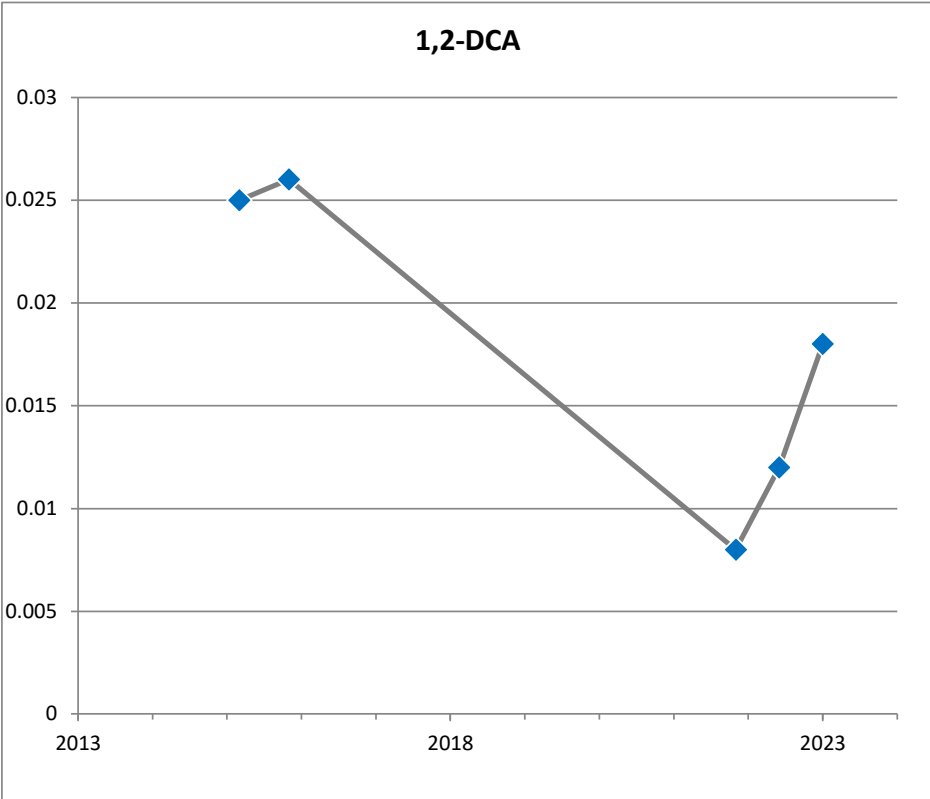
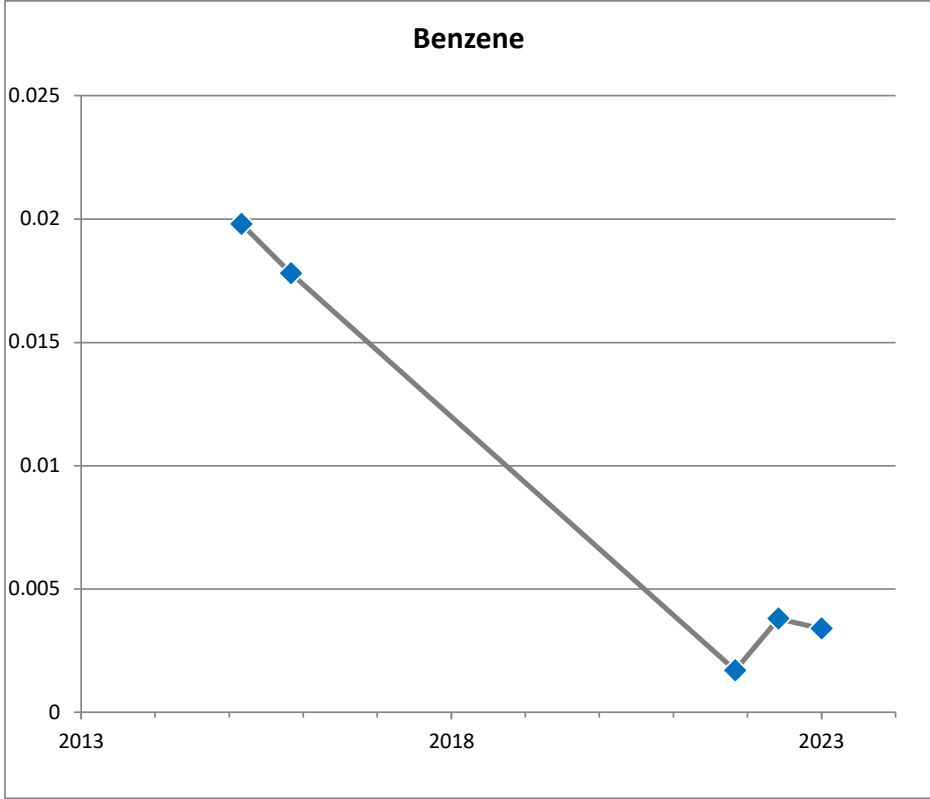
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-61	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1972
(mg/L)

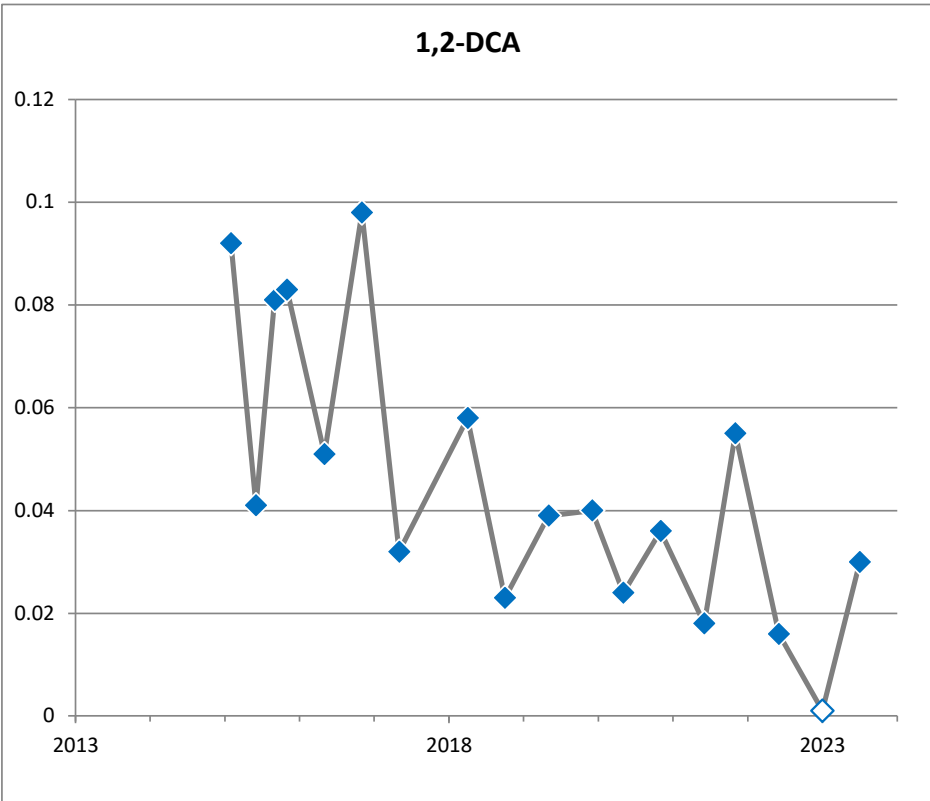
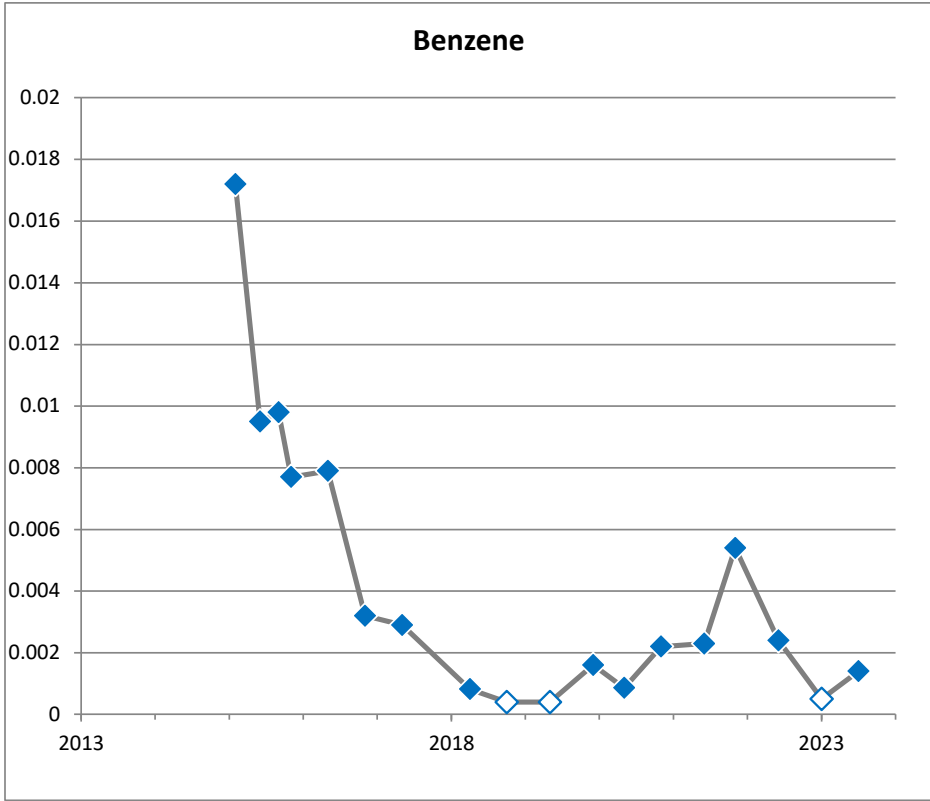
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-62	



◊ Non-detect value
◊ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1973
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-63	

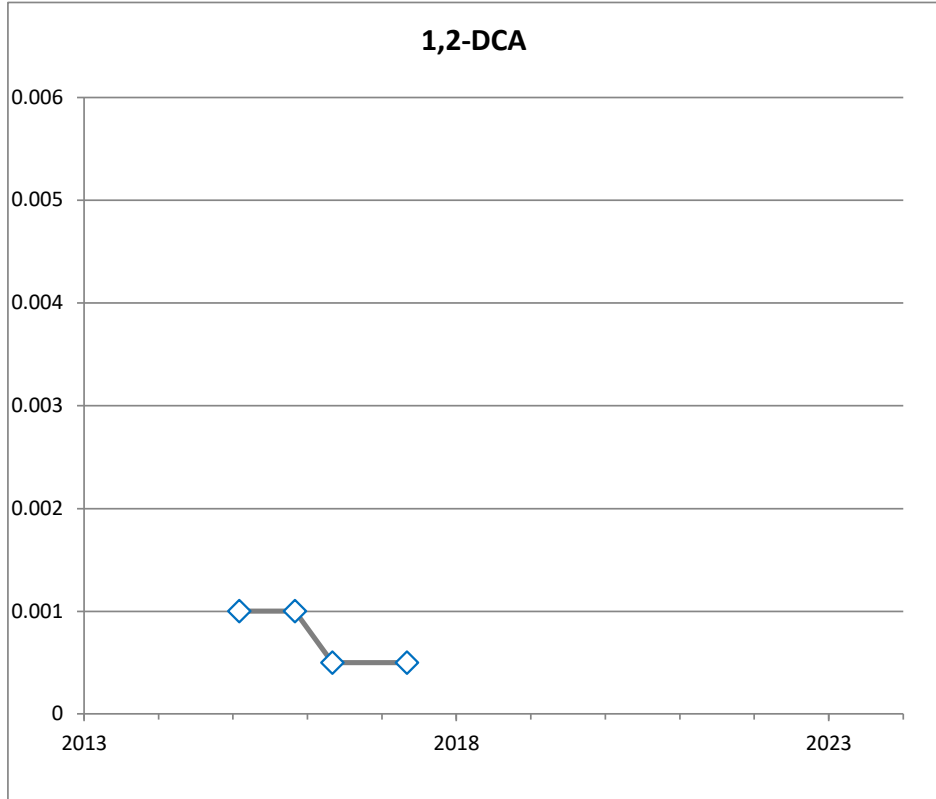
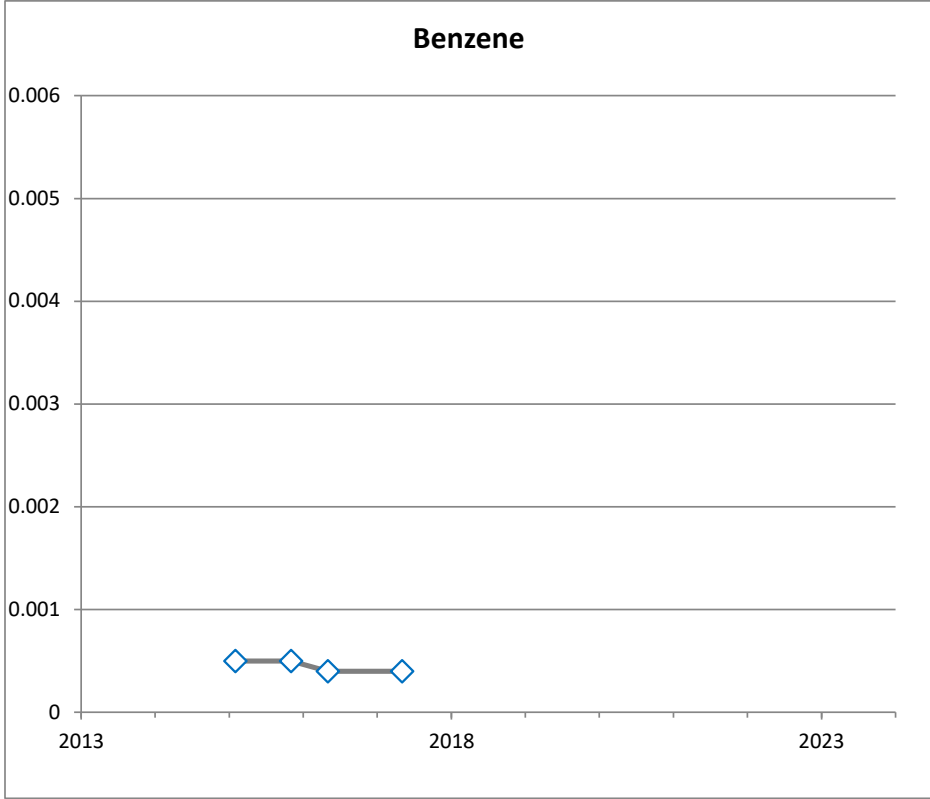


◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1974
(mg/L)

PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-64	



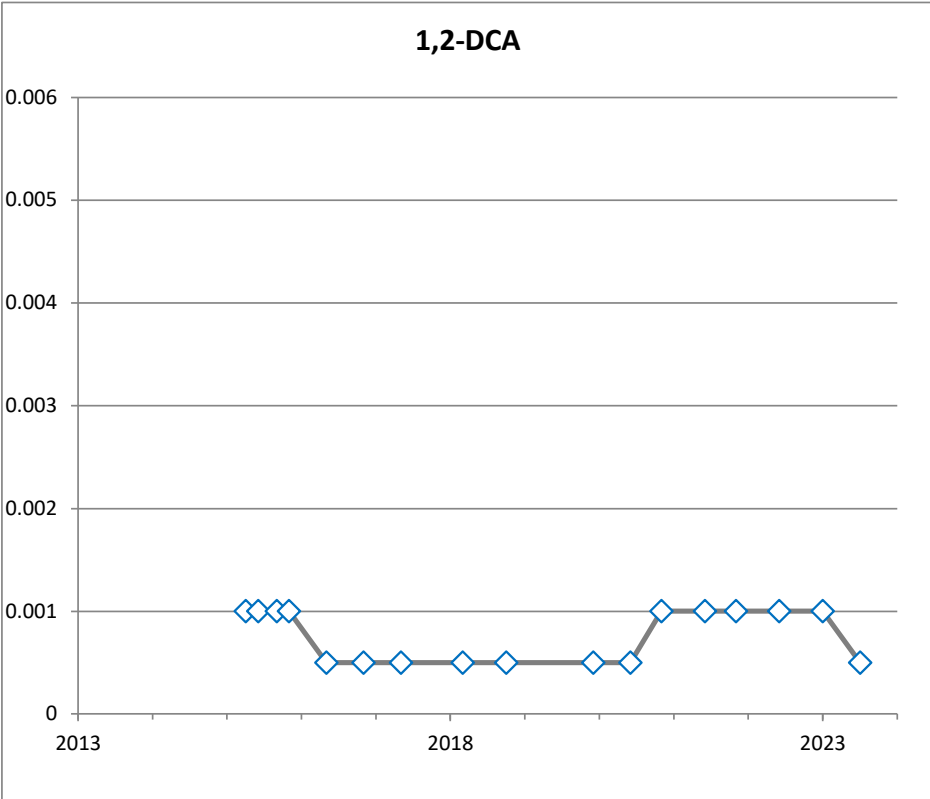
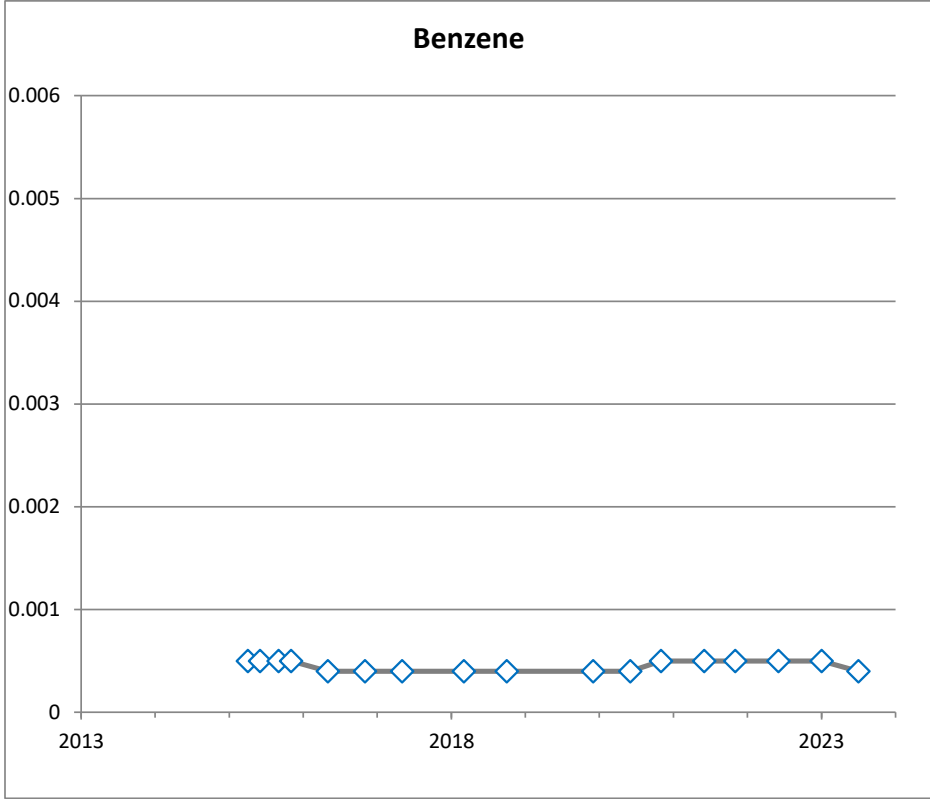
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

**BH1975
(mg/L)**

PARSONS

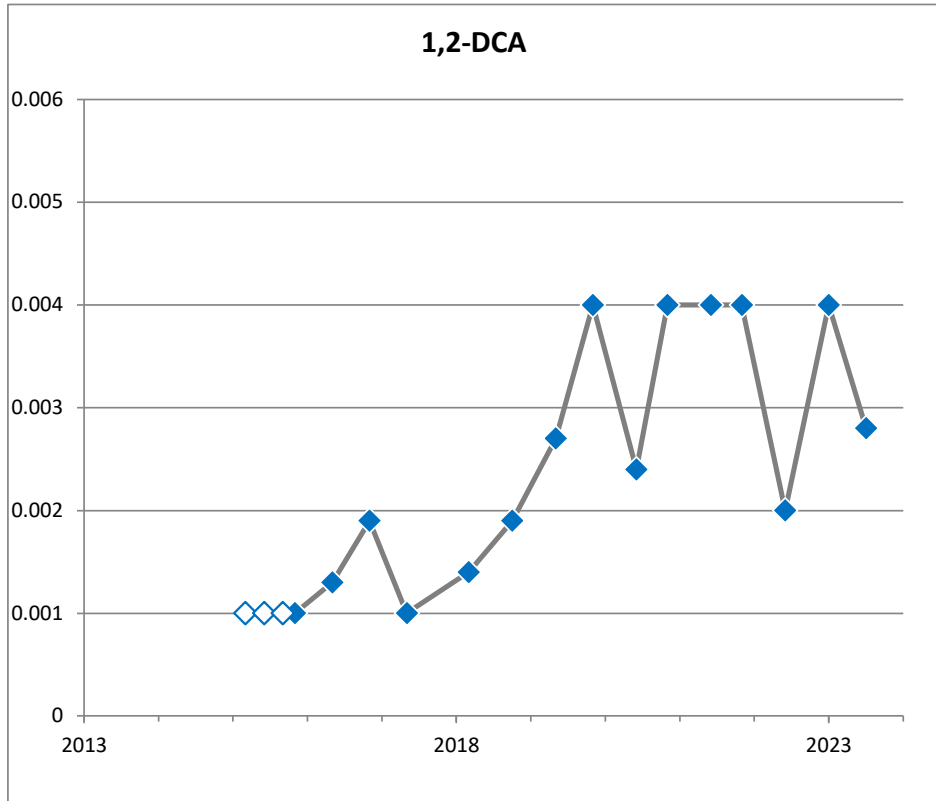
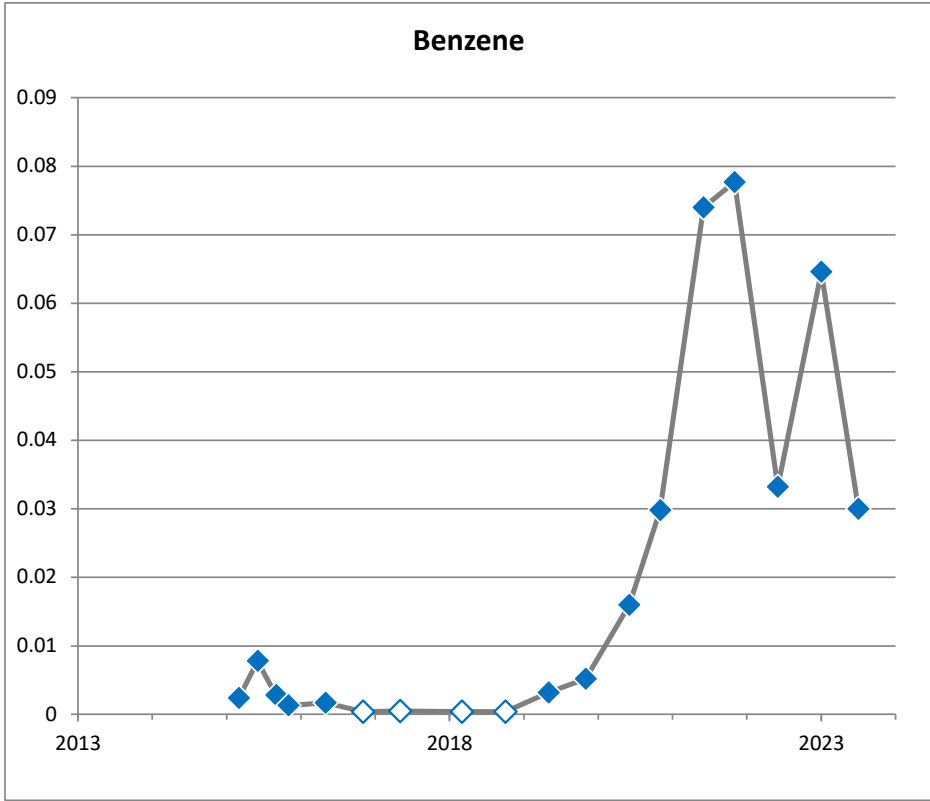
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-65	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1976
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-66	



- ◇ Non-detect value
- ◆ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1977
(mg/L)

PARSONS

JOB NO.: 10-12832

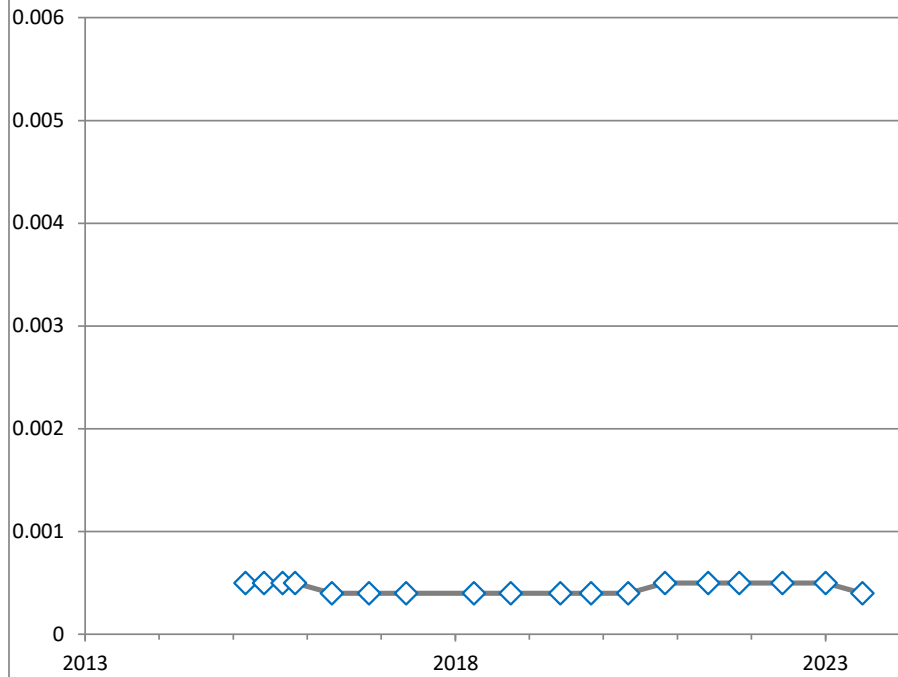
DATE: Feb 24, 2024

REF. NO.: 478903.17100

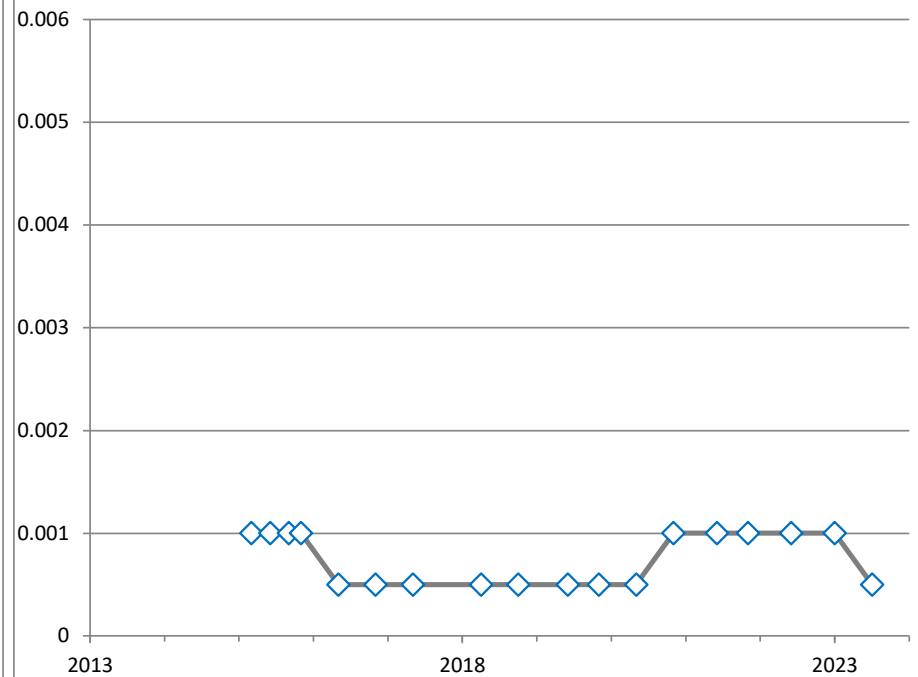
DRAWN BY: MR/SLD



DWG NO.: E-67

Benzene



1,2-DCA



-  Non-detect value
-  Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1978
(mg/L)

PARSONS

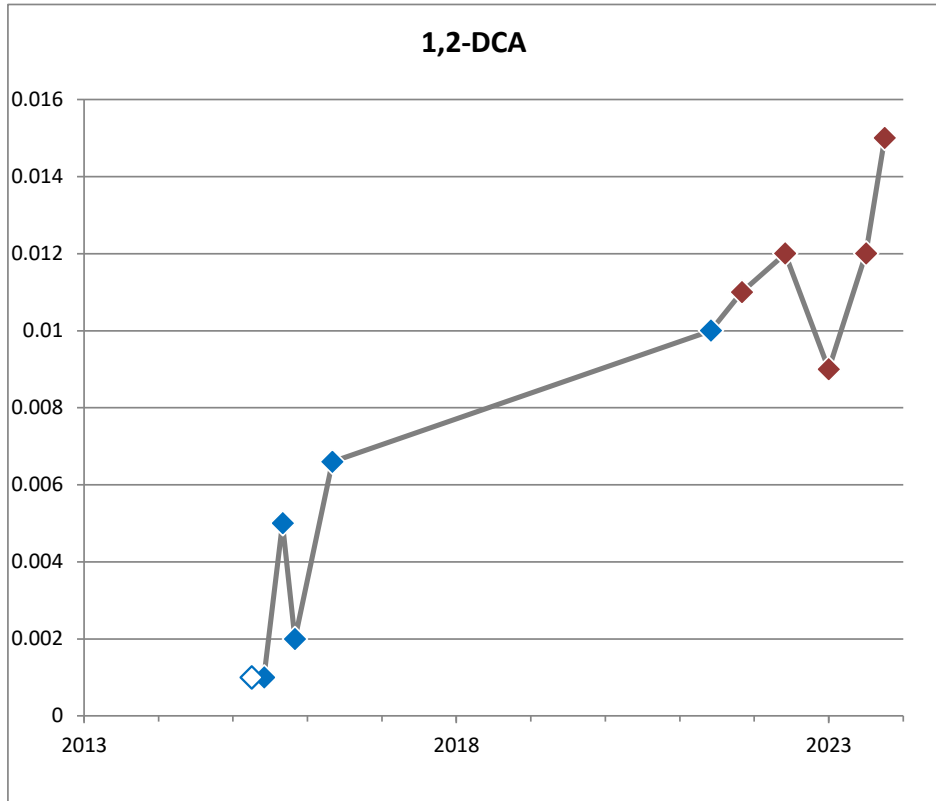
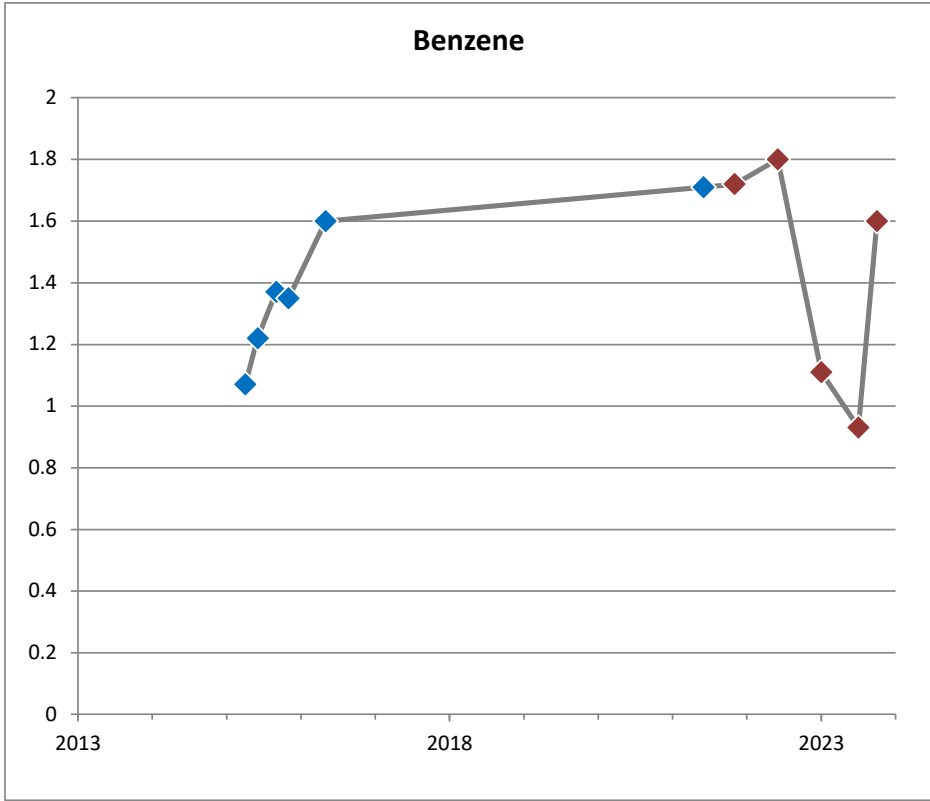
JOB NO.: 10-12832

DATE: Feb 24, 2024

REF. NO.: 478903.17100

DRAWN BY: MR/SLD

DWG NO.: E-68



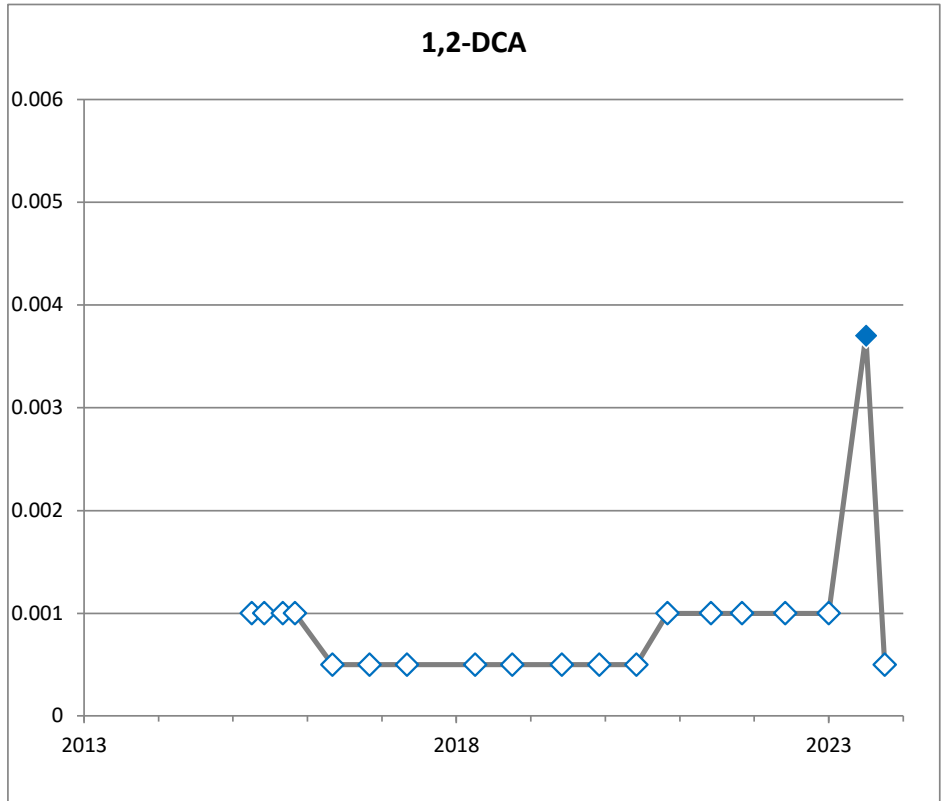
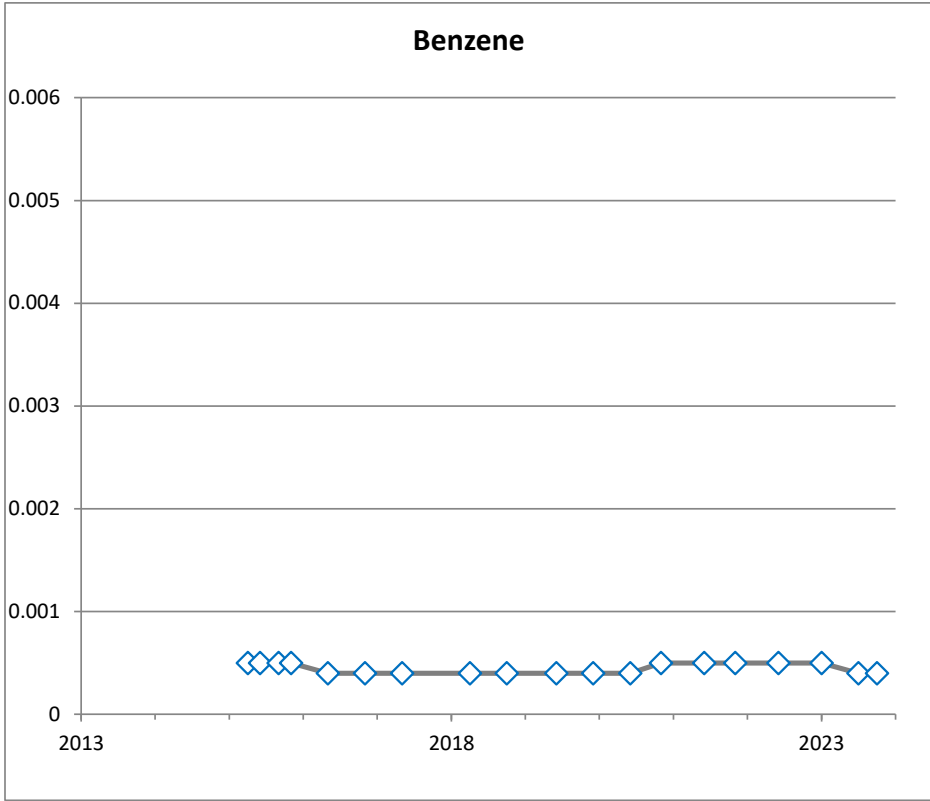
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH1979
(mg/L)

PARSONS

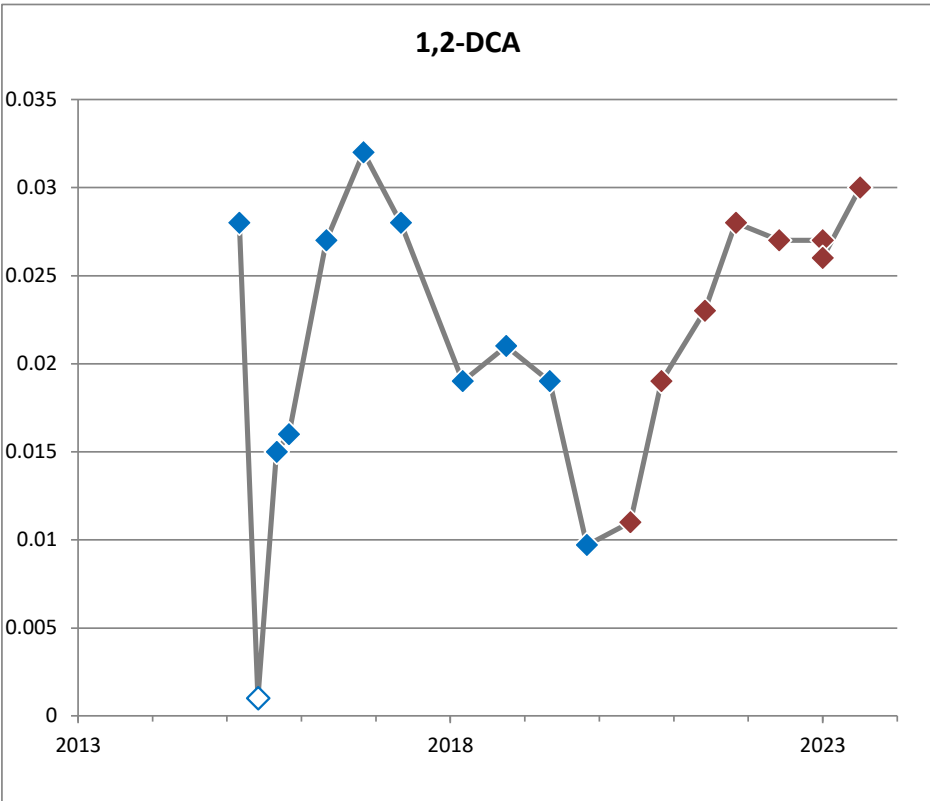
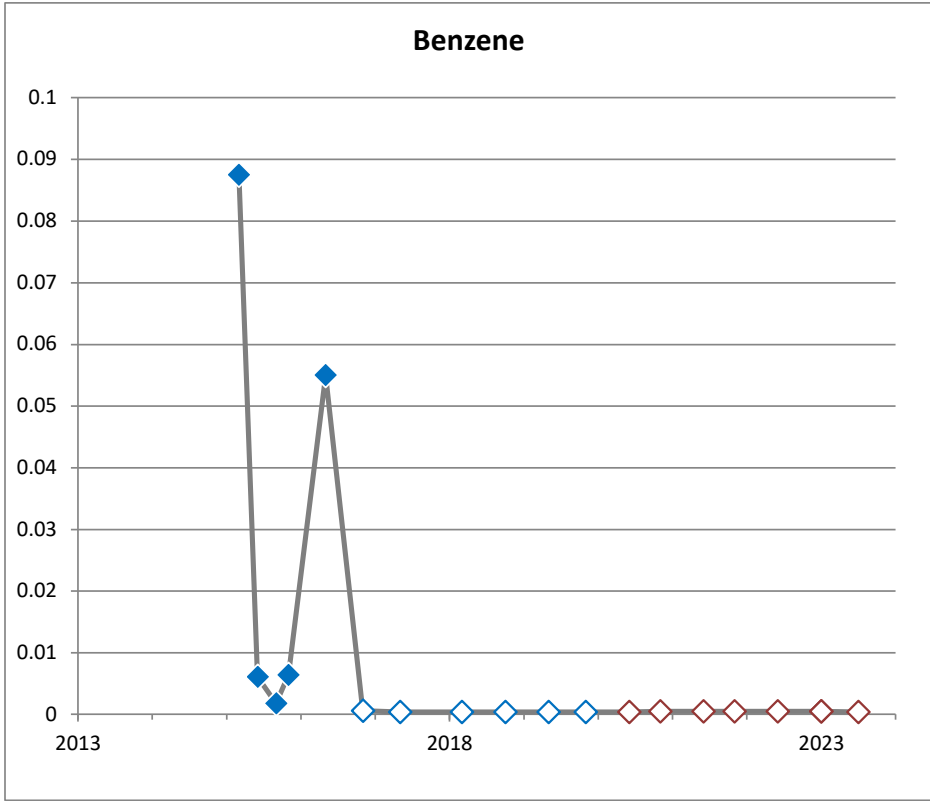
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-69	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1980
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-70	



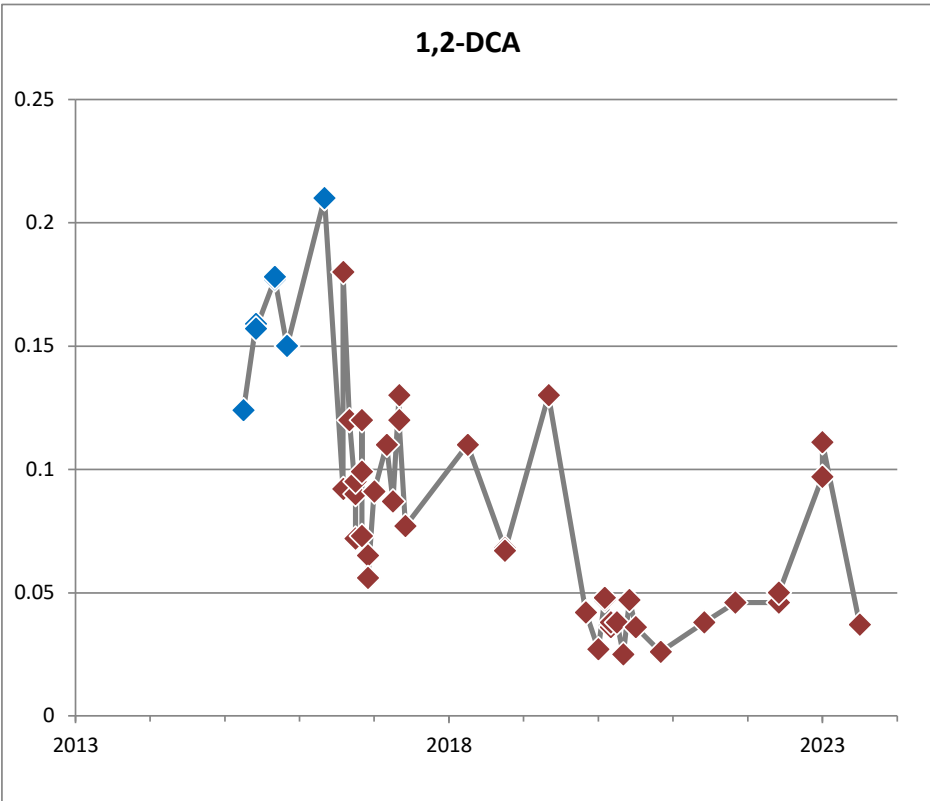
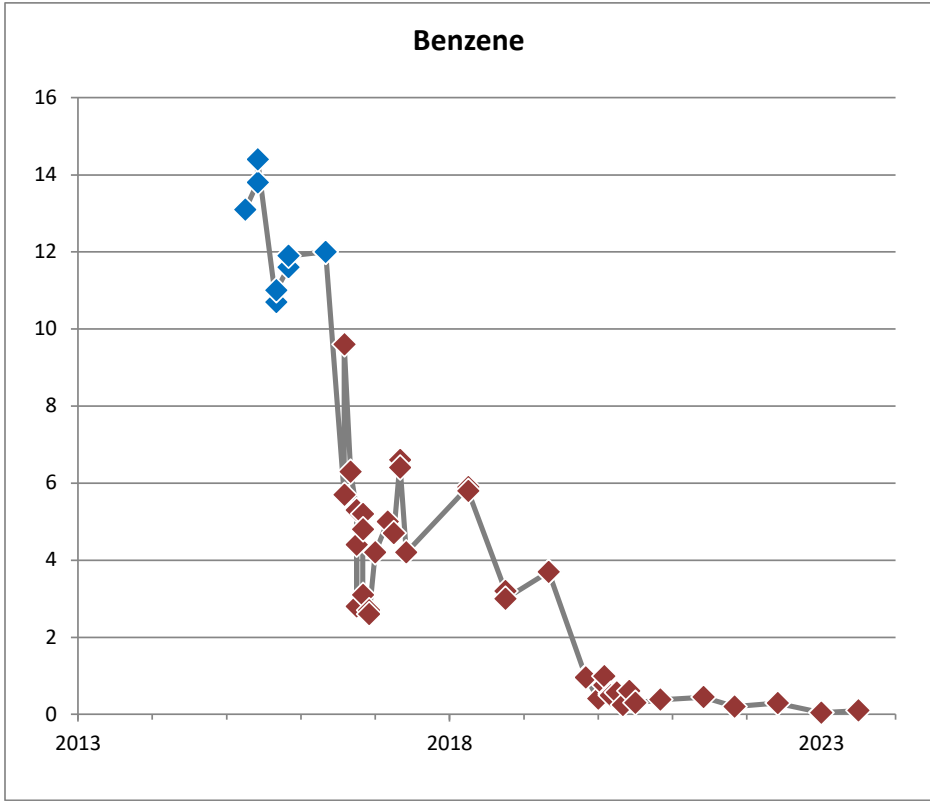
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

**BH1981
(mg/L)**

PARSONS

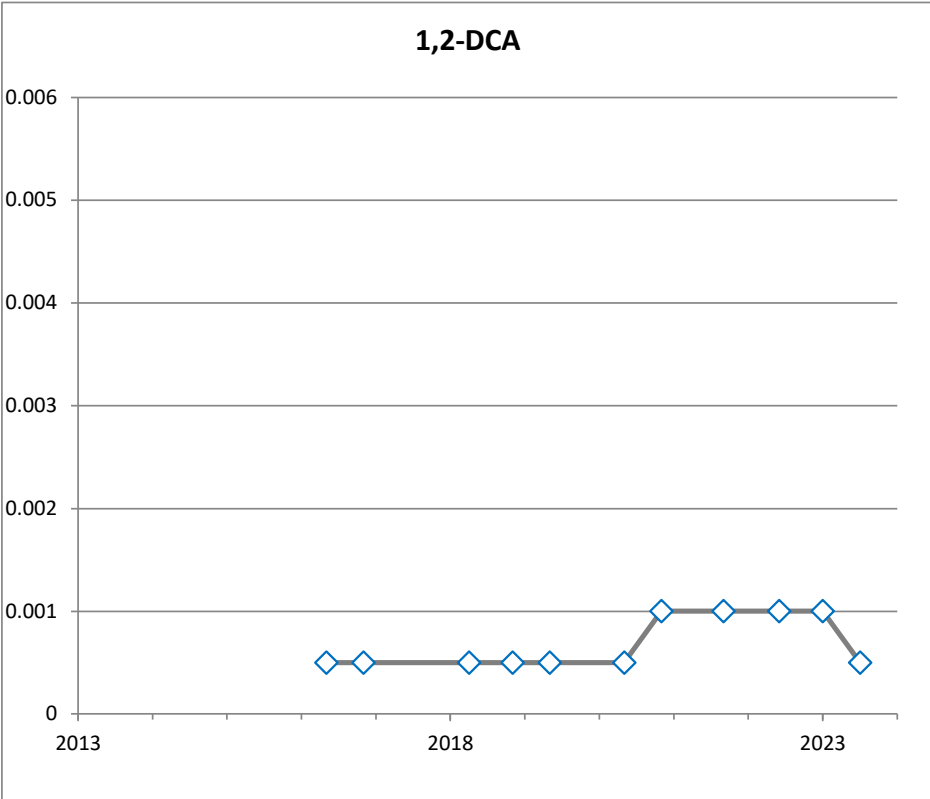
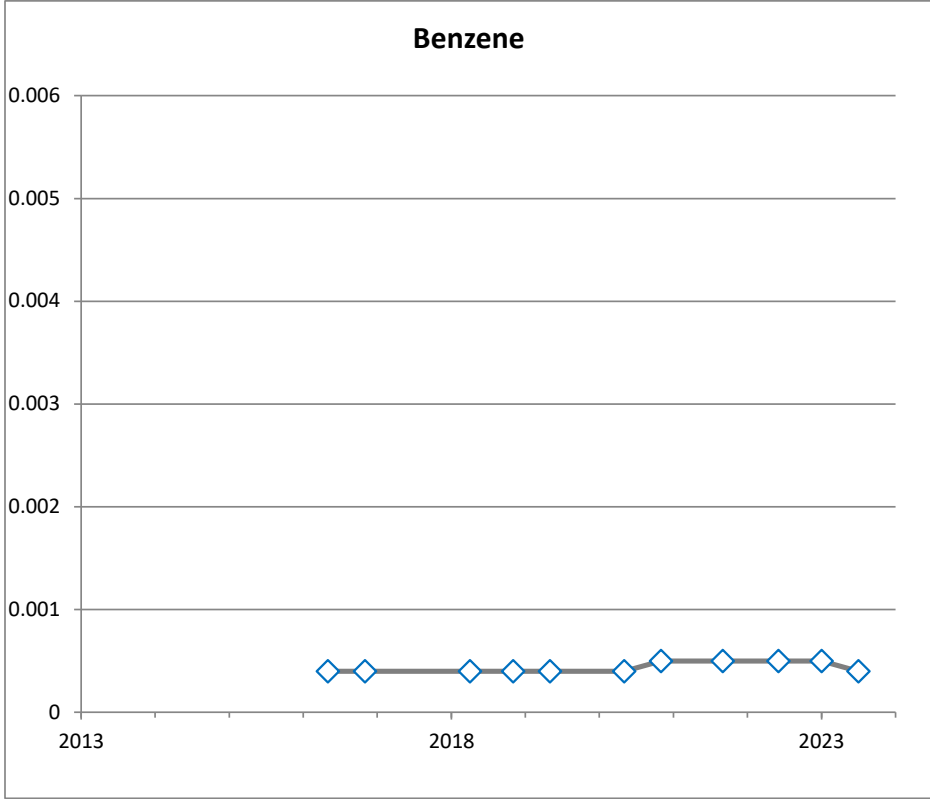
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-71	



◆ Non-detect value
◆ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1982
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-72	



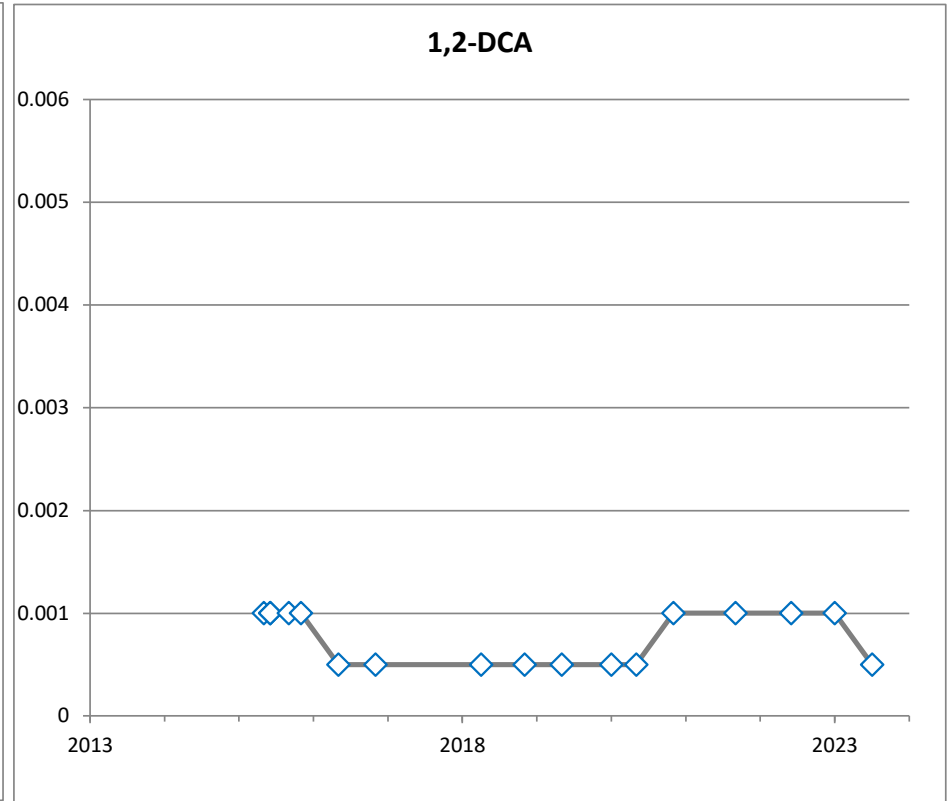
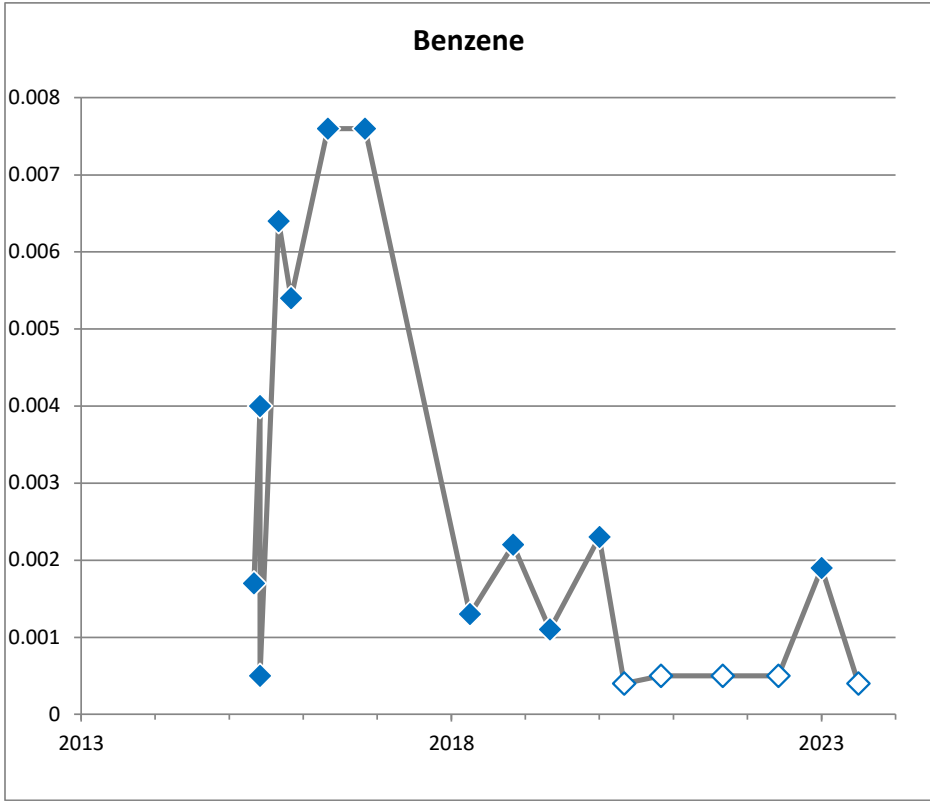
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplides and multiple samples on the same date.

**BH1983A
(mg/L)**

PARSONS

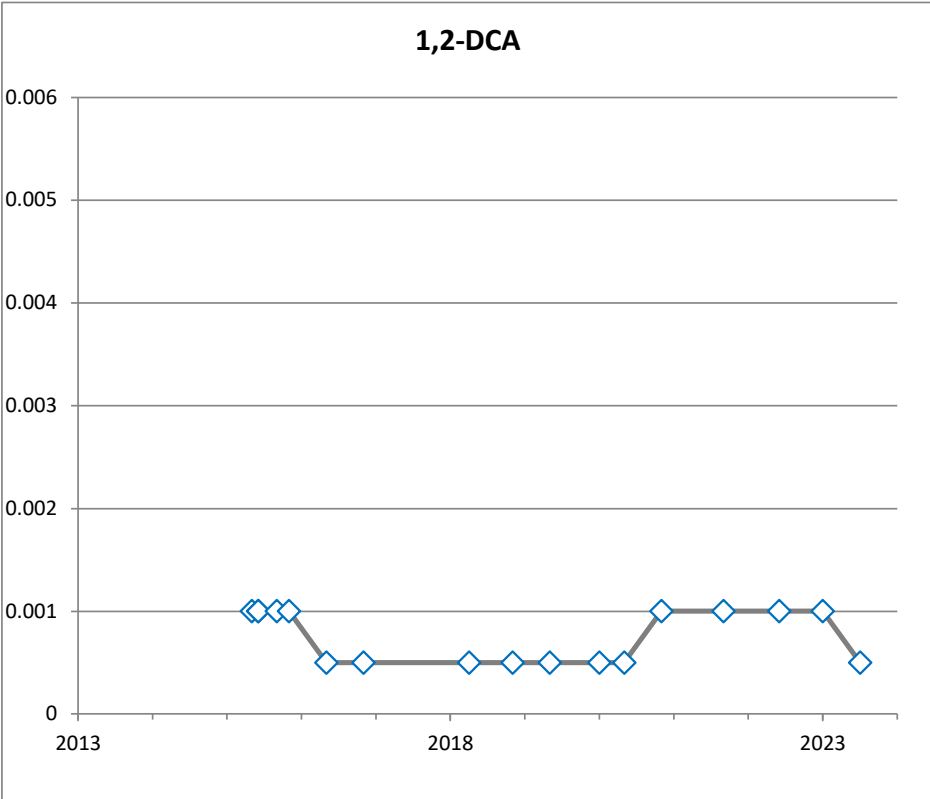
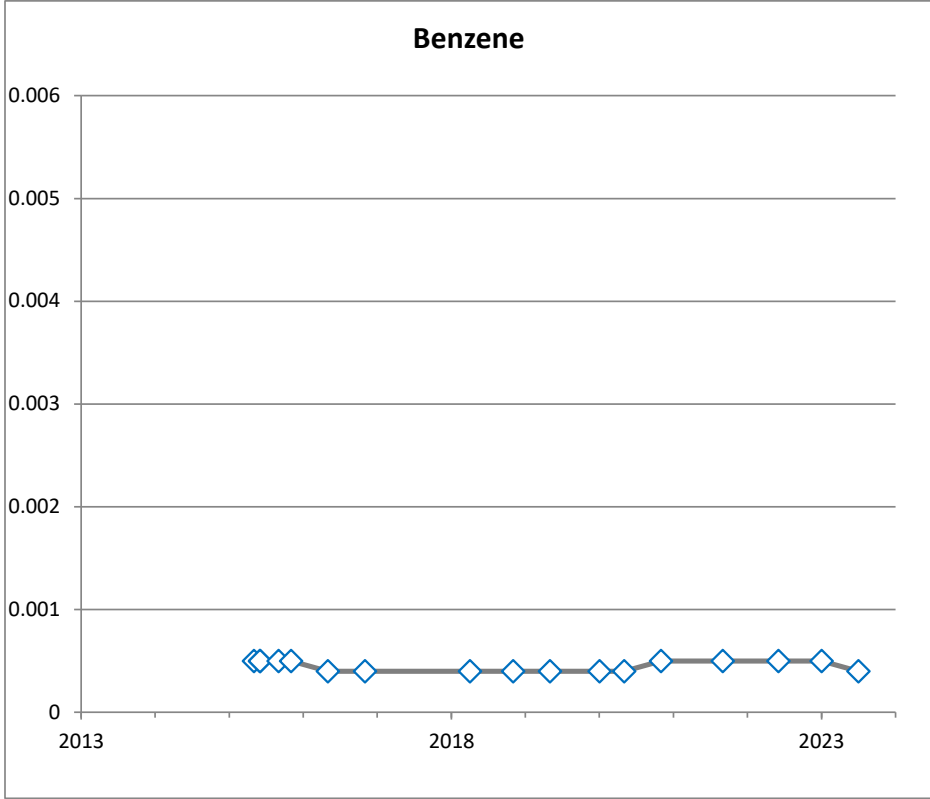
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-73	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1984
(mg/L)

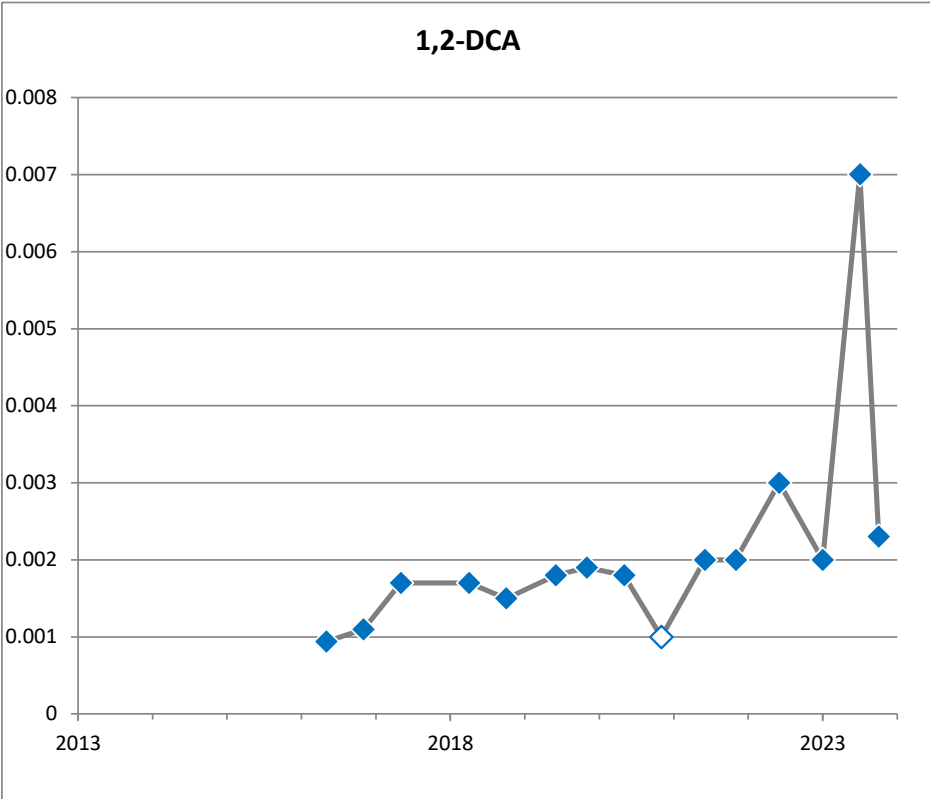
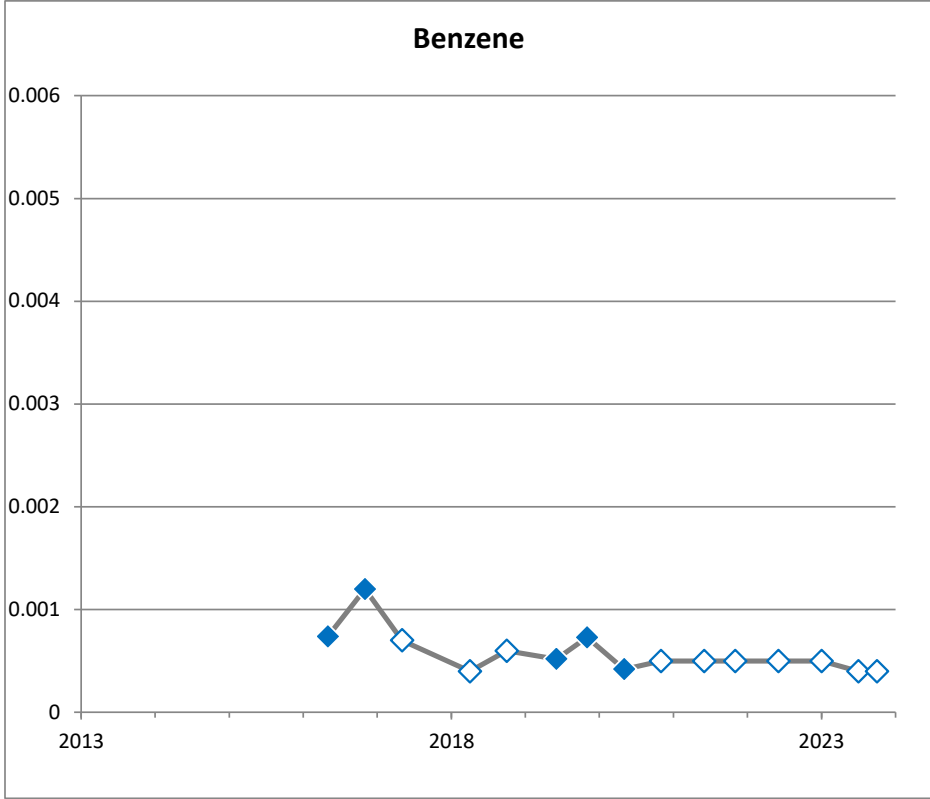
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-74	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH1985
(mg/L)

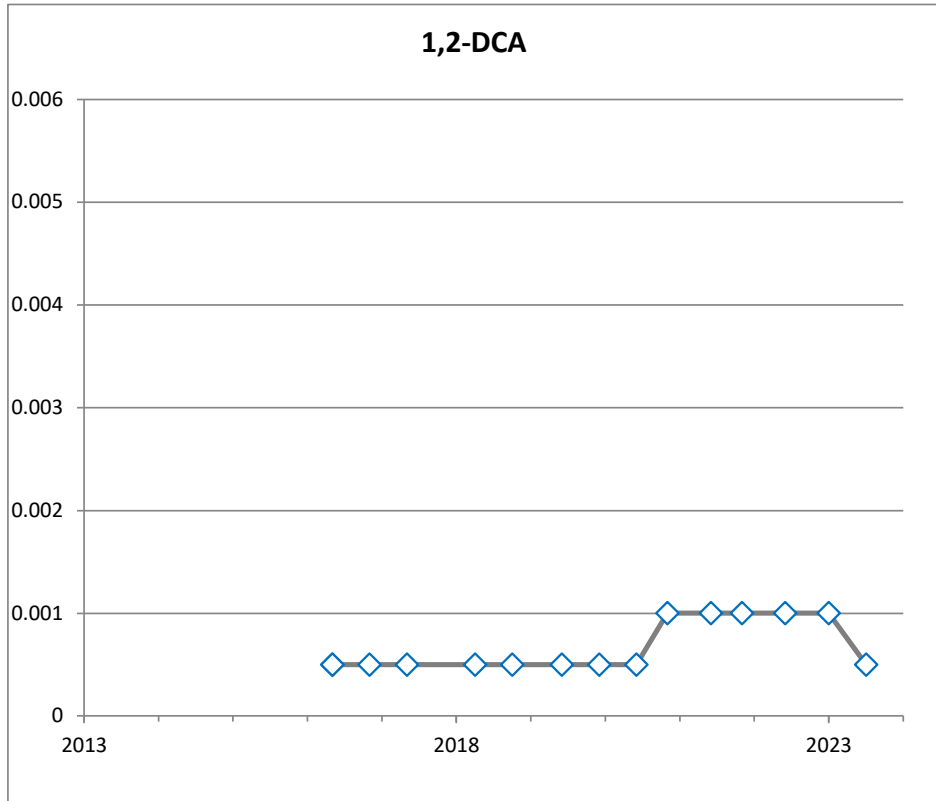
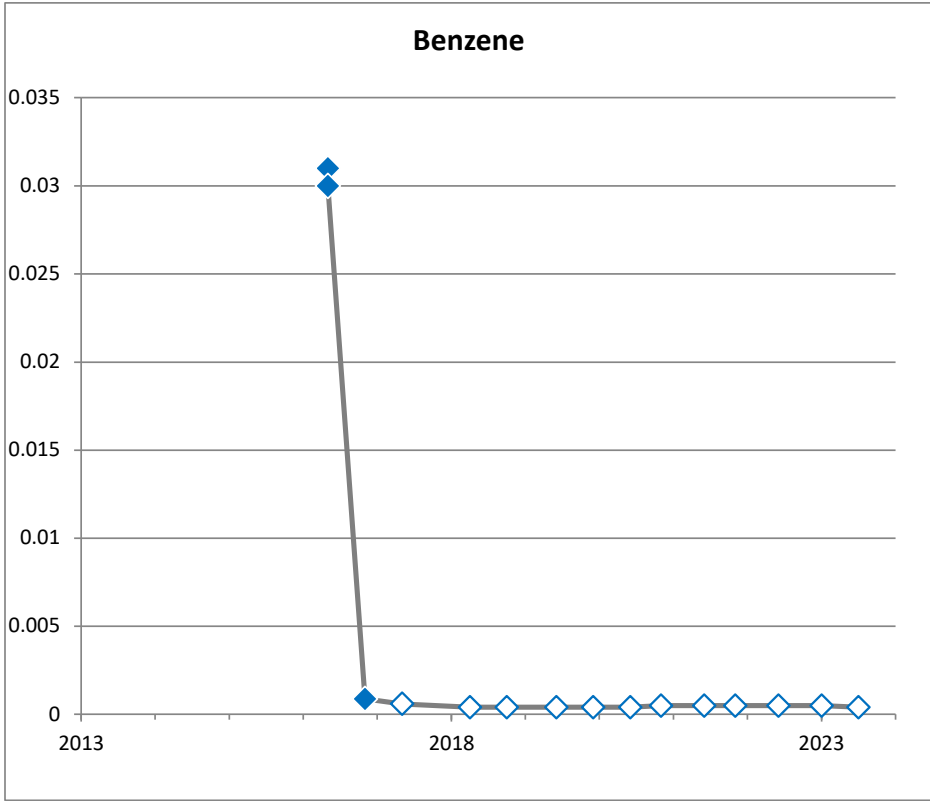
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-75	



◇ Non-detect value
◆ ◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH2001
(mg/L)**

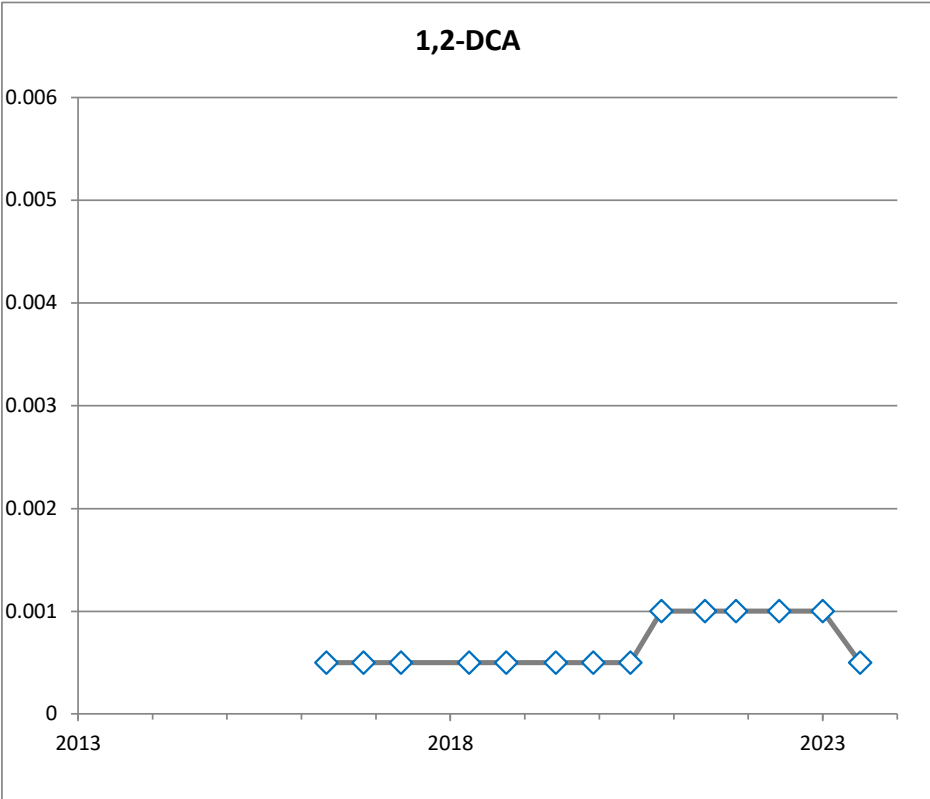
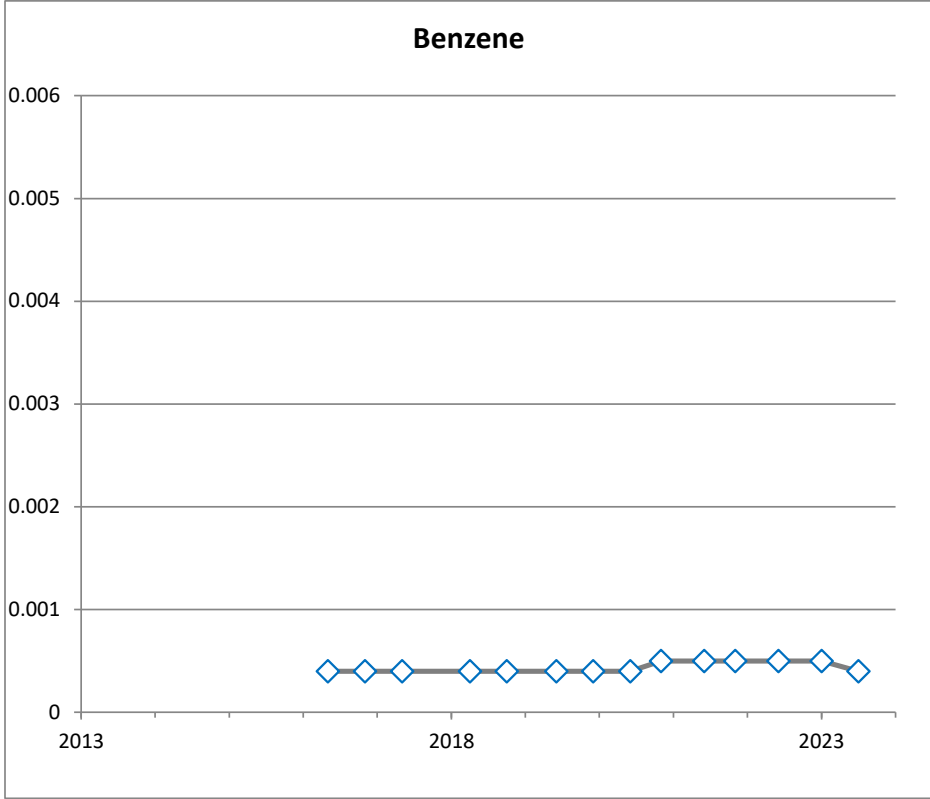
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-76	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH2002
(mg/L)

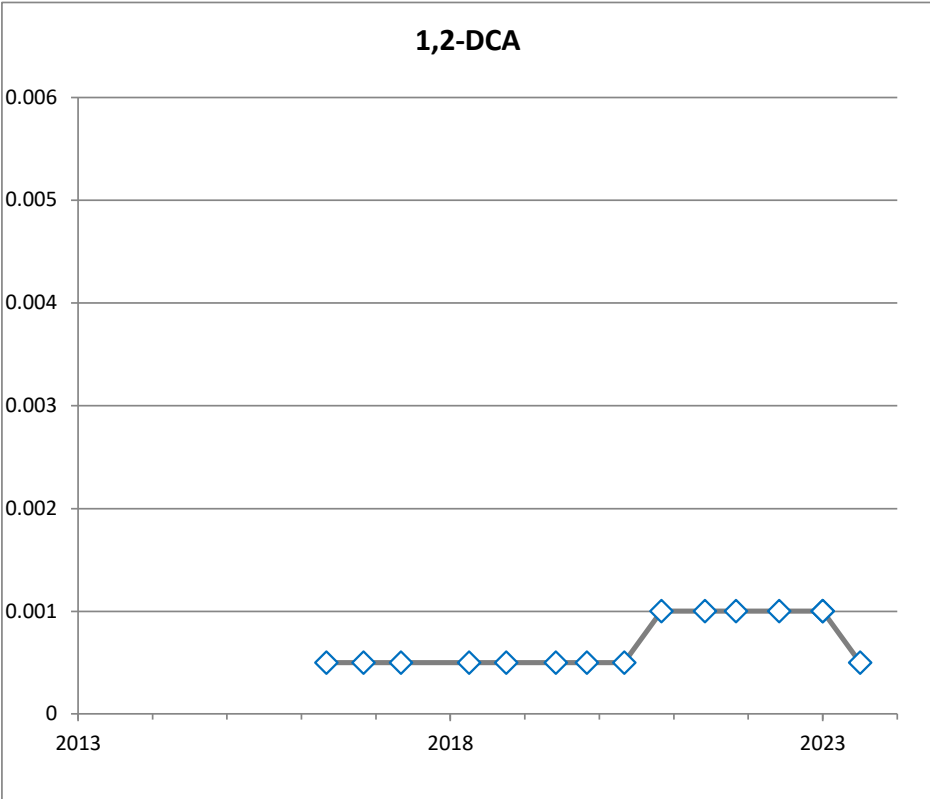
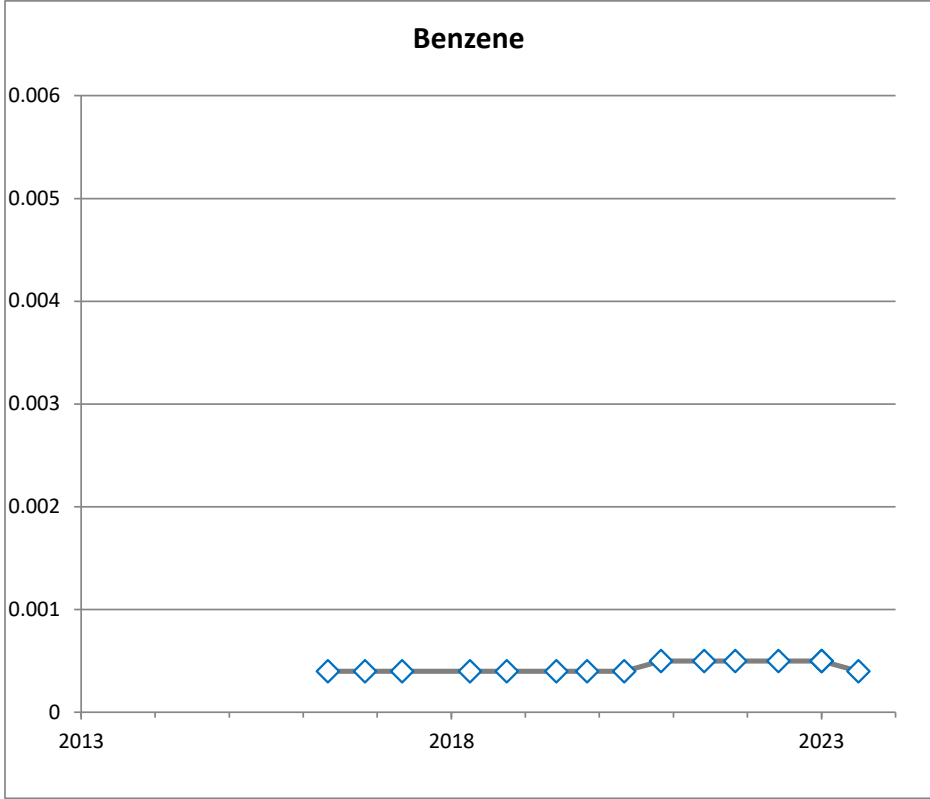
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-77	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH2003
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-78	



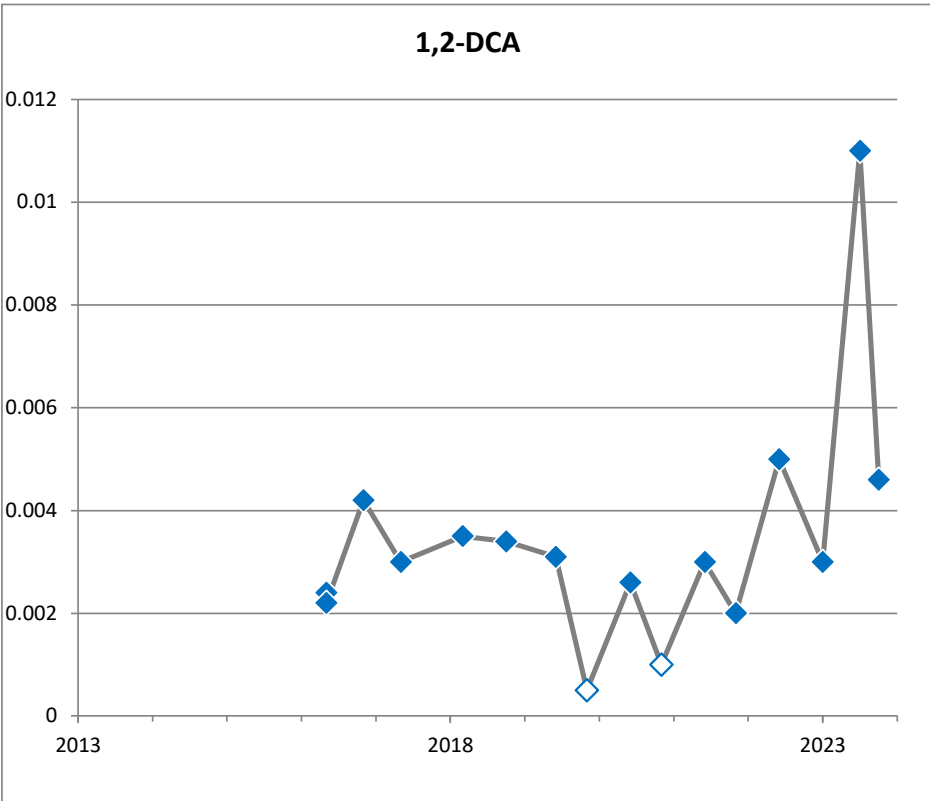
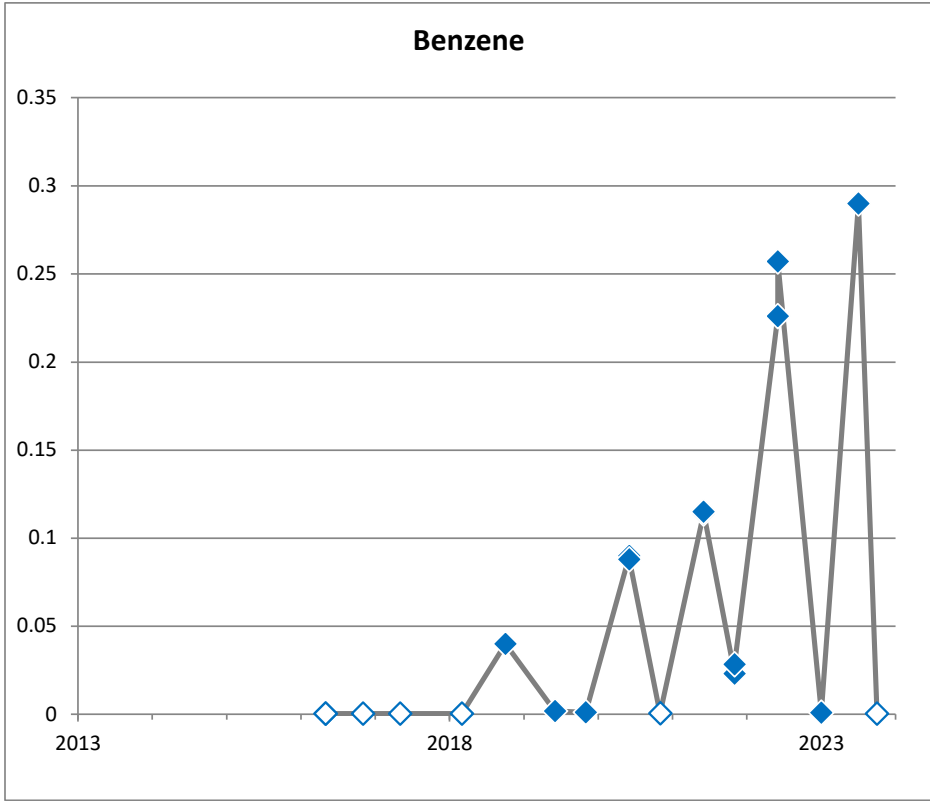
- Non-detect value
- Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH2004
(mg/L)

PARSONS

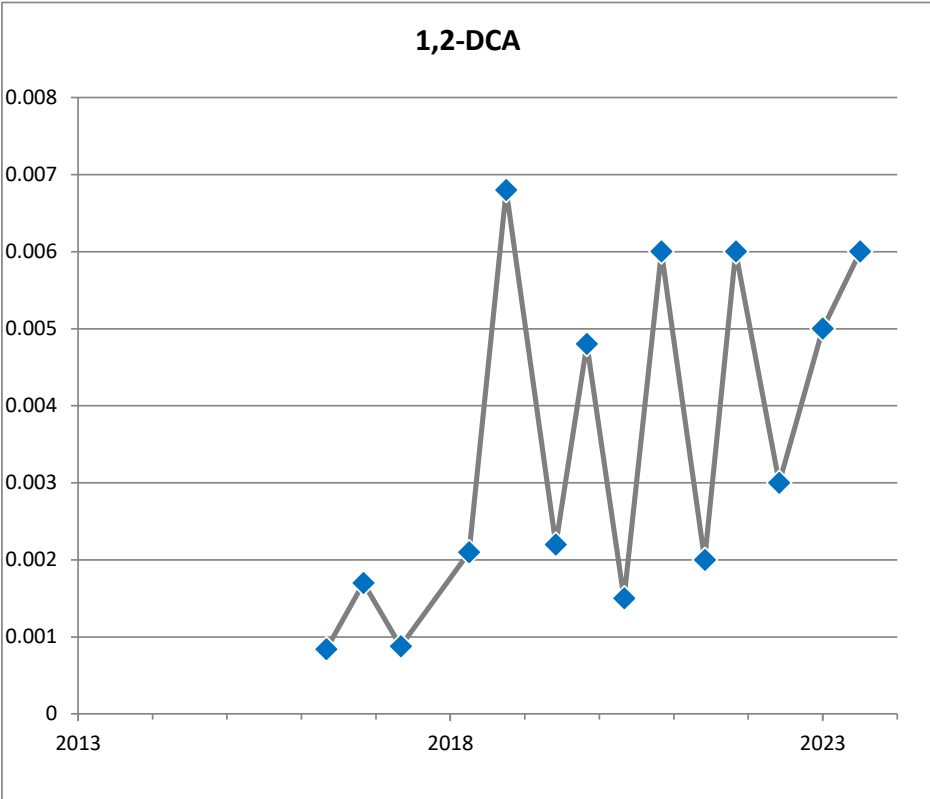
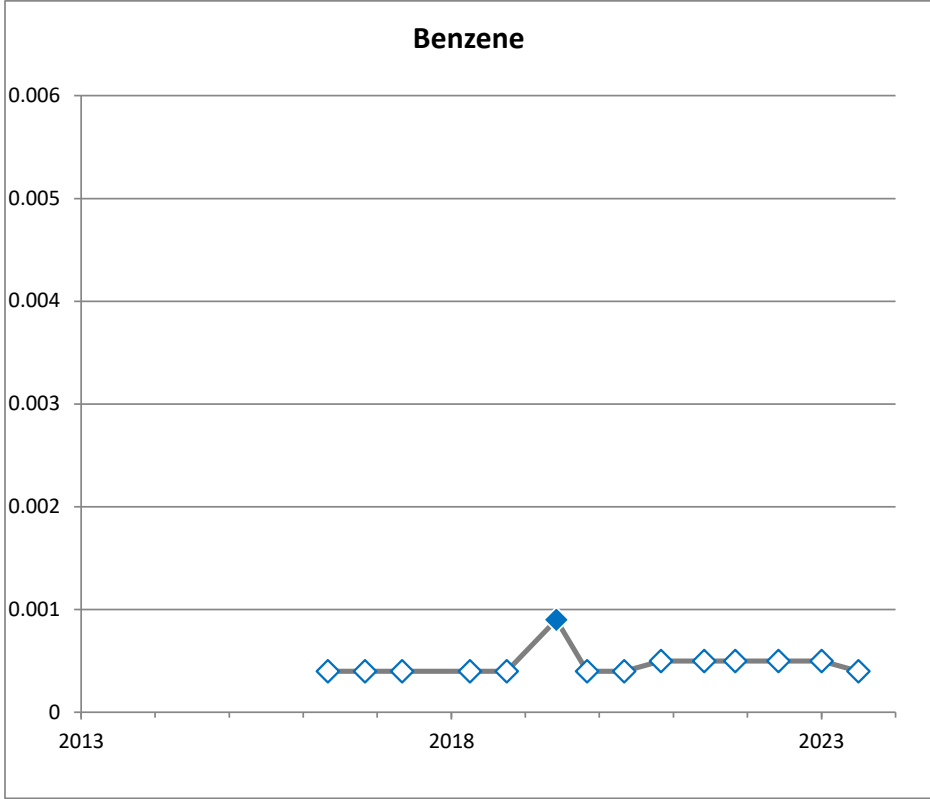
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-79	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH2005
(mg/L)

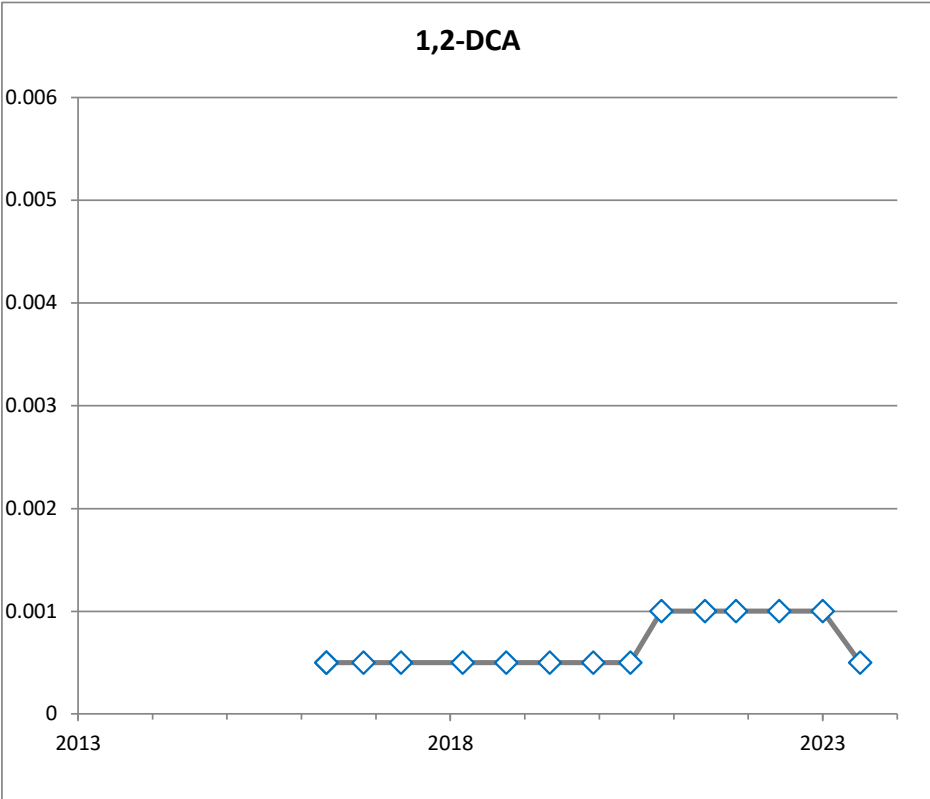
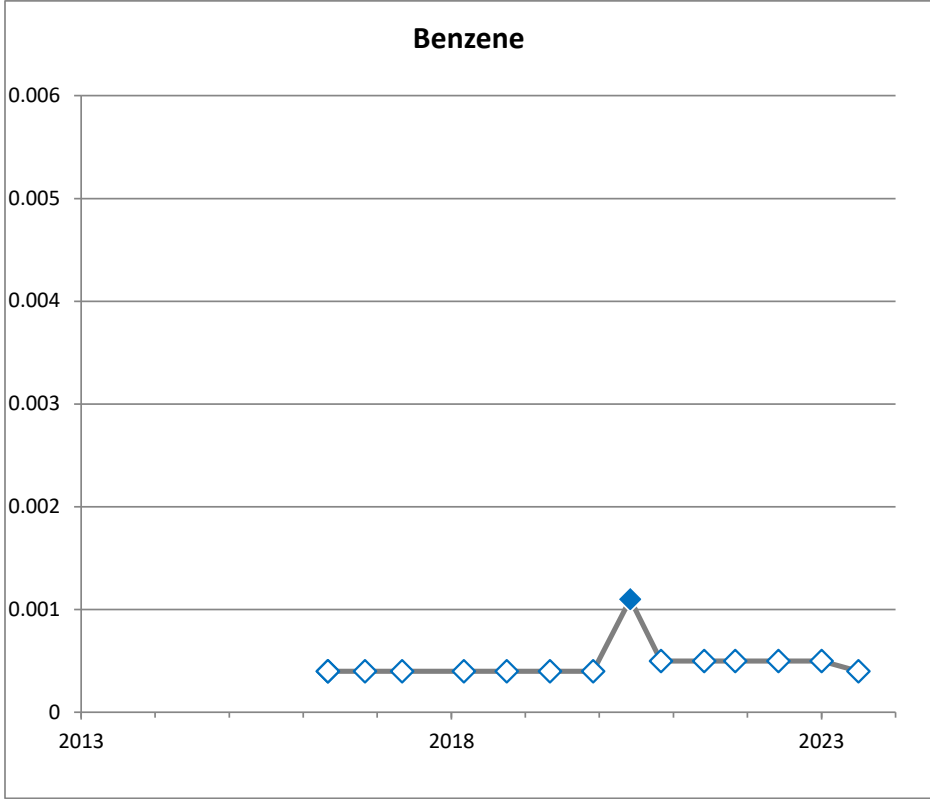
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-80	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH2006
(mg/L)

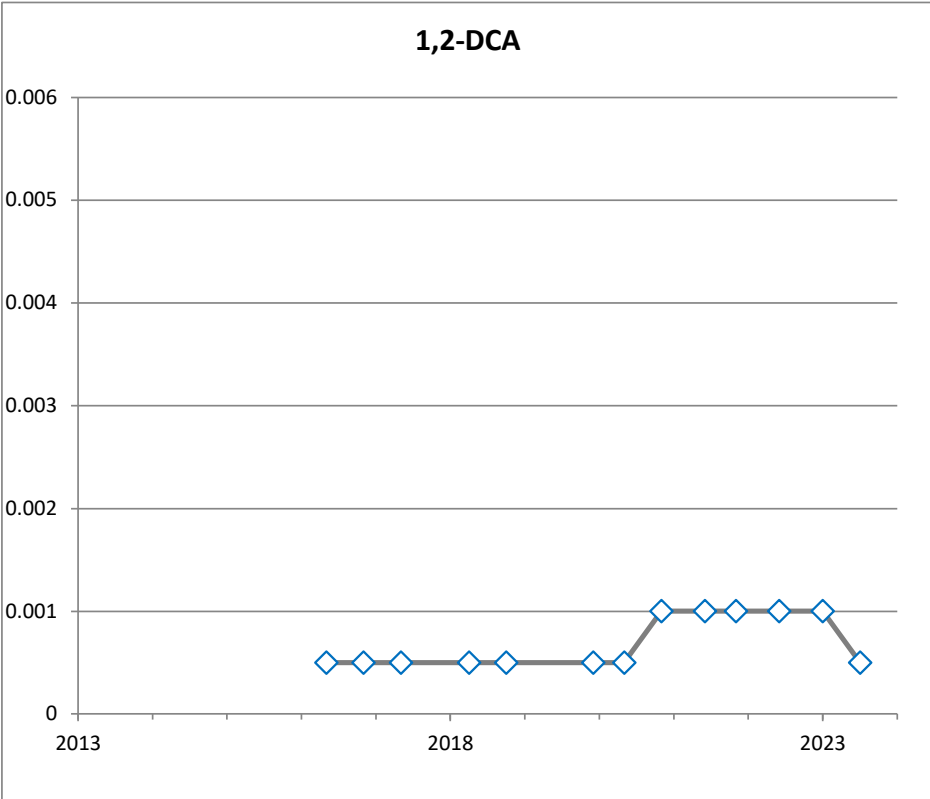
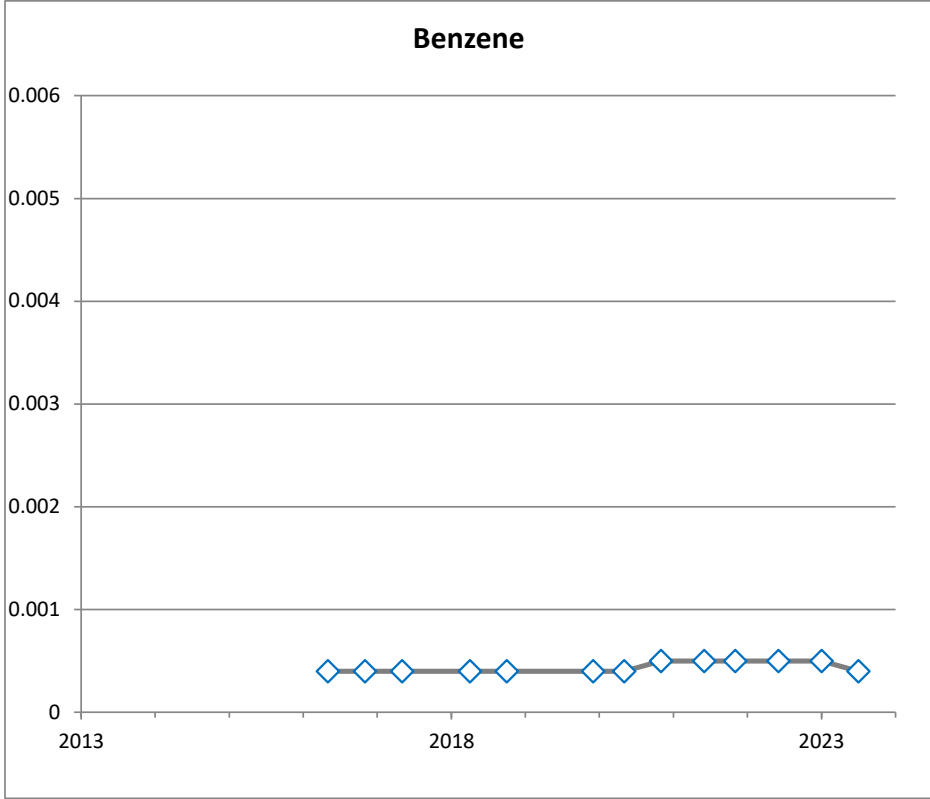
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-81	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH2007
(mg/L)

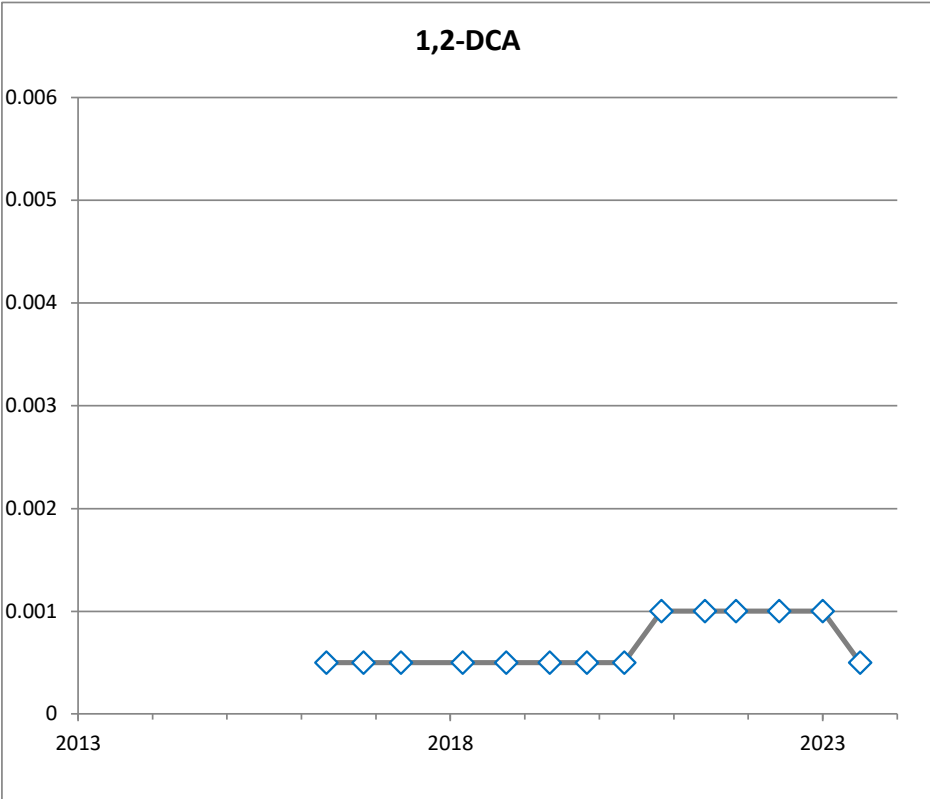
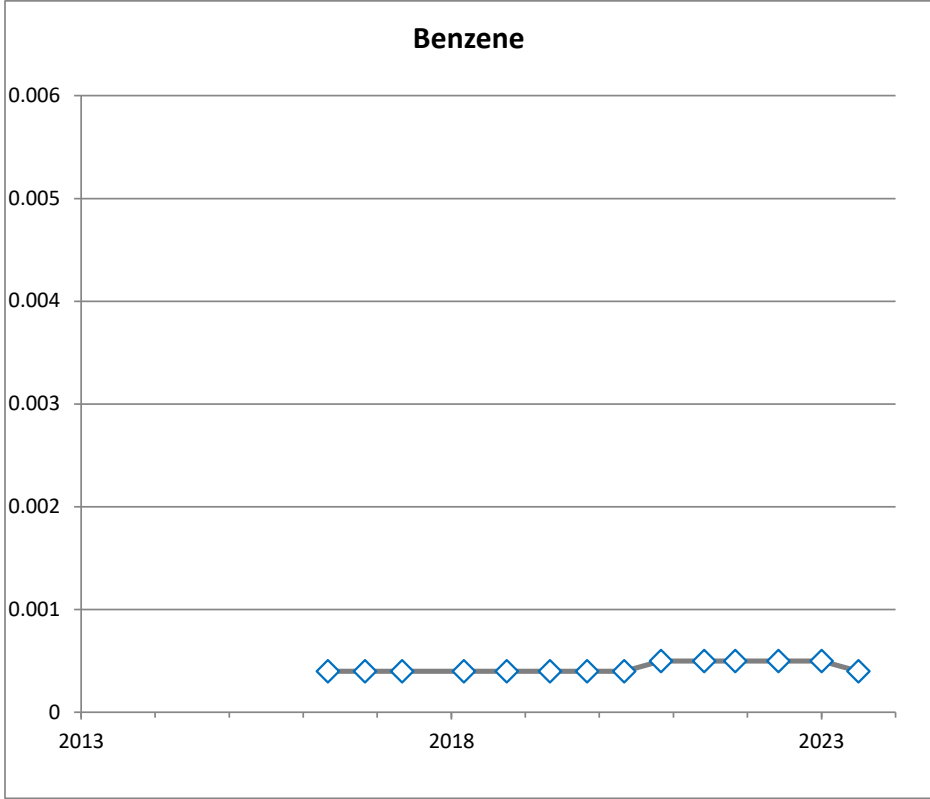
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-82	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH2008
(mg/L)

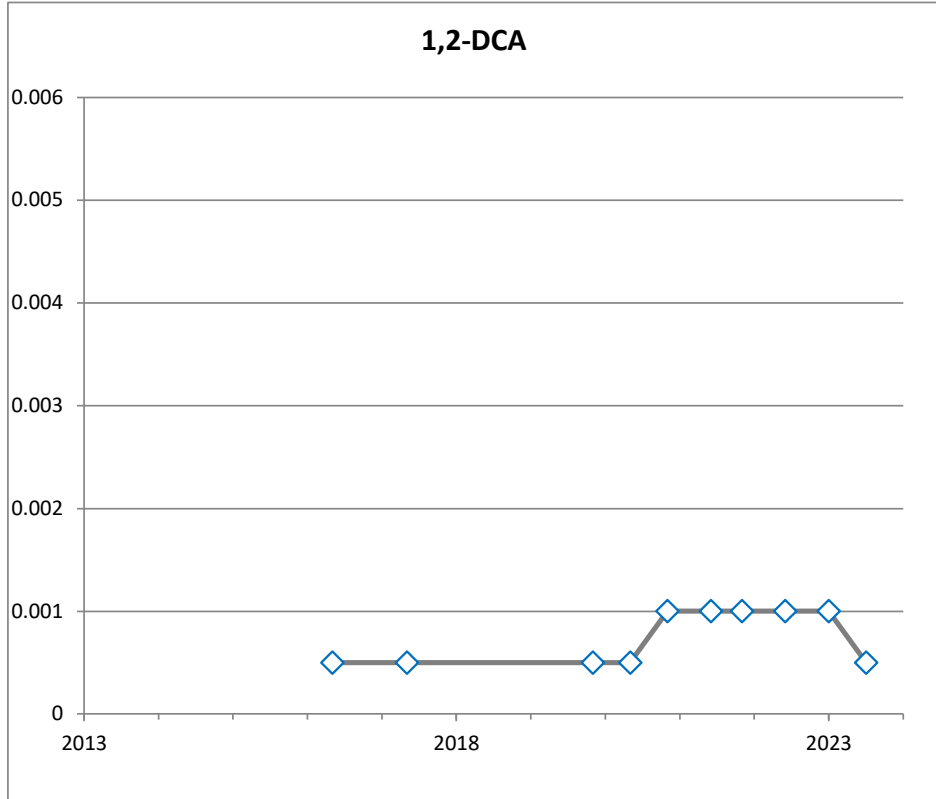
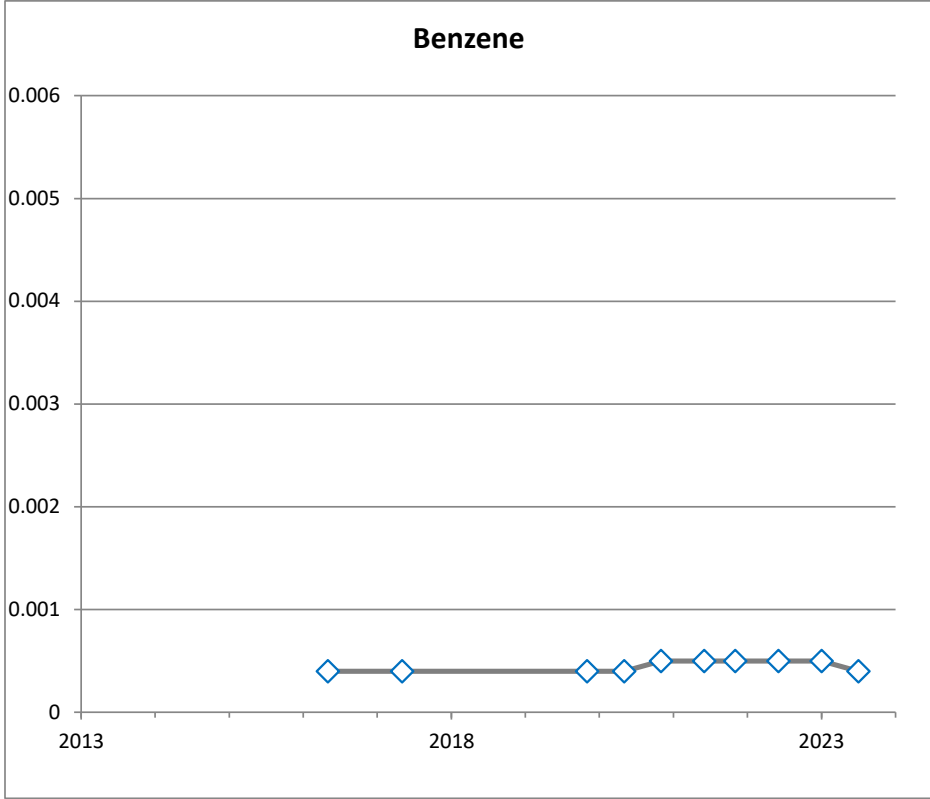
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-83	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH2010
(mg/L)

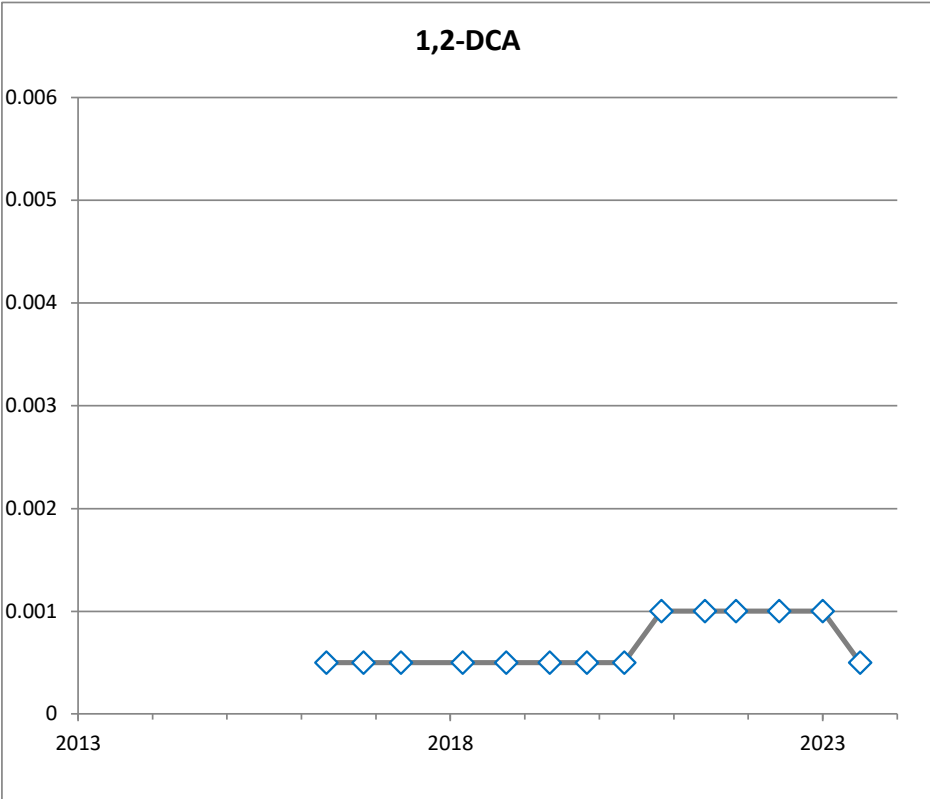
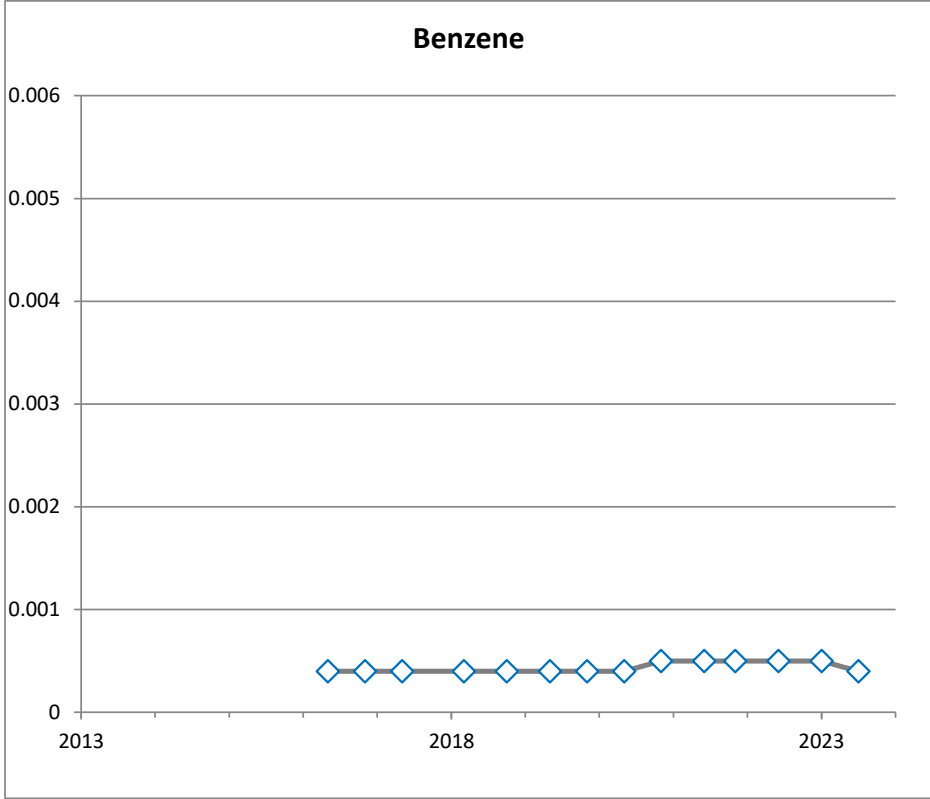
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-84	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH2011
(mg/L)**

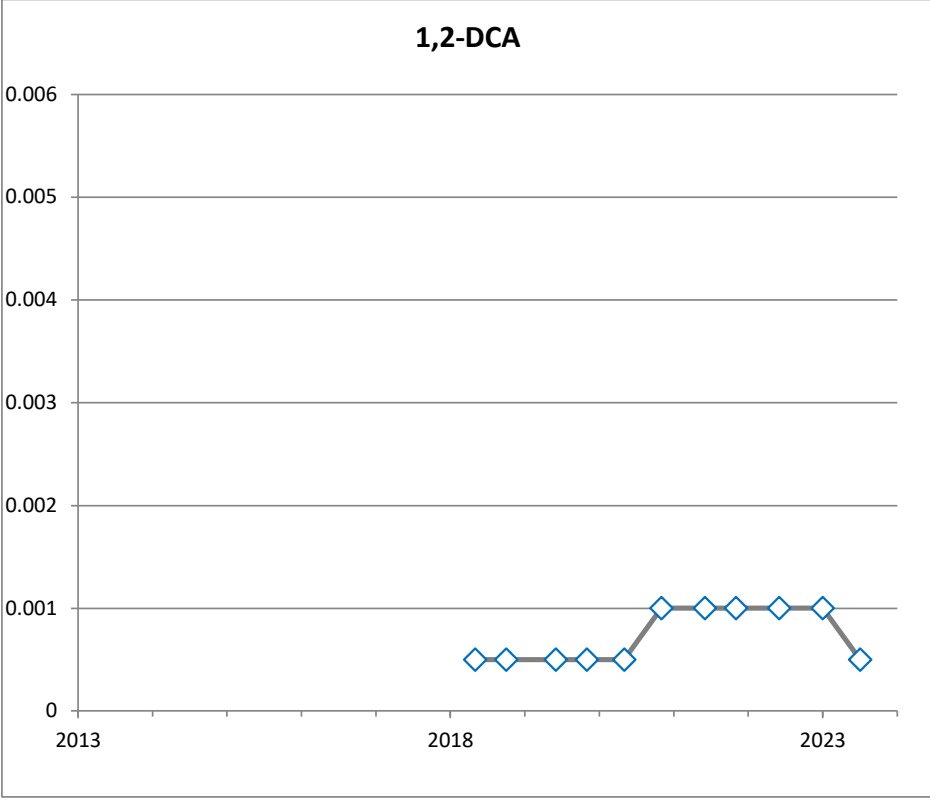
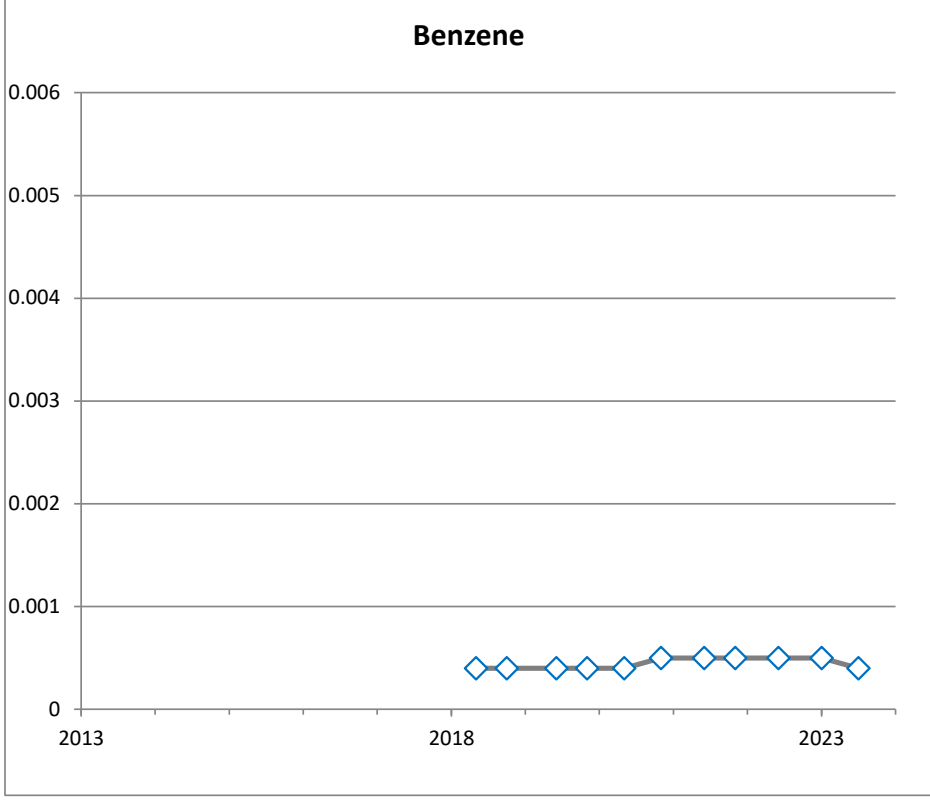
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-85	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH2012 (mg/L)

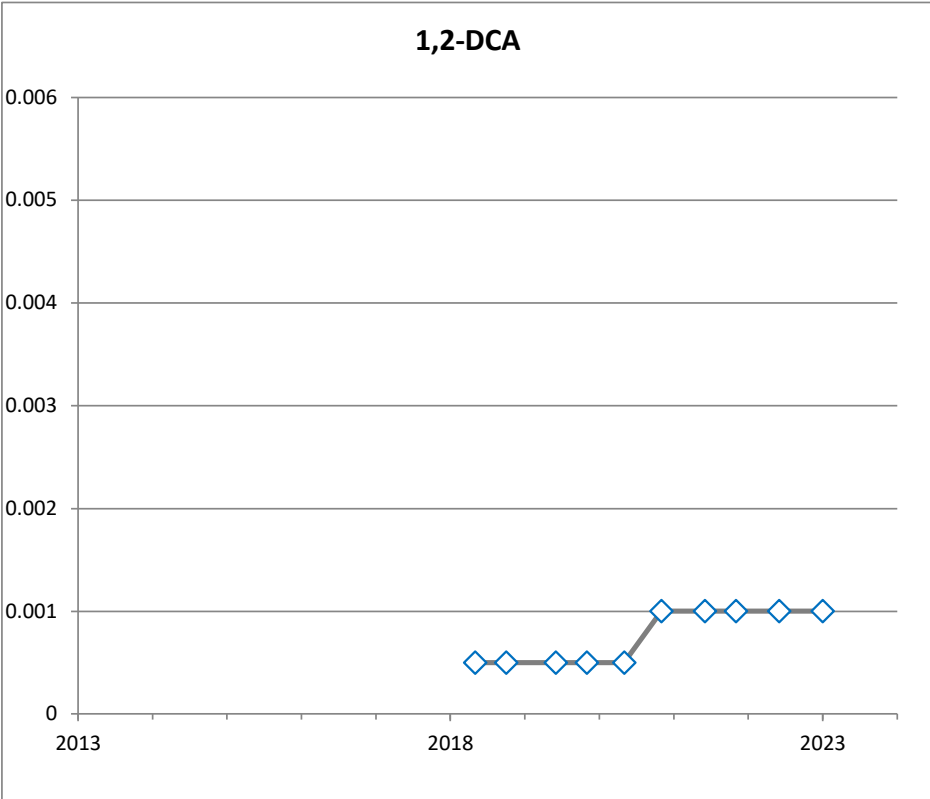
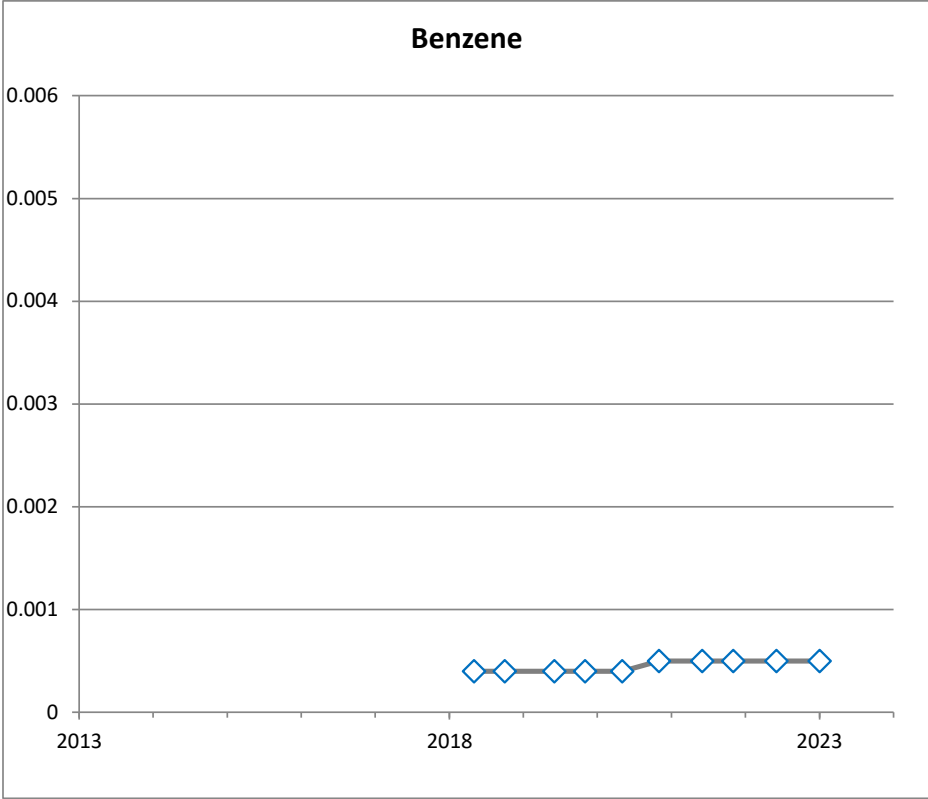
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-86	



◆ Non-detect value
◆ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH3002A
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-90	



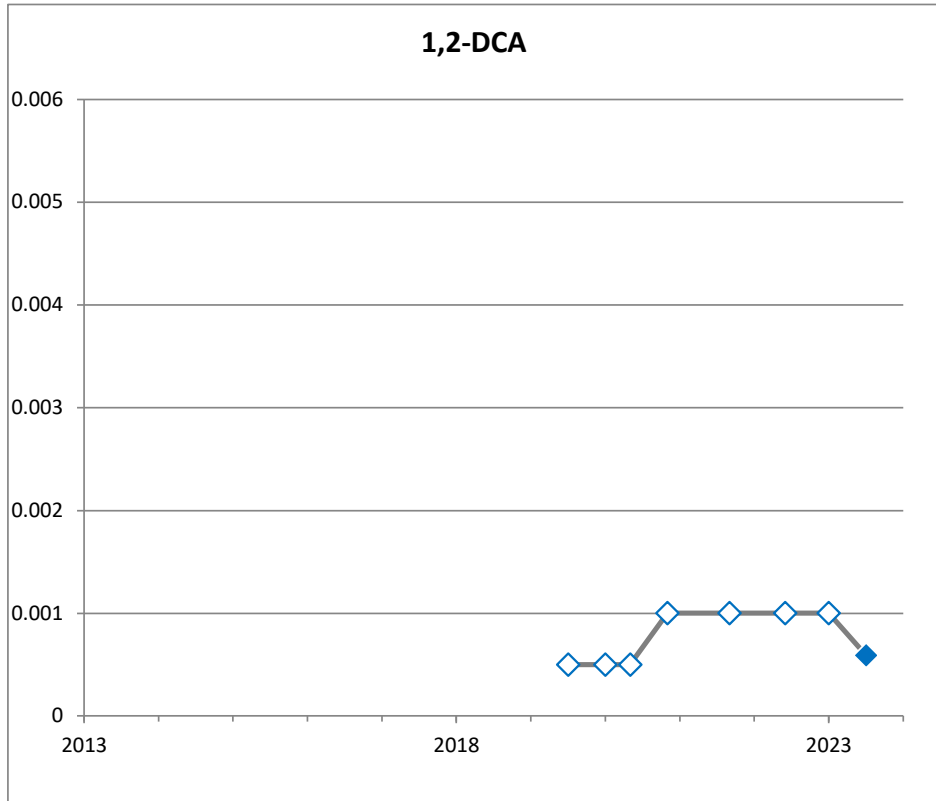
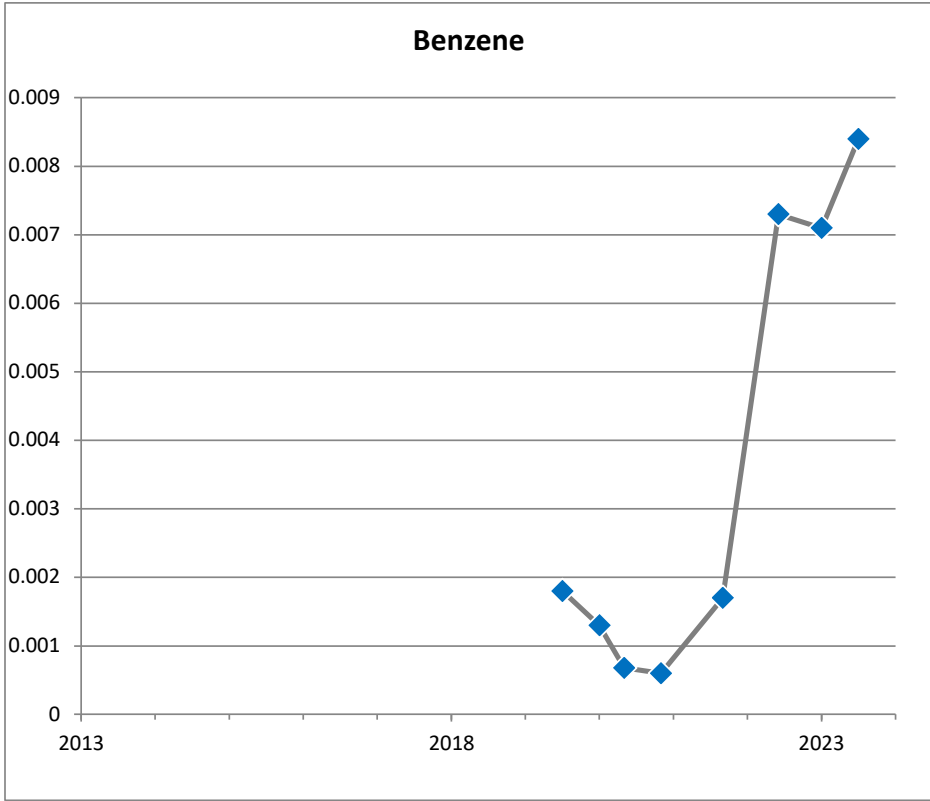
- ◊ Non-detect value
- ◊ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH3003A
(mg/L)

PARSONS

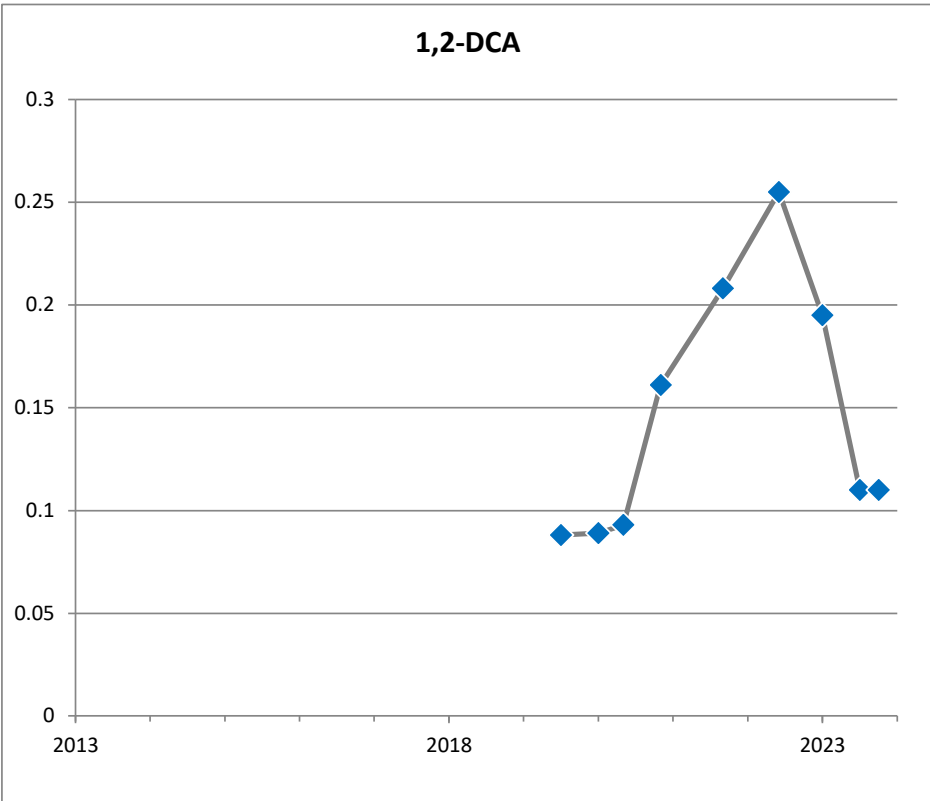
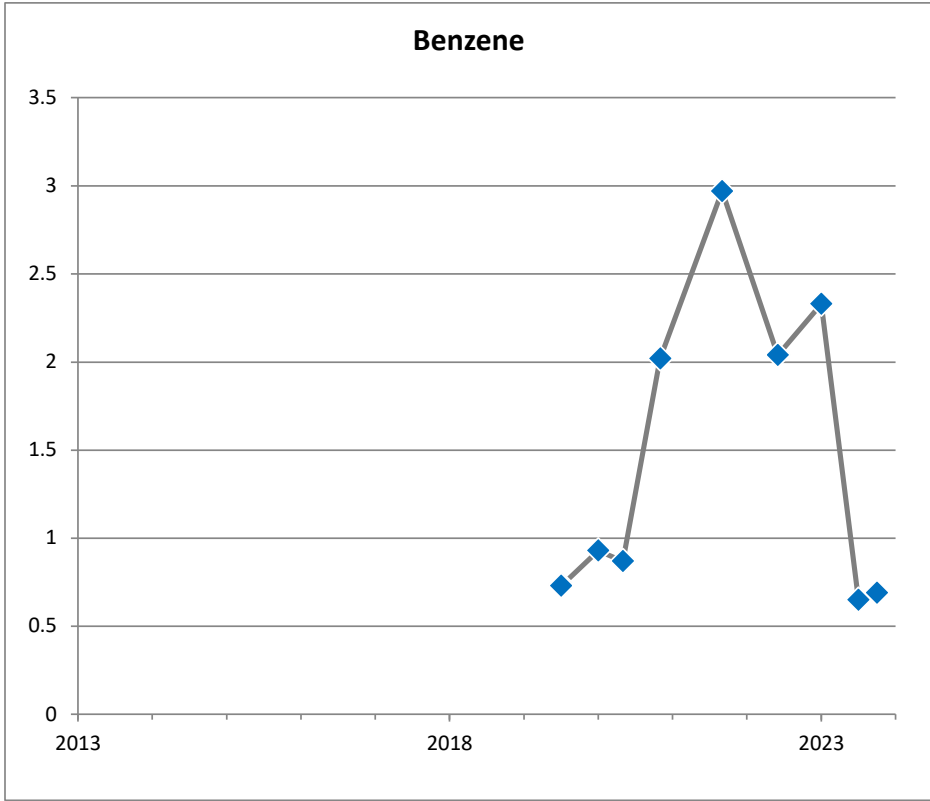
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-92	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4002
(mg/L)

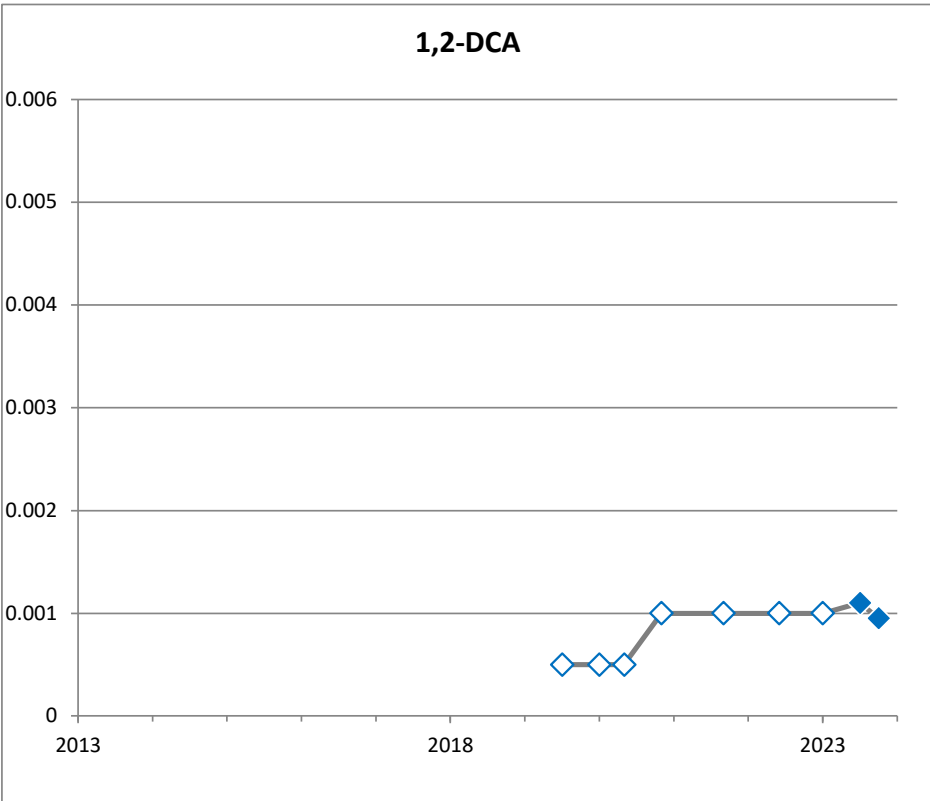
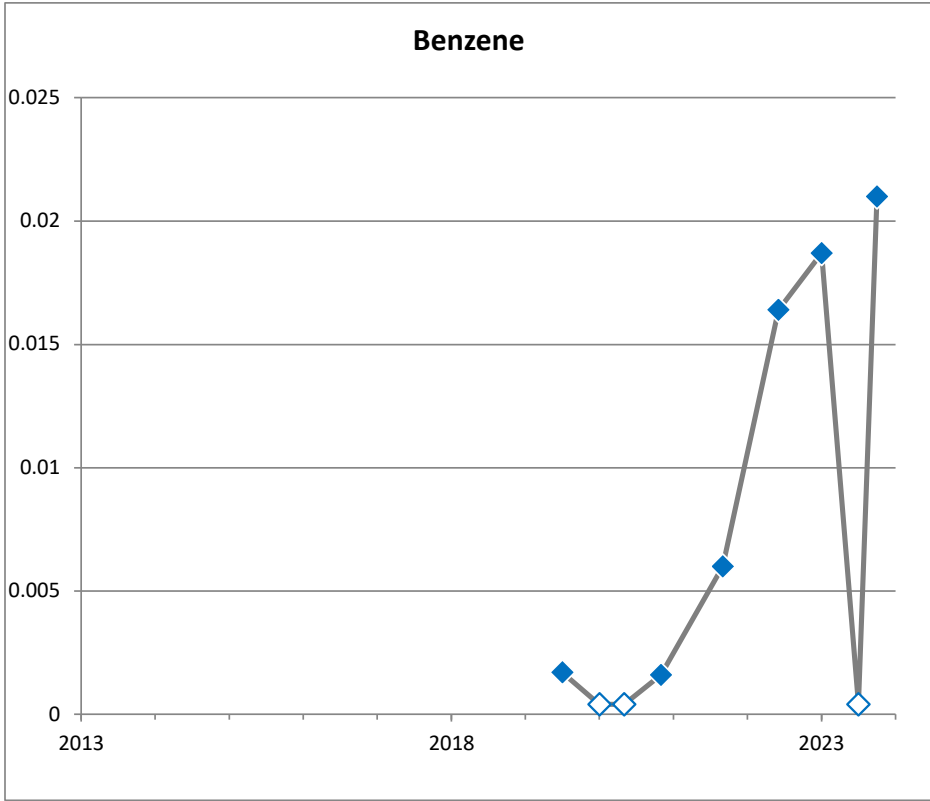
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-94	



◊ Non-detect value
◊ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4003A
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-95	



- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplides and multiple samples on the same date.

**BH4003B
(mg/L)**

PARSONS

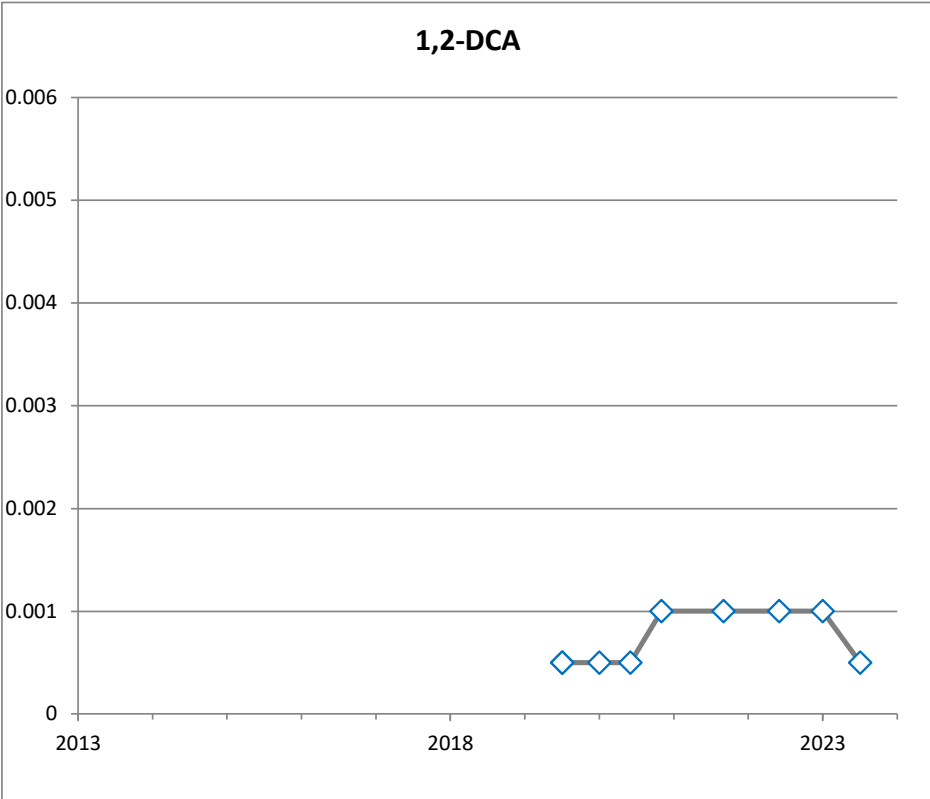
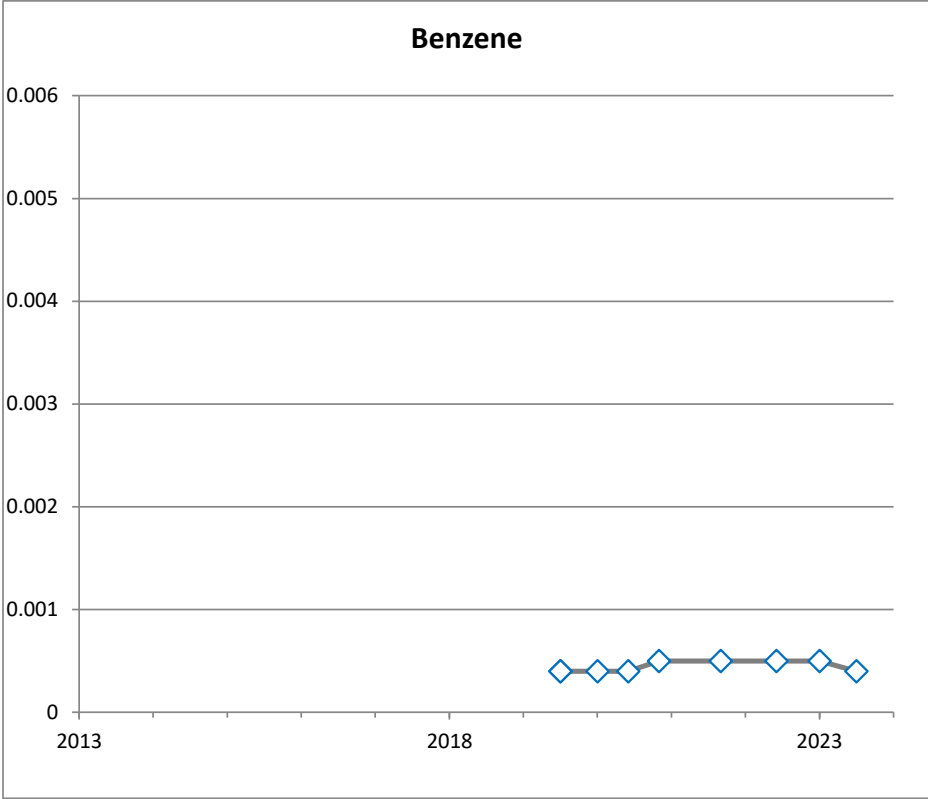
JOB NO.: 10-12832

DATE: Feb 24, 2024

REF. NO.: 478903.17100

DRAWN BY: MR/SLD

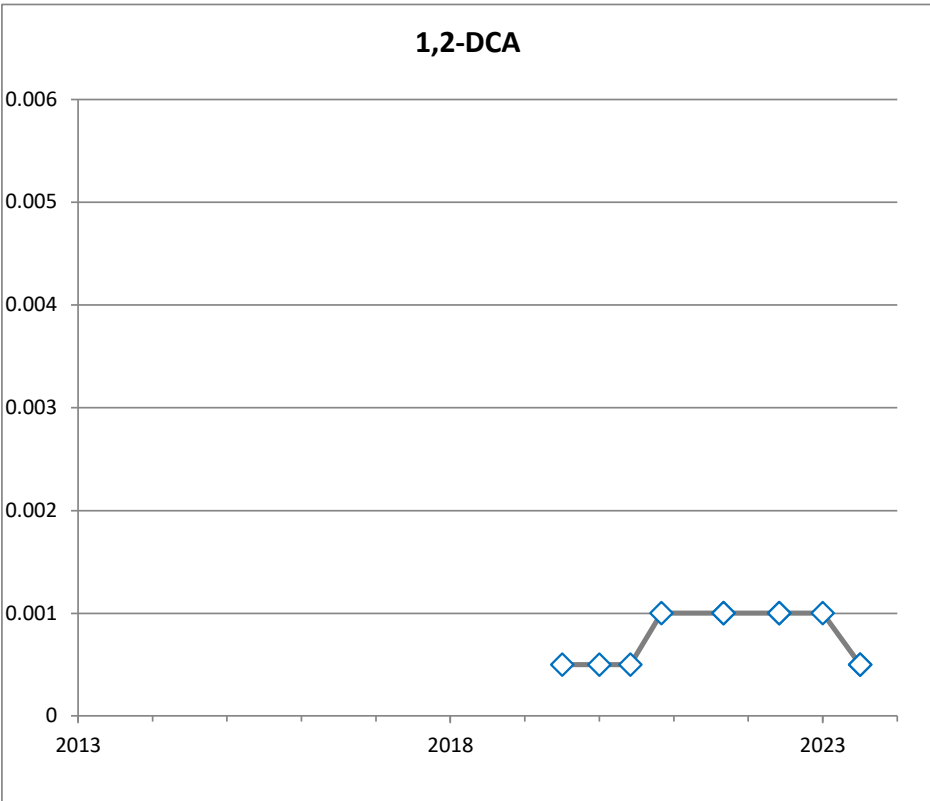
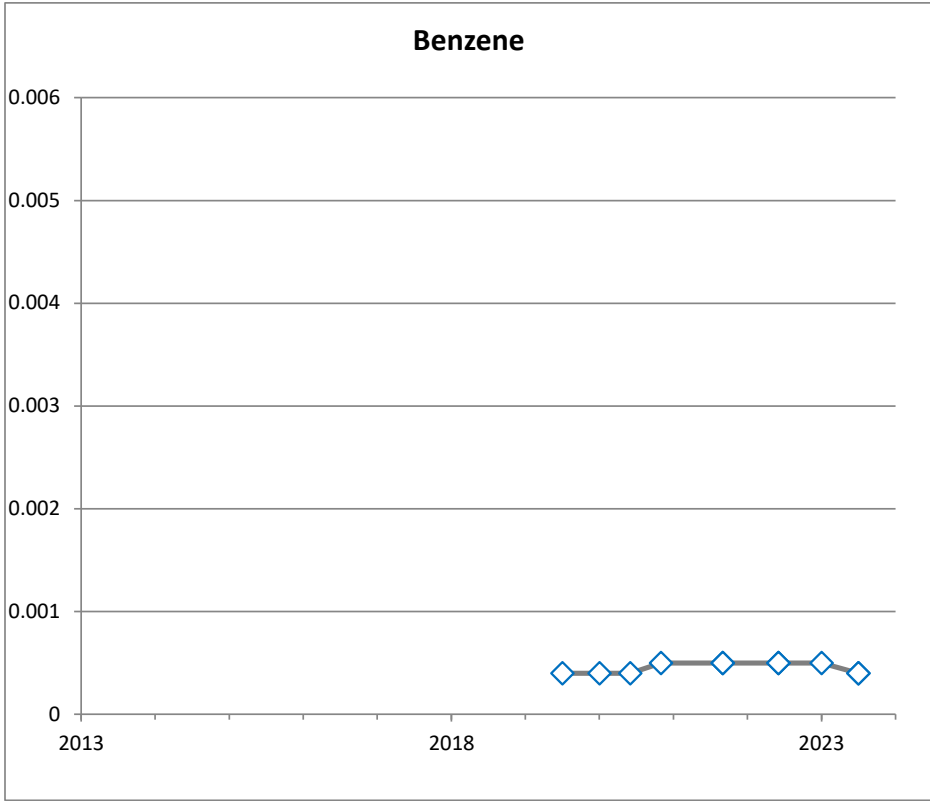
DWG NO.: E-96



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4004A
(mg/L)

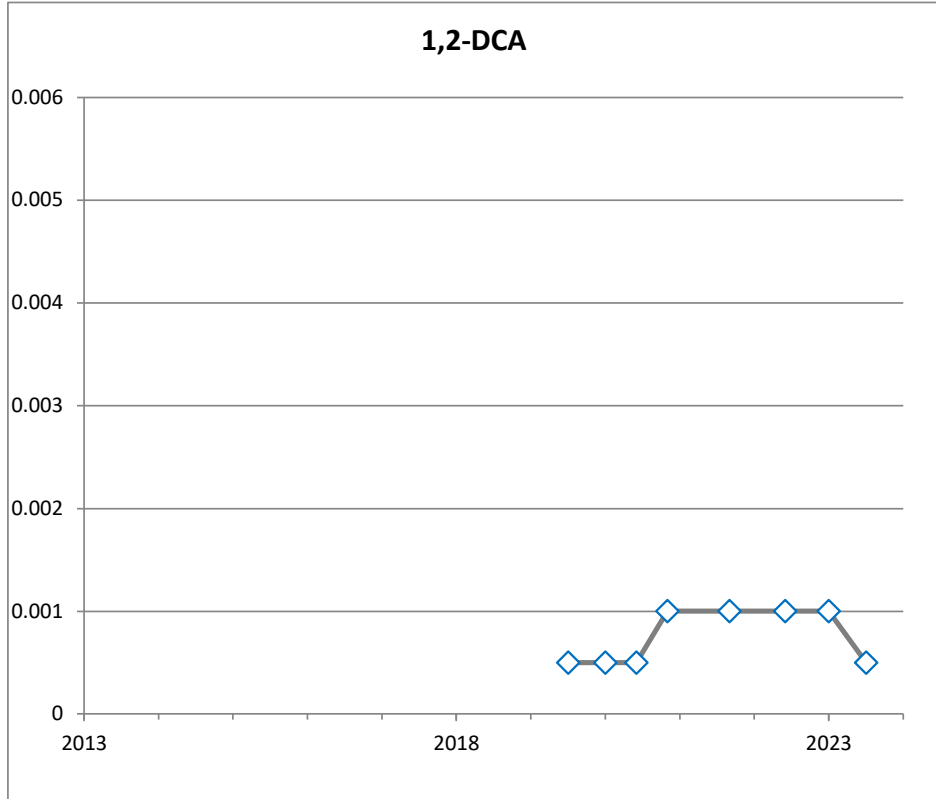
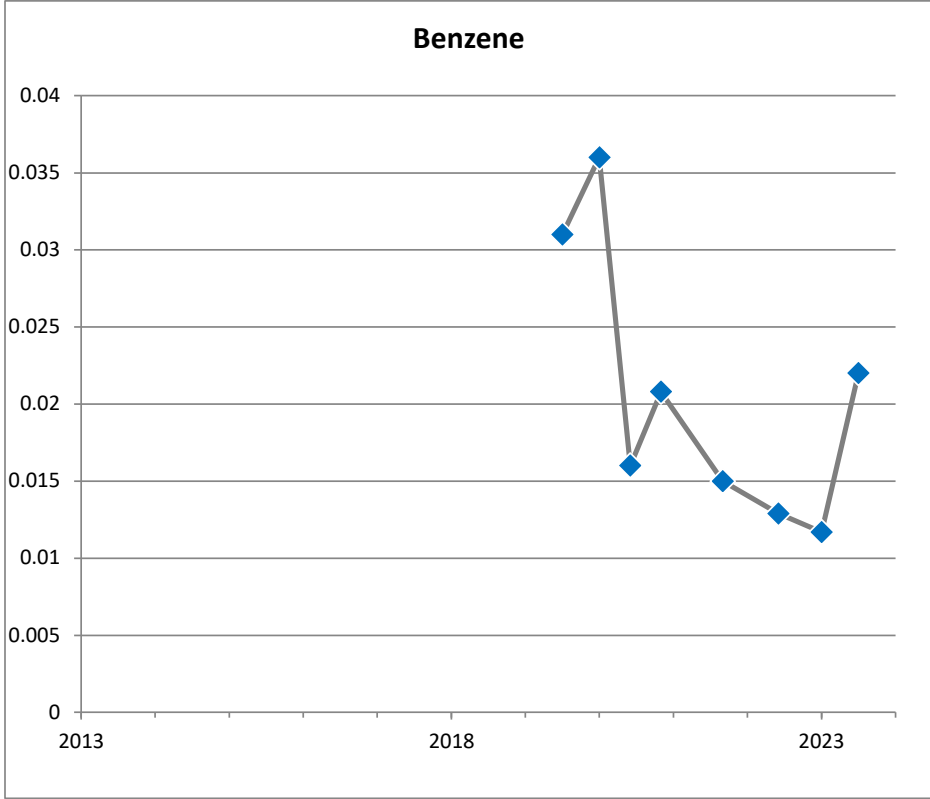
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-97	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4004B
(mg/L)

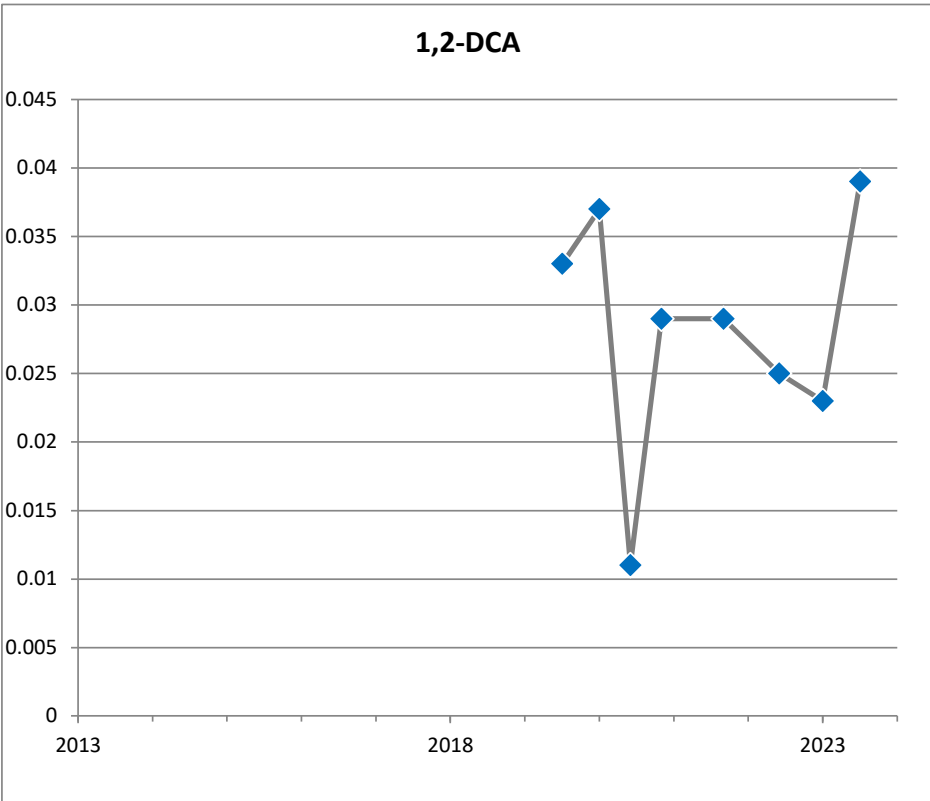
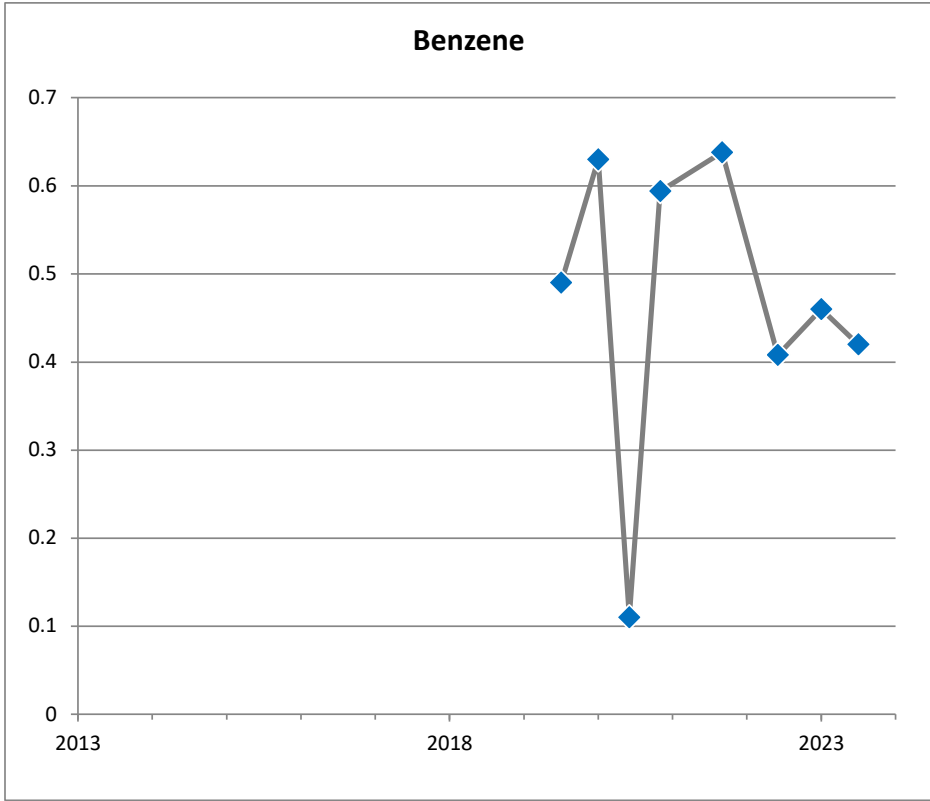
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-98	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4005
(mg/L)

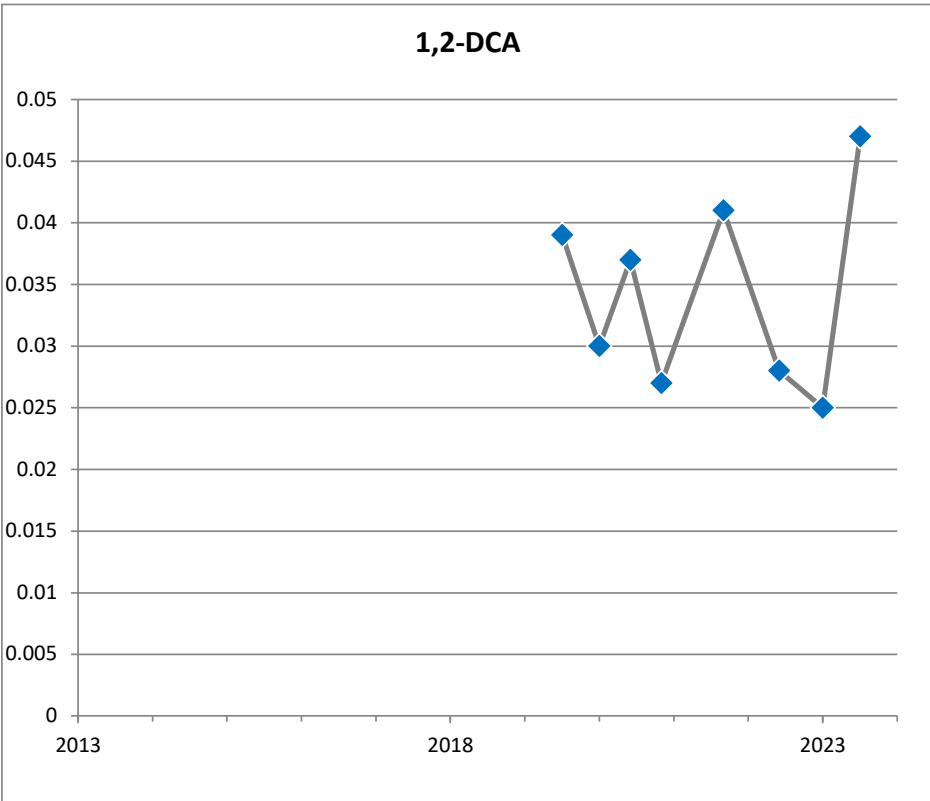
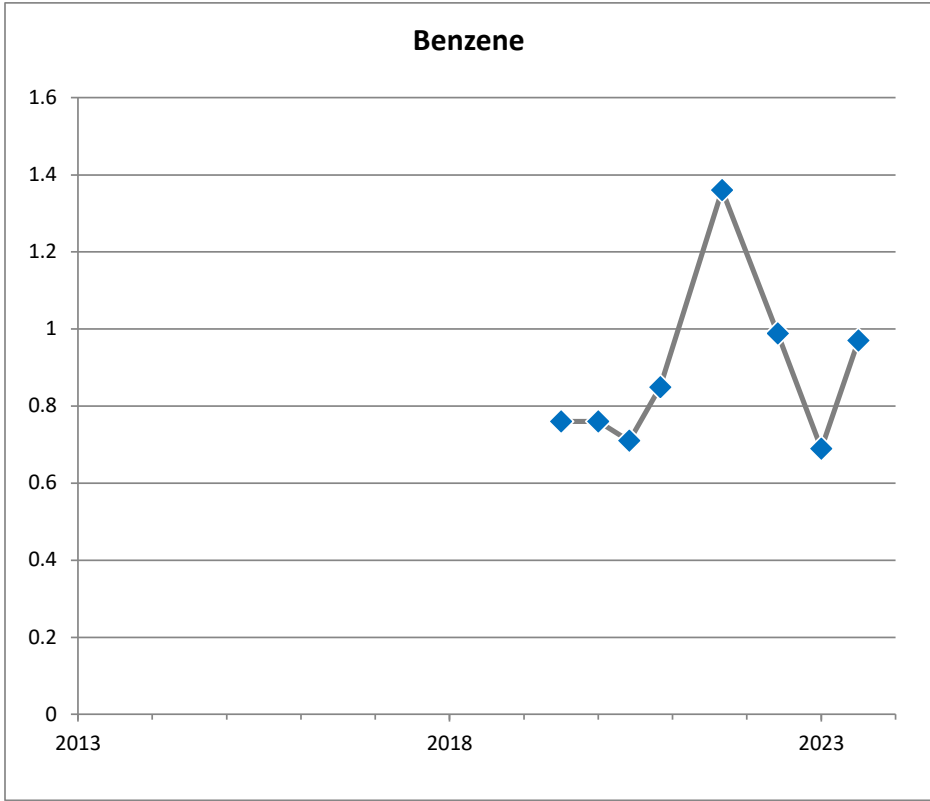
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-99	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4006
(mg/L)

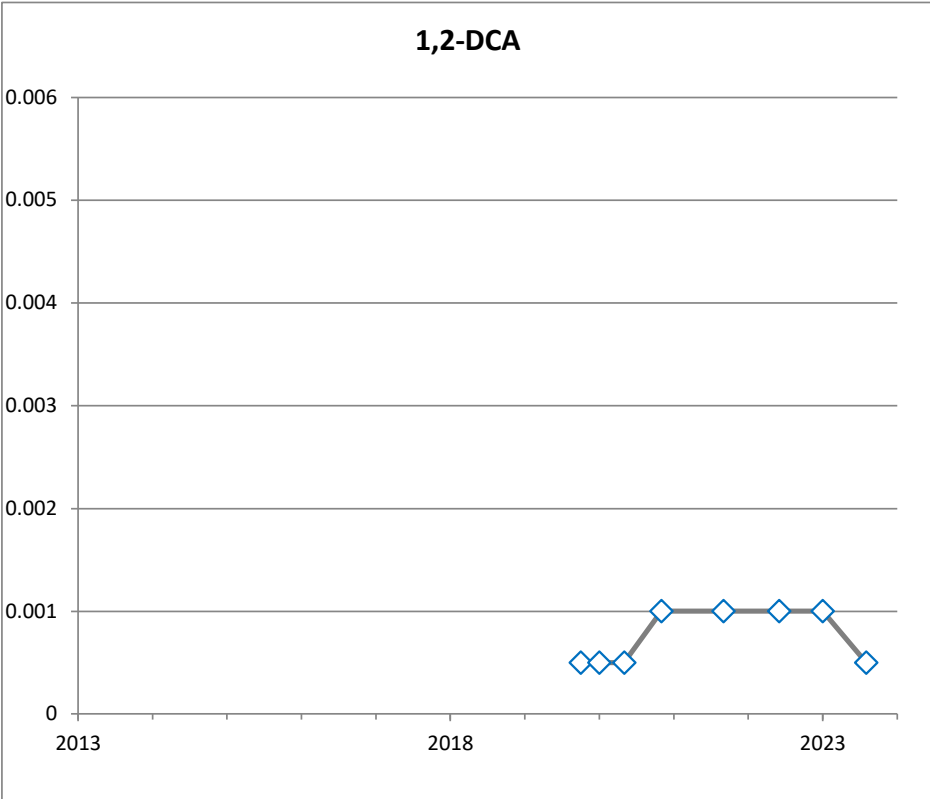
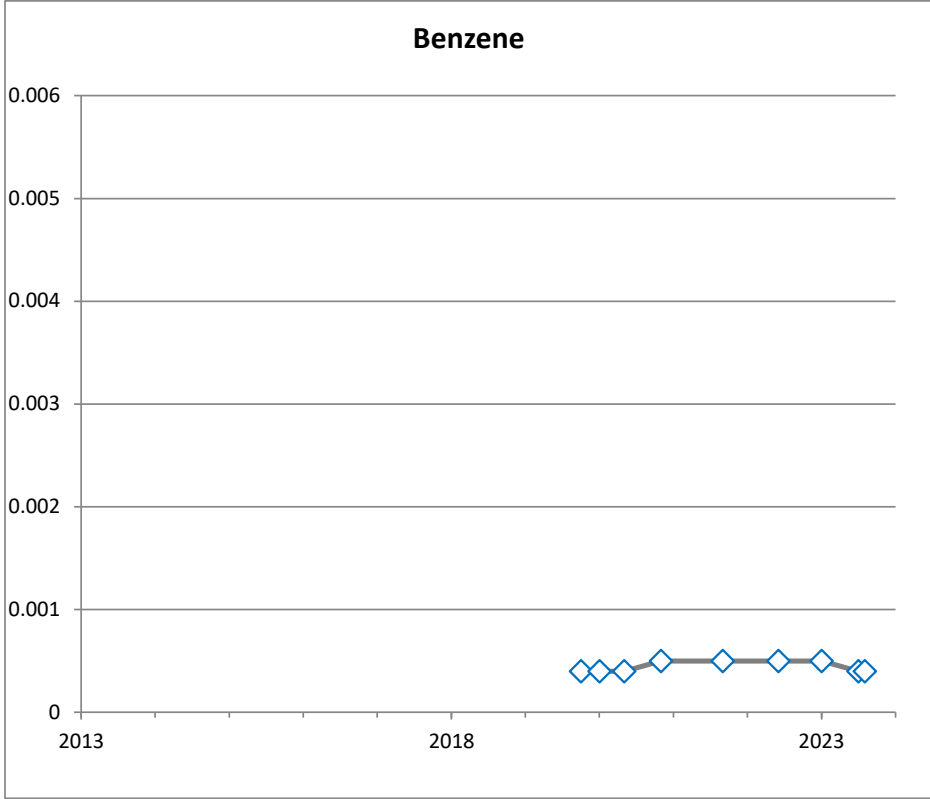
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-100	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4007
(mg/L)

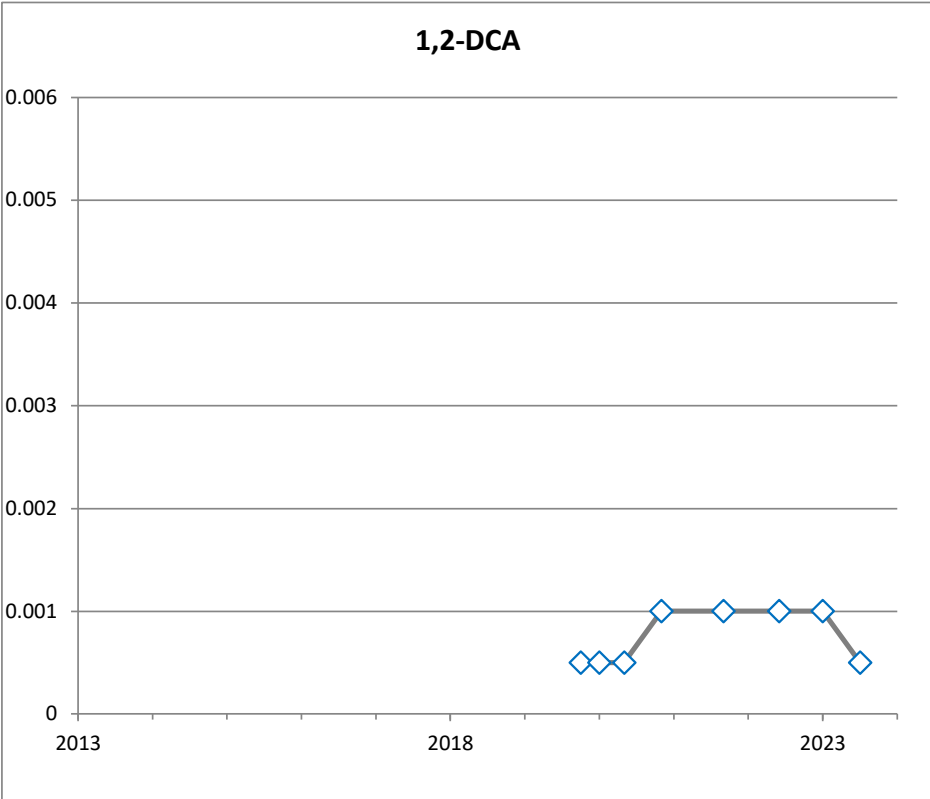
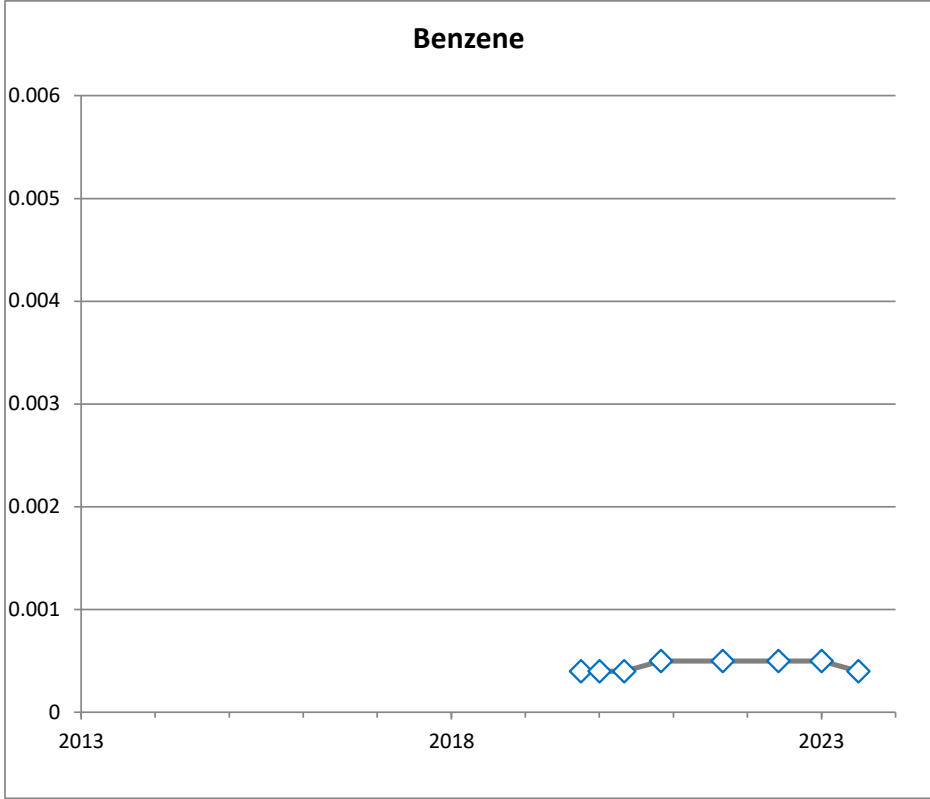
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-101	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4008A
(mg/L)

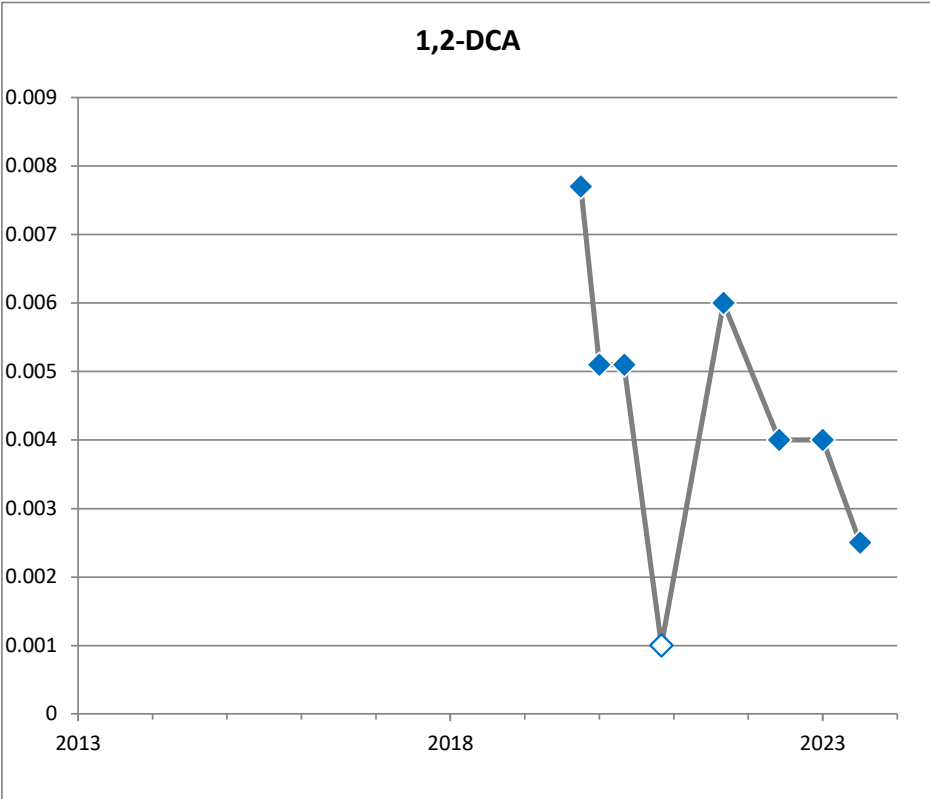
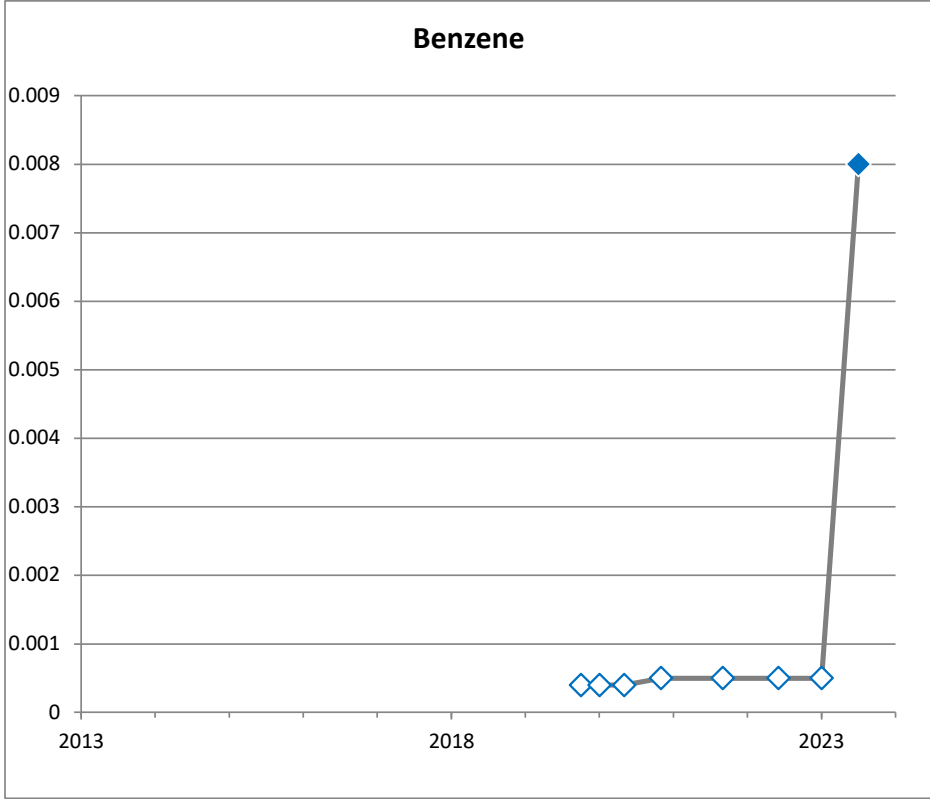
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-102	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4008B
(mg/L)

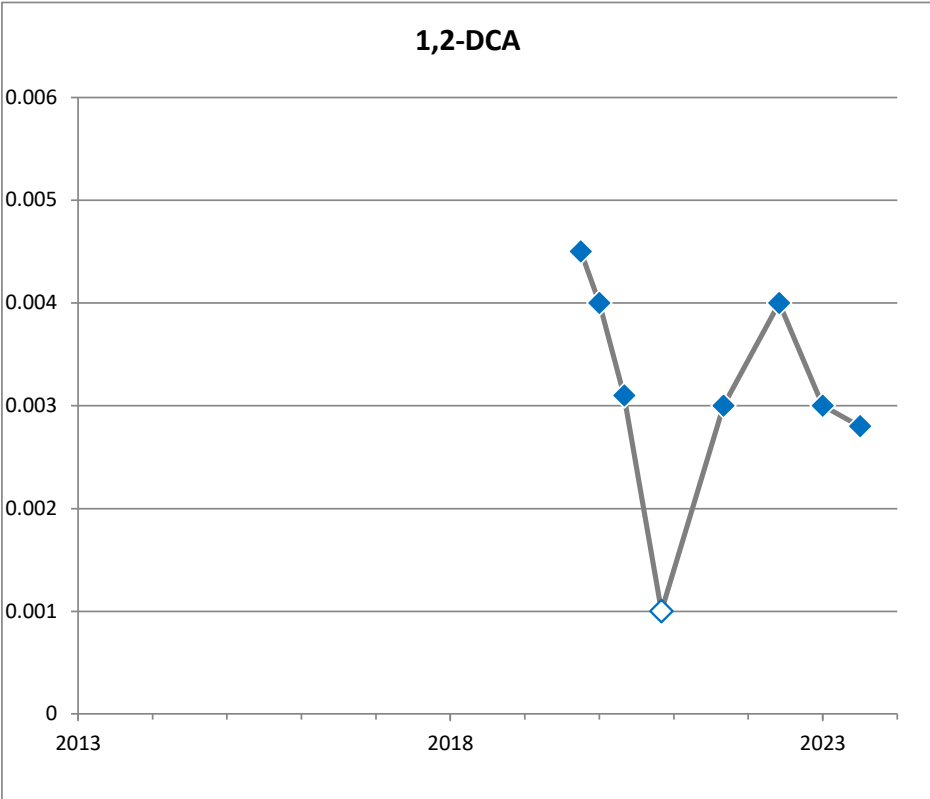
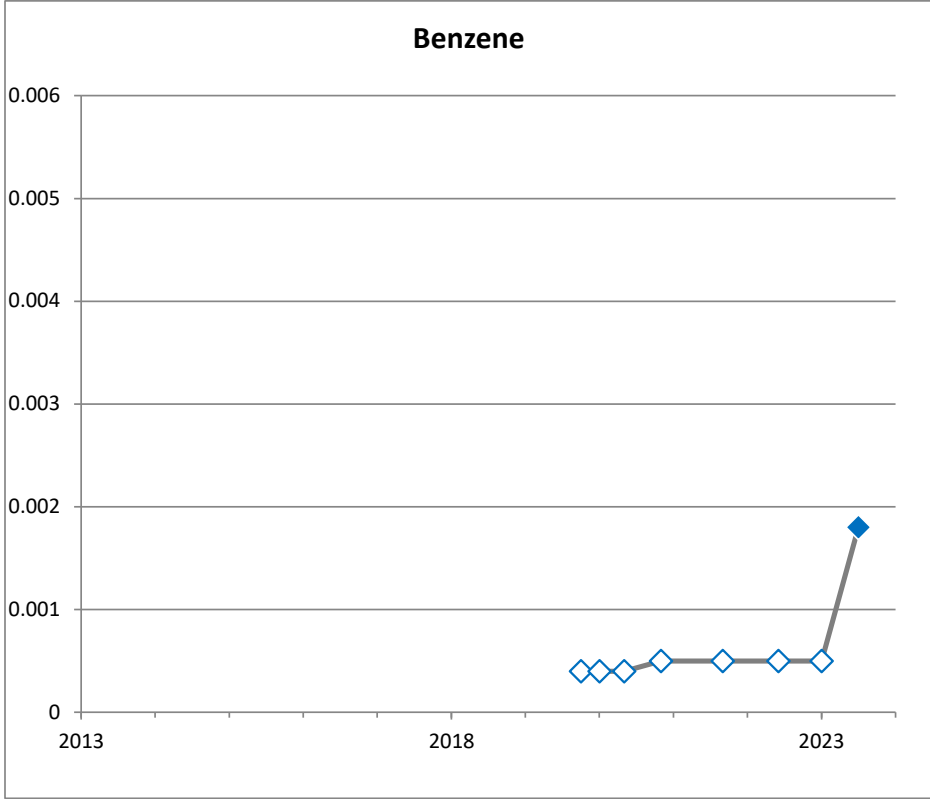
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-103	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH4009A
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-104	



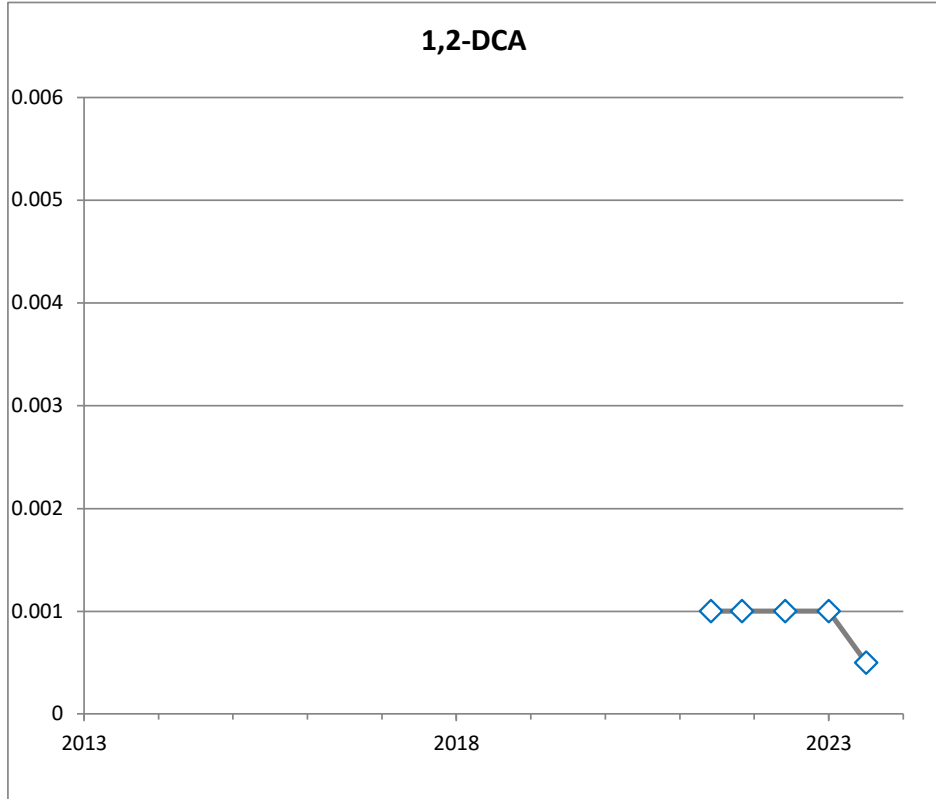
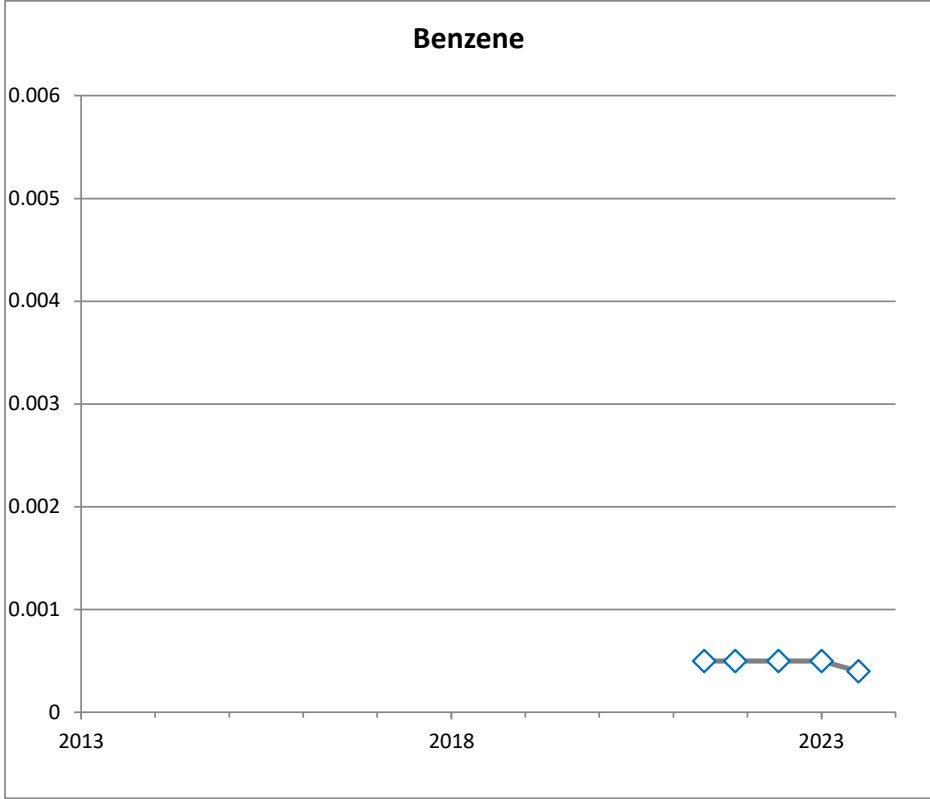
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH4009B
(mg/L)

PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-105	



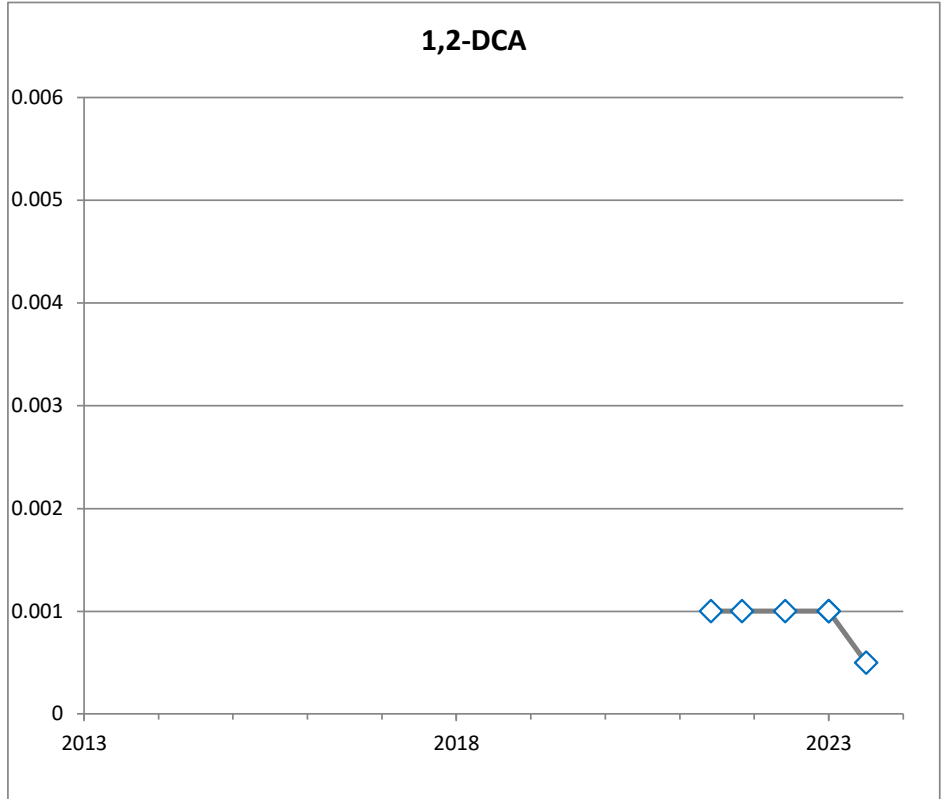
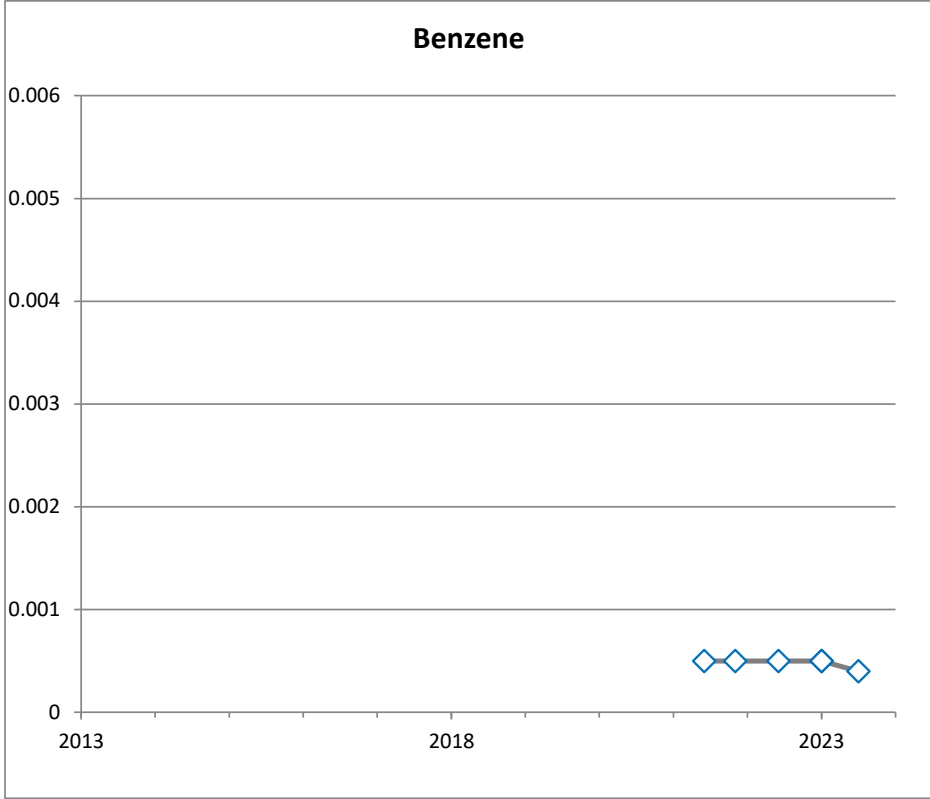
- ◇ Non-detect value
- ◇ Post-remediation



All samples are shown, including duplidates and multiple samples on the same date.

BH5001
(mg/L)

PARSONS

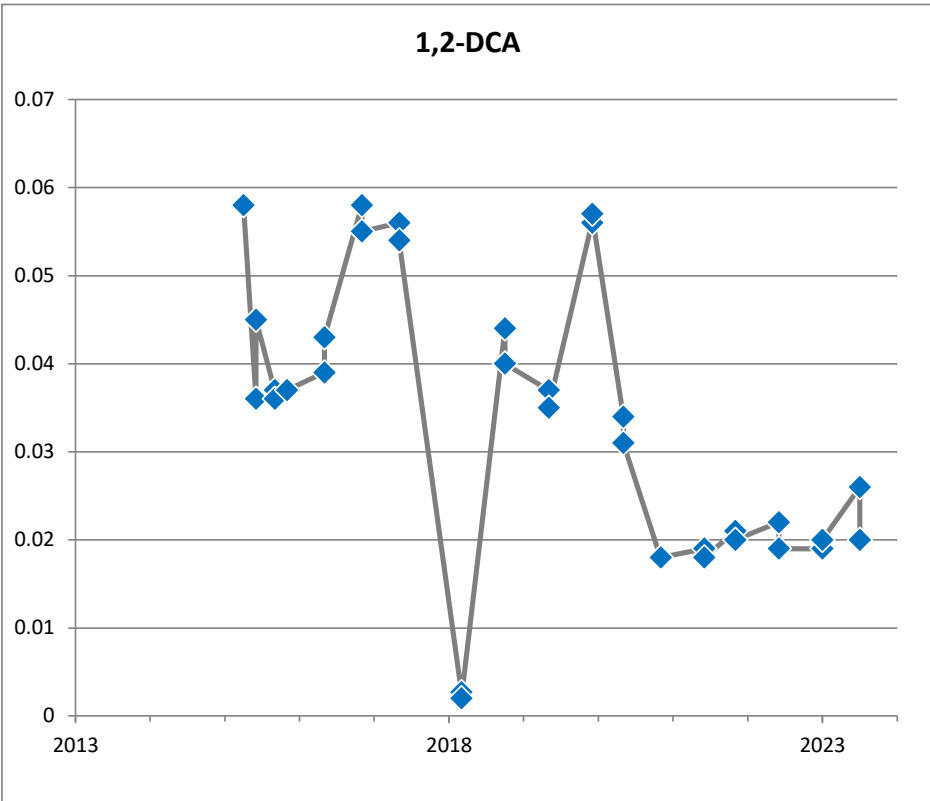
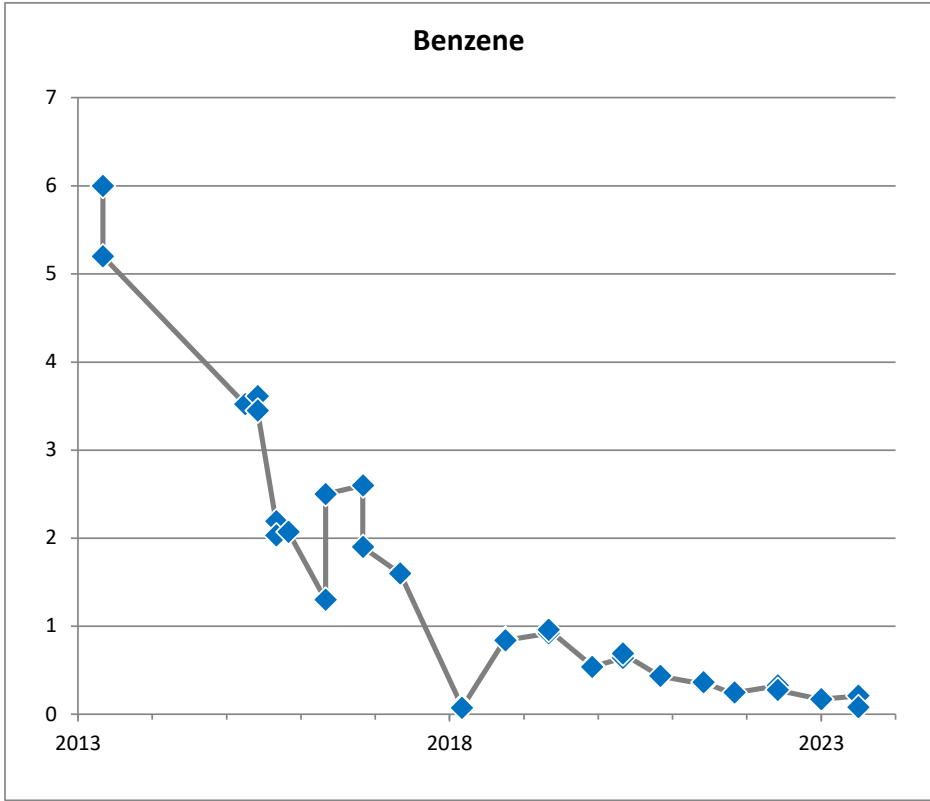
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-106	



 Non-detect value
 Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH5002
(mg/L)

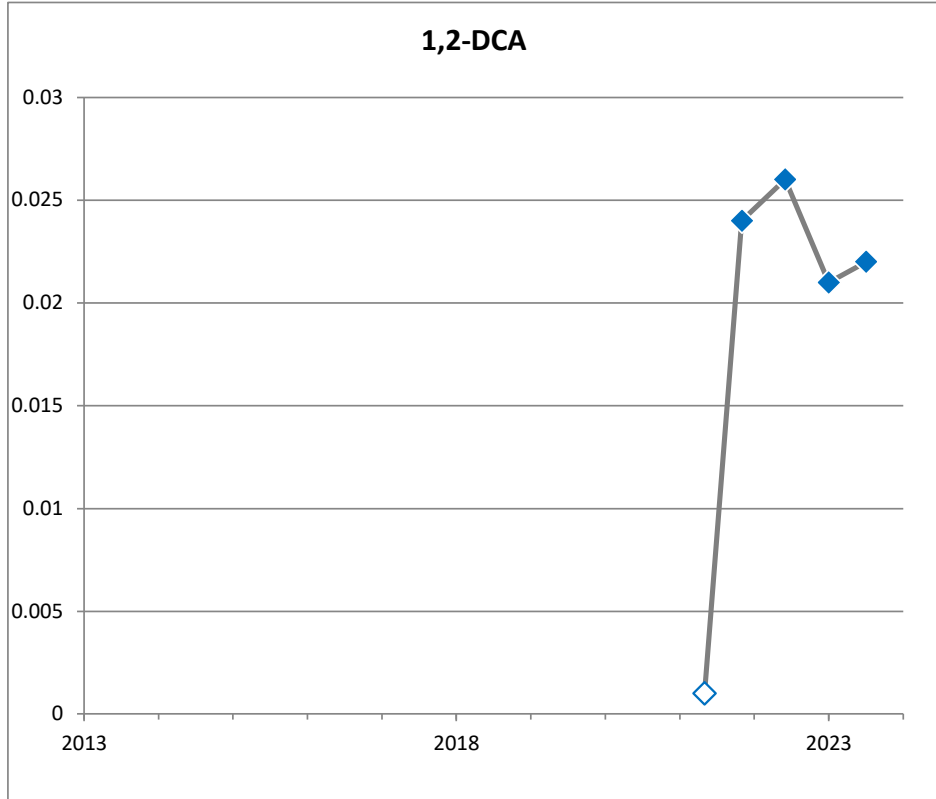
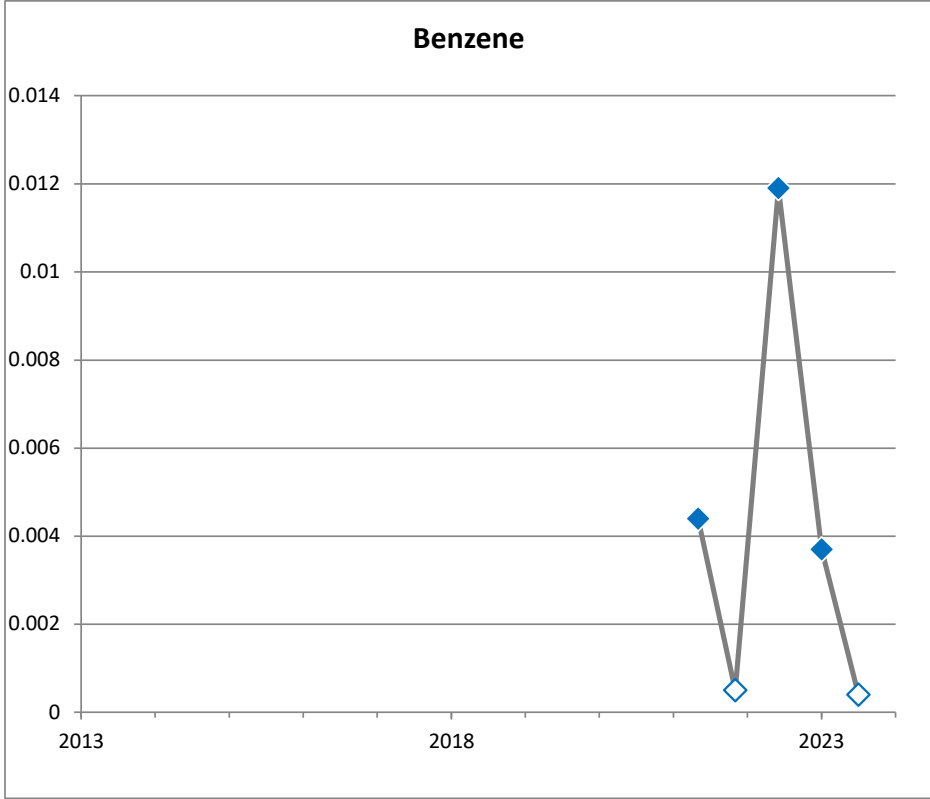
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-107	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

BH510A
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-108	



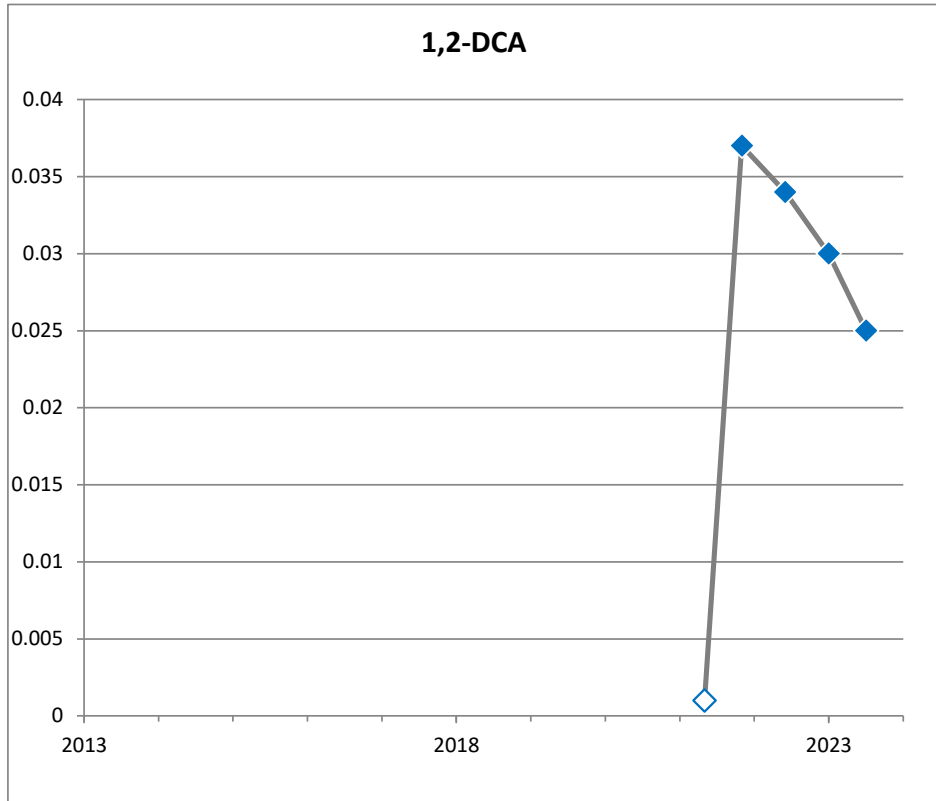
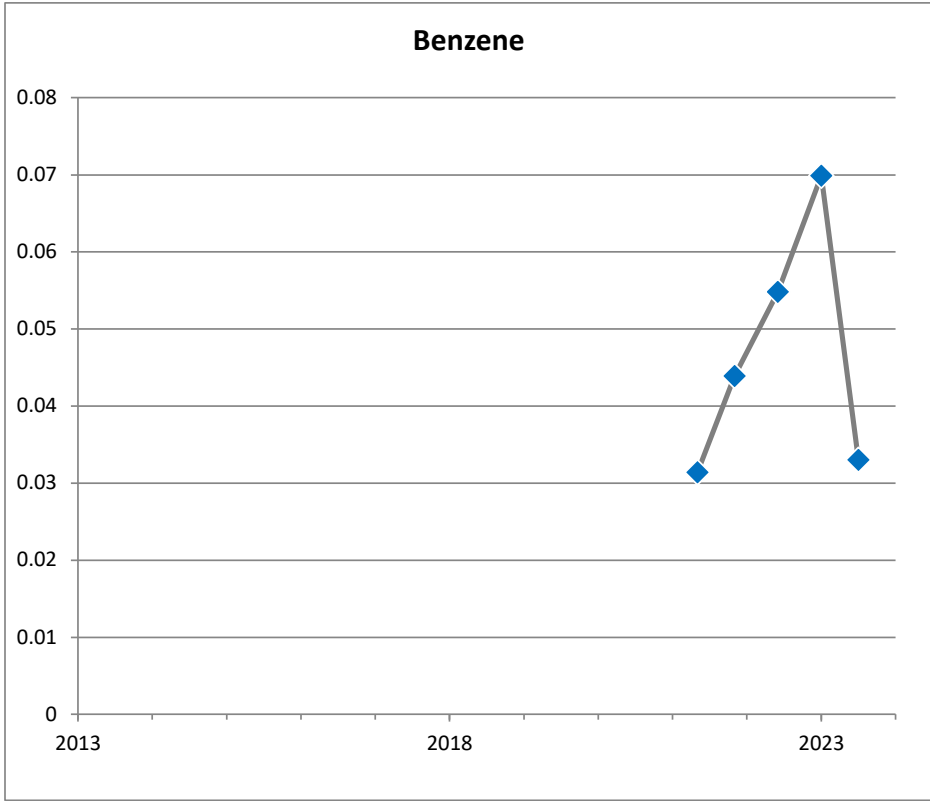
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH6001
(mg/L)

PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-109	



- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH6002
(mg/L)

PARSONS

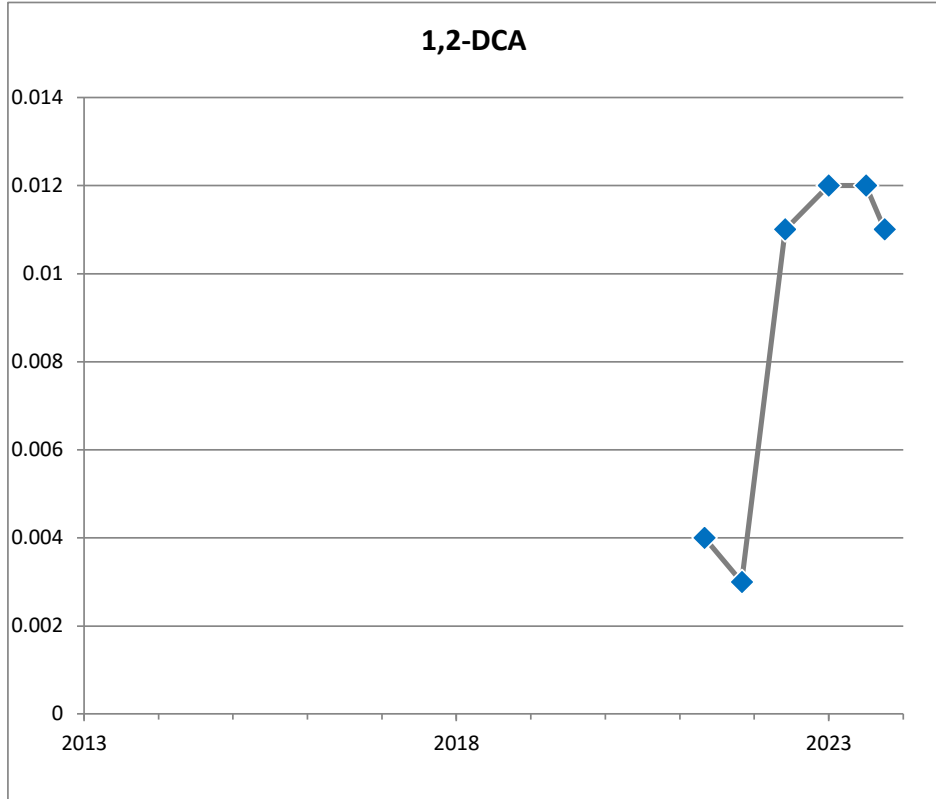
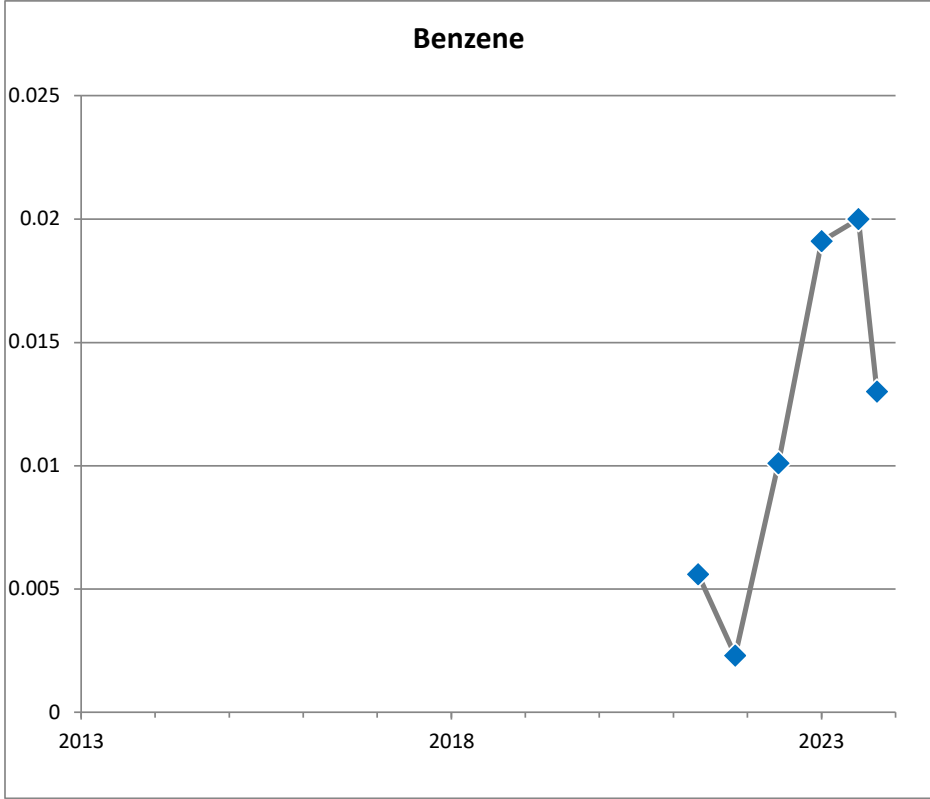
JOB NO.: 10-12832

DATE: Feb 24, 2024

REF. NO.: 478903.17100

DRAWN BY: MR/SLD

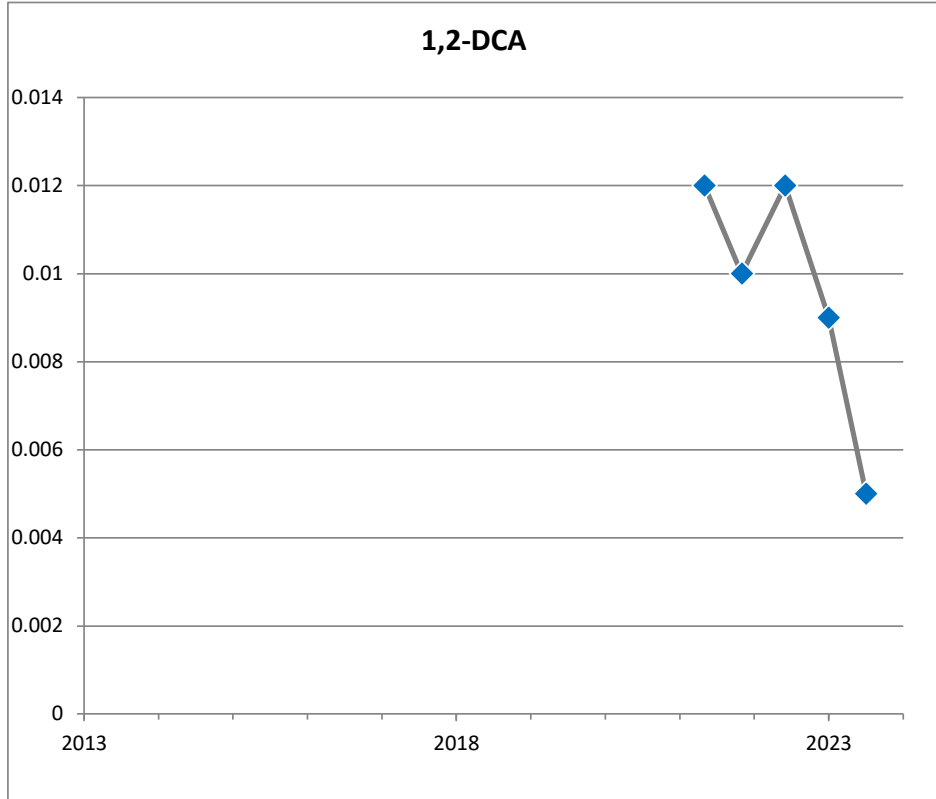
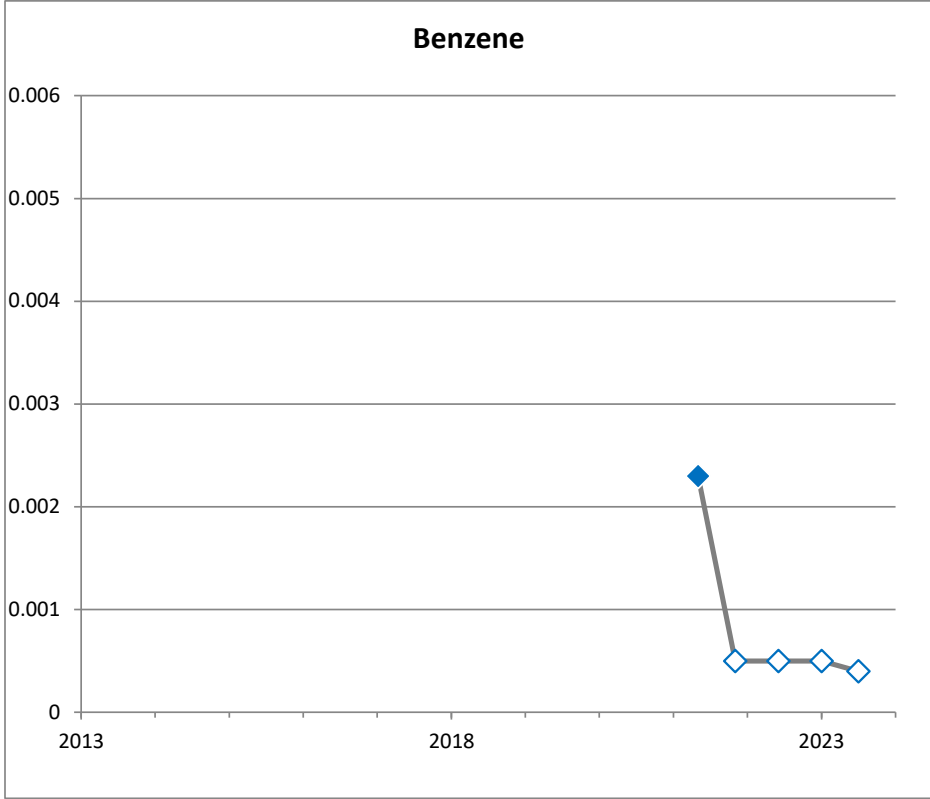
DWG NO.: E-110



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH6003
(mg/L)**

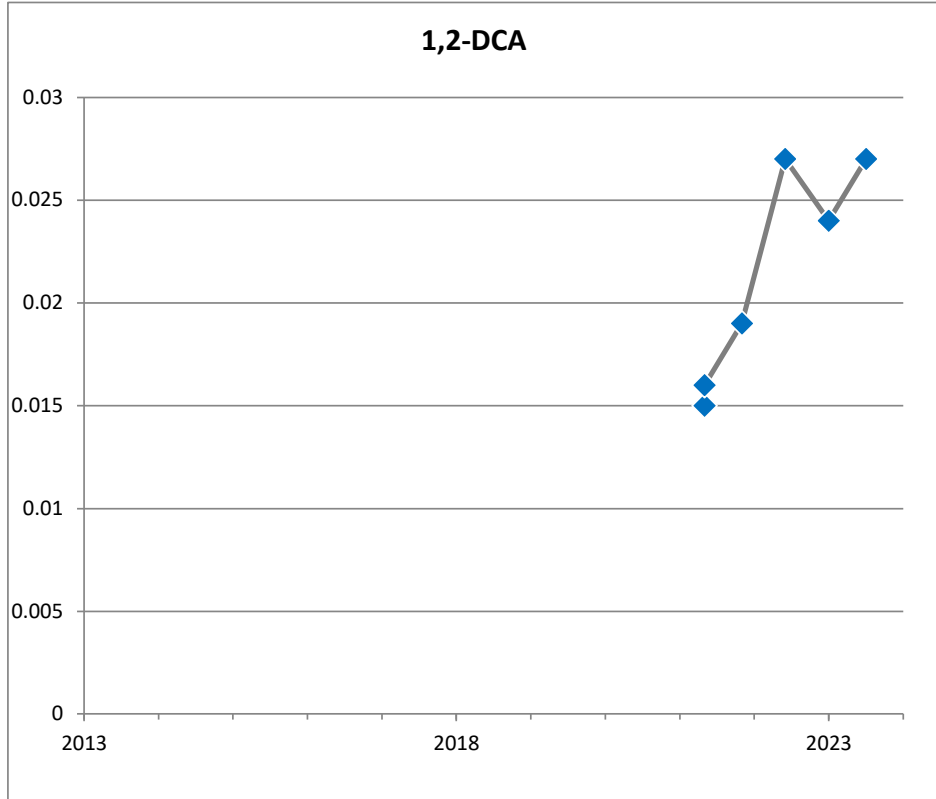
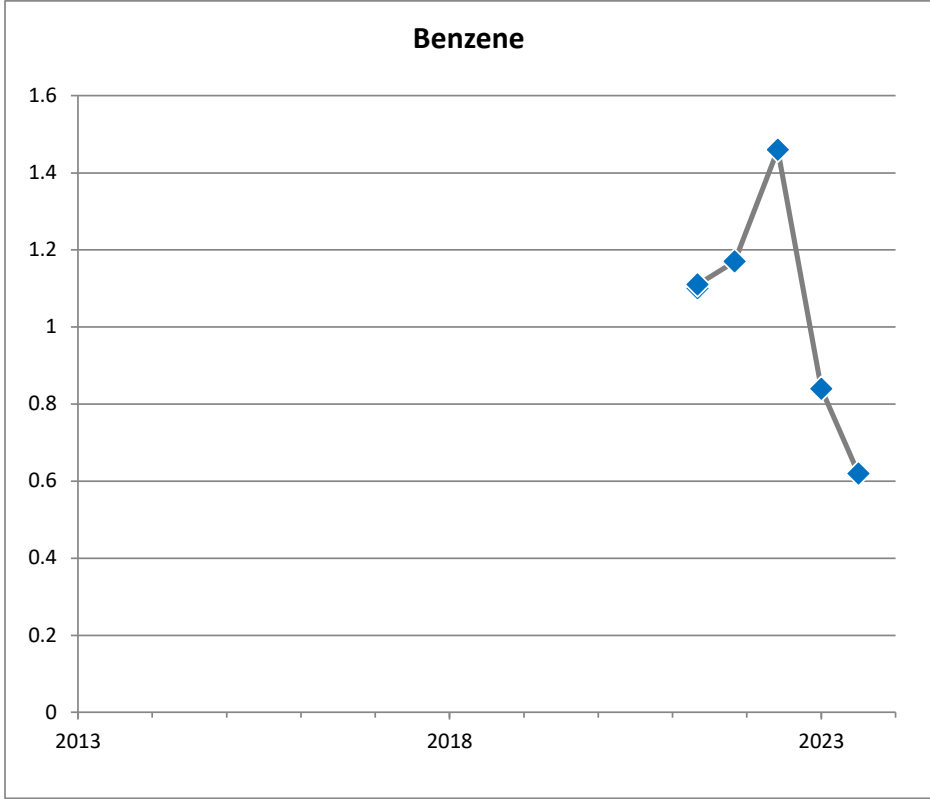
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-111	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH6004
(mg/L)**

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-112	



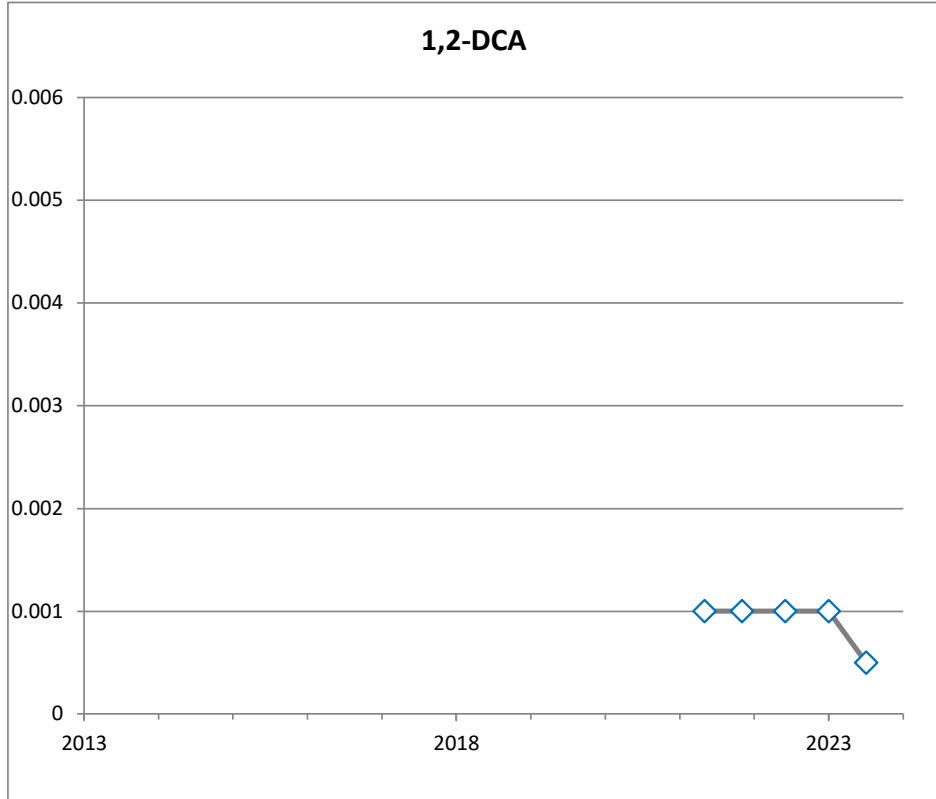
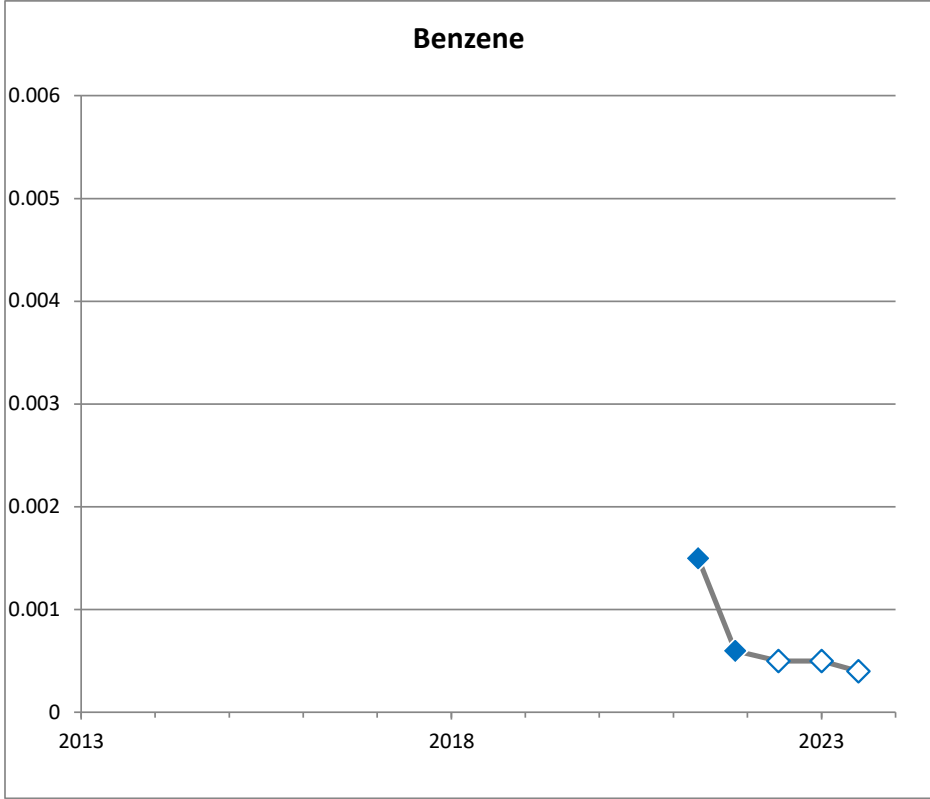
- ◇ Non-detect value
- ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH6005
(mg/L)

PARSONS

JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-113	



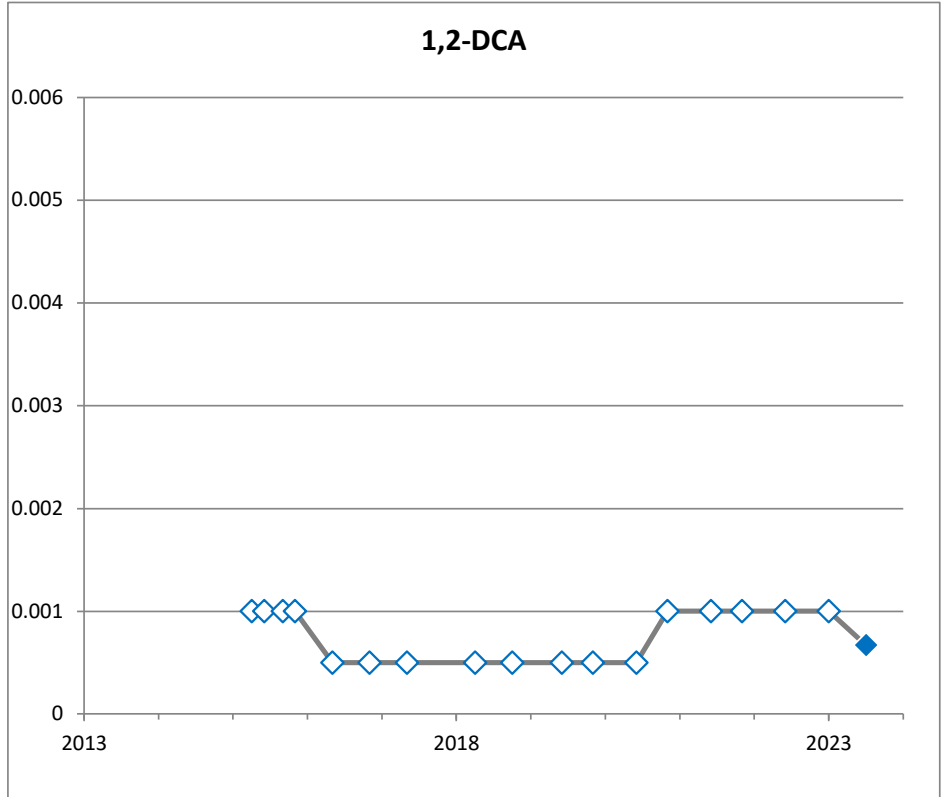
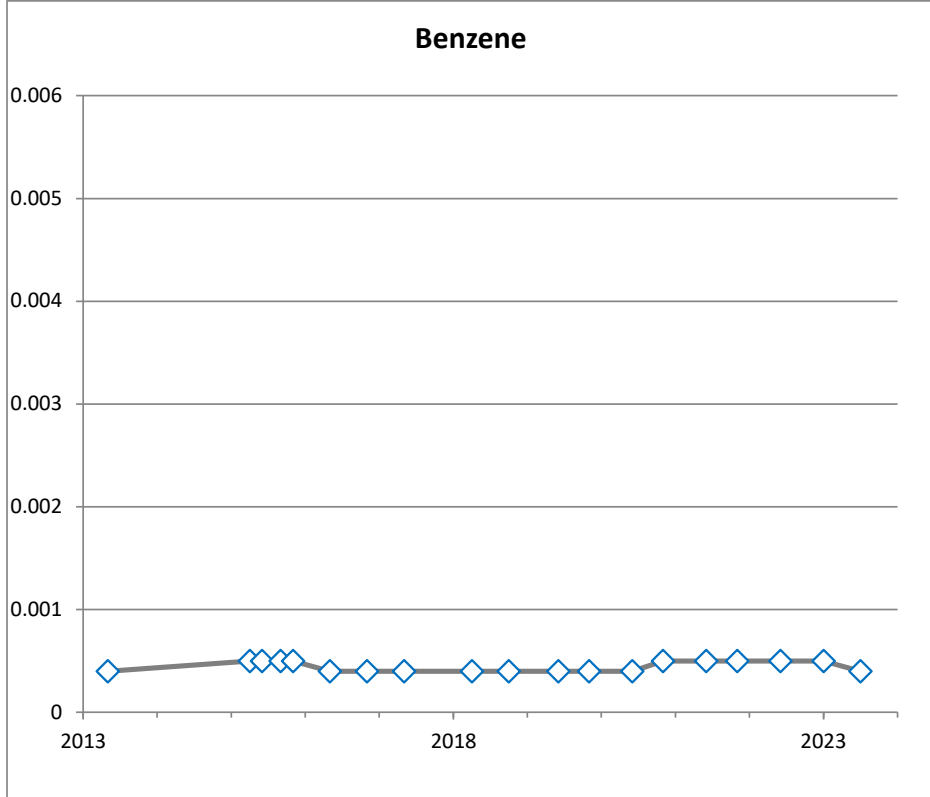
- ◇ Non-detect value
- ◆ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

BH6006
(mg/L)

PARSONS

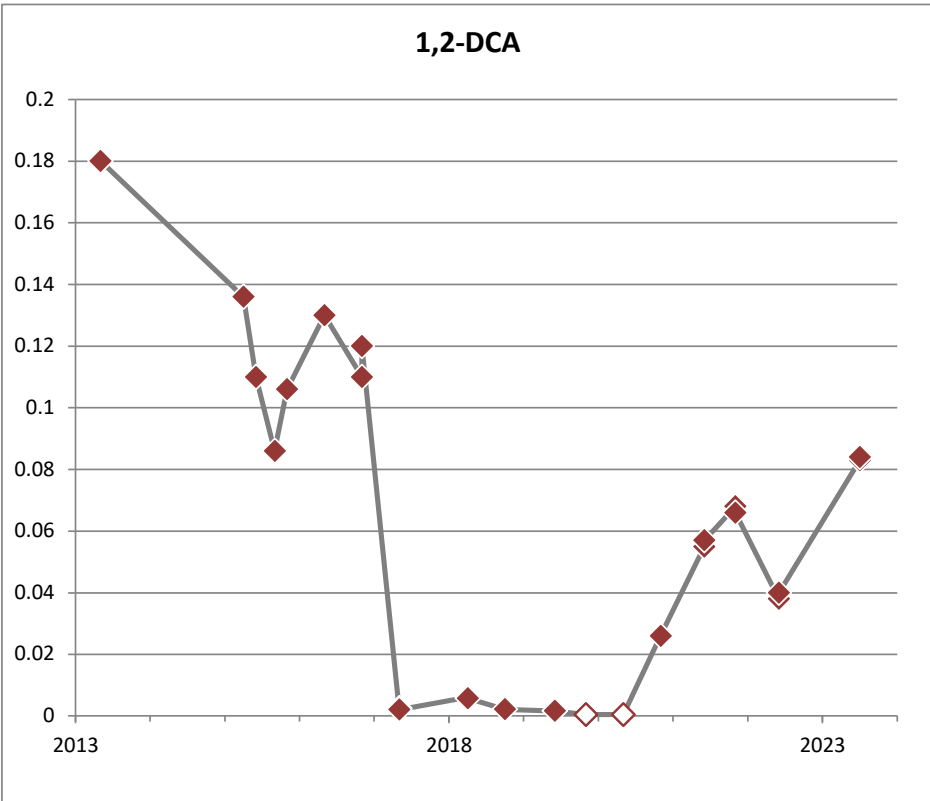
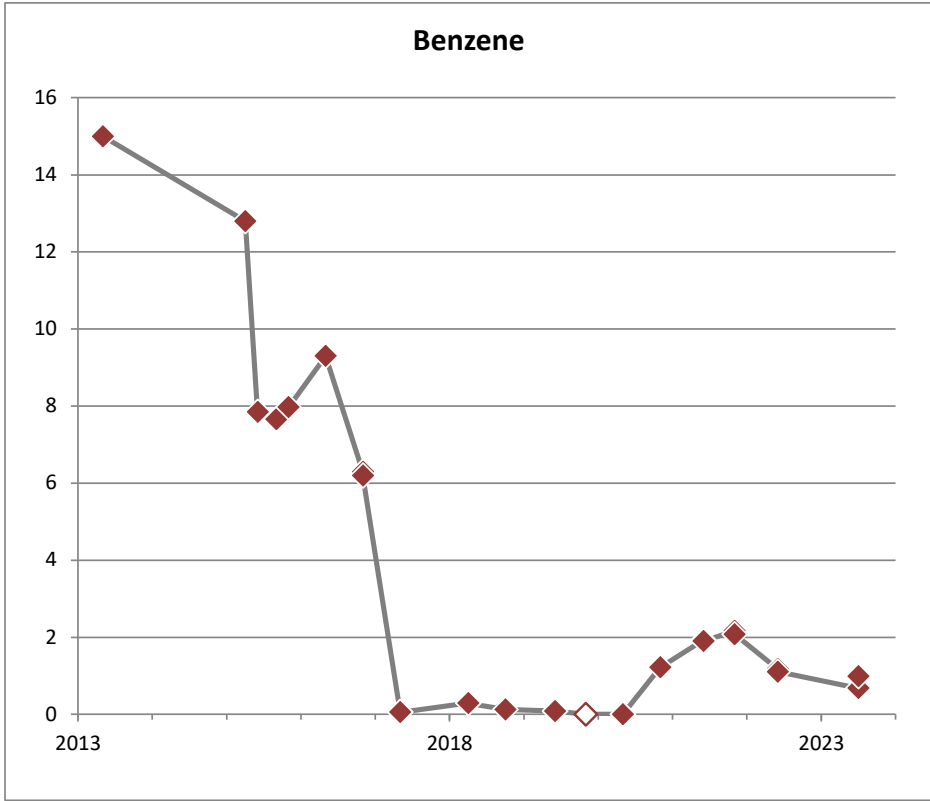
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-114	



◇ Non-detect value
◆ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**BH912
(mg/L)**

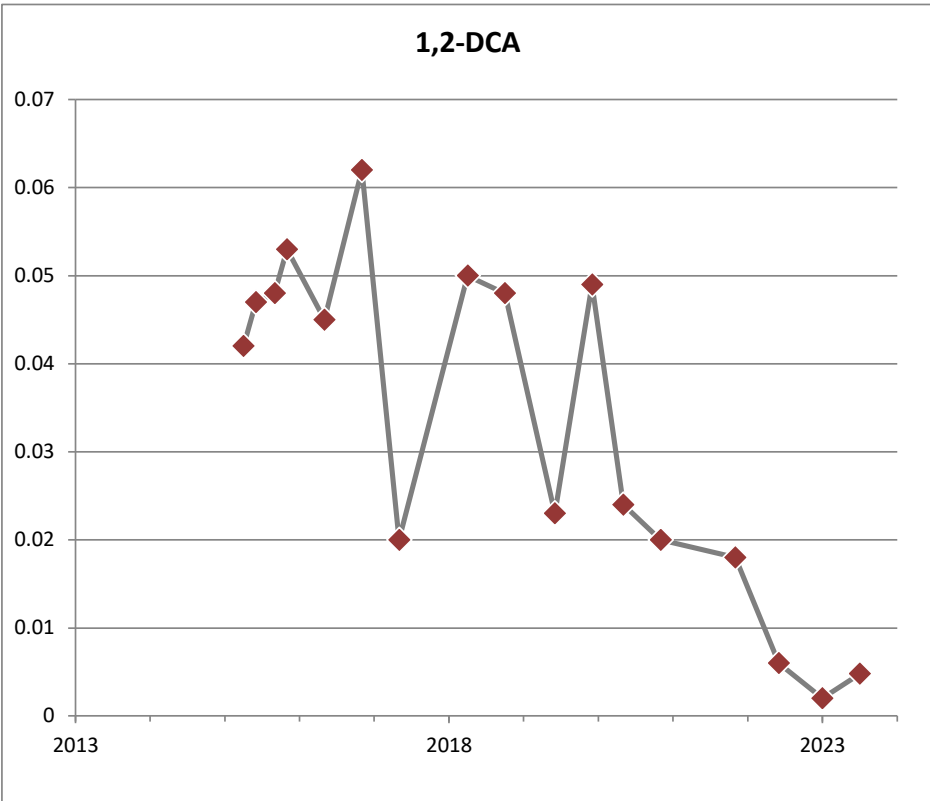
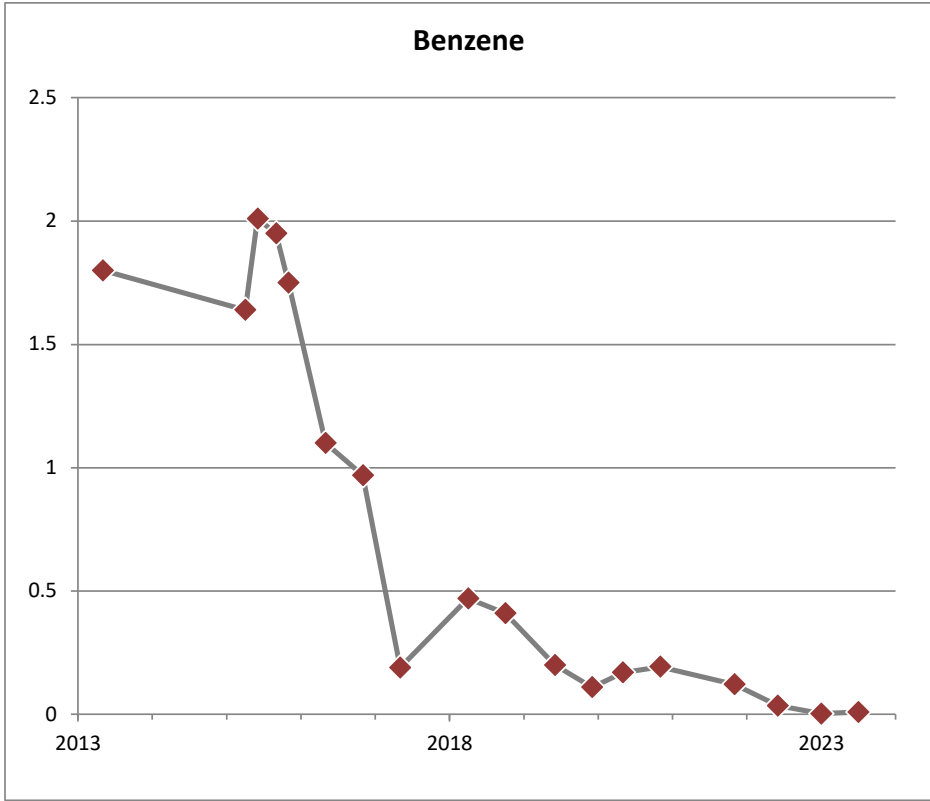
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-116	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

**EX-1
(mg/L)**

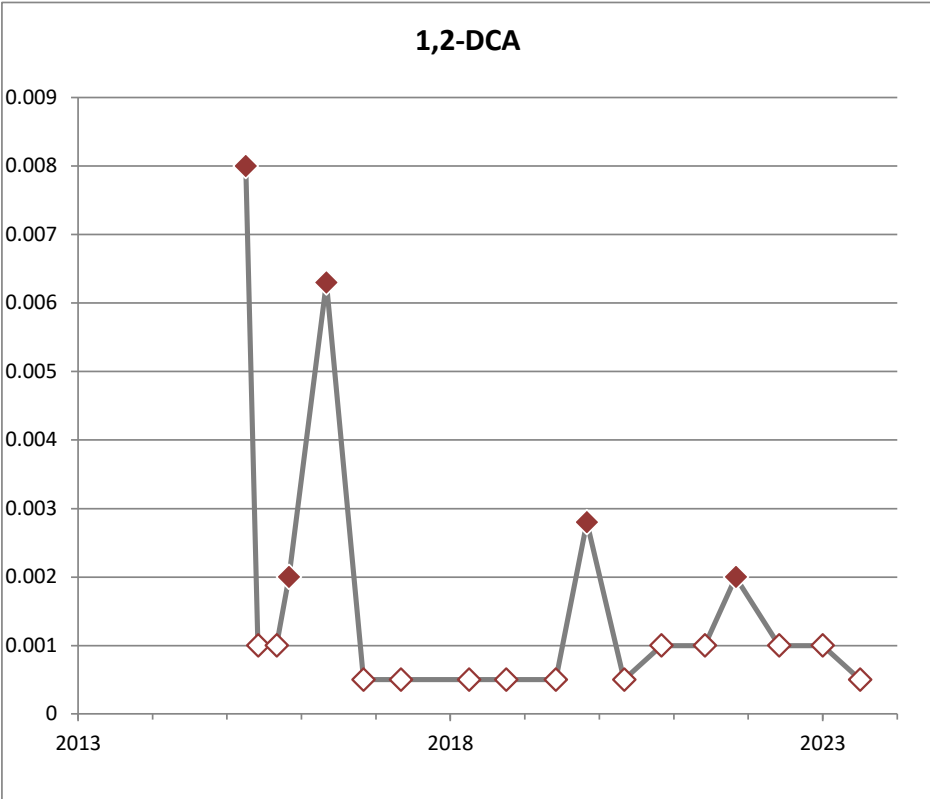
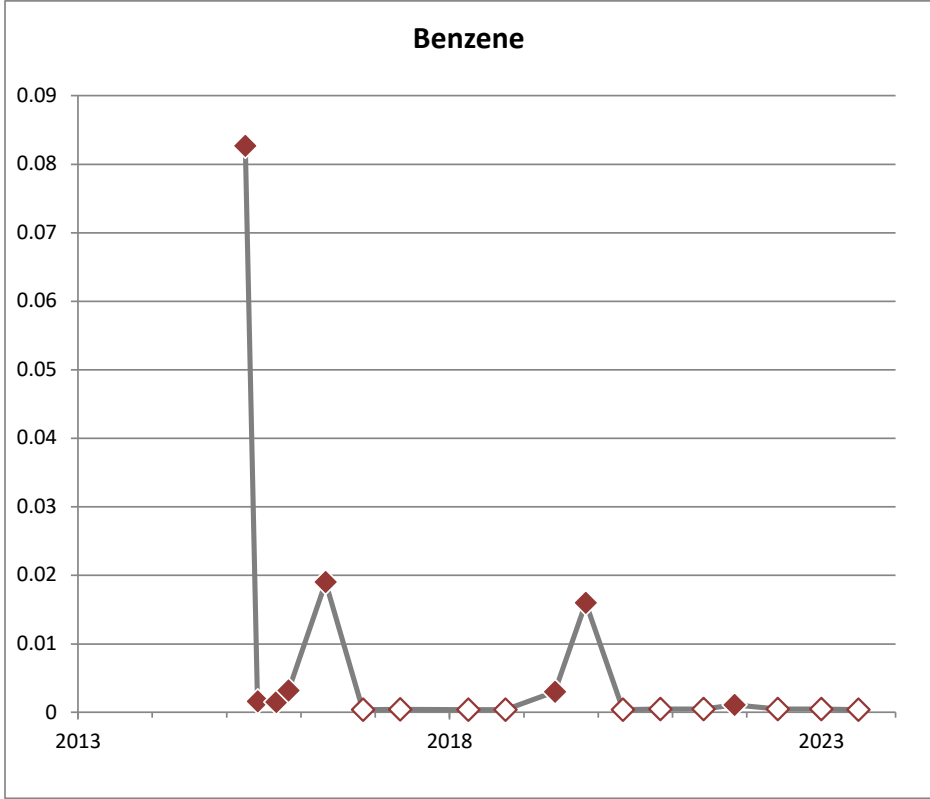
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-117	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

EX-2
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-118	



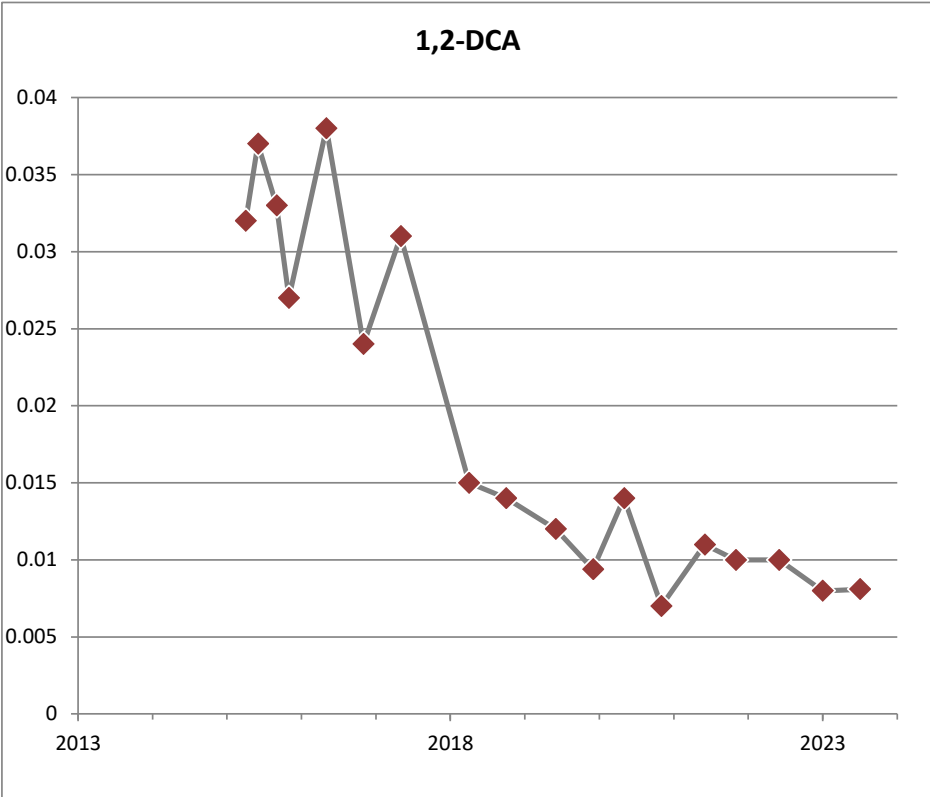
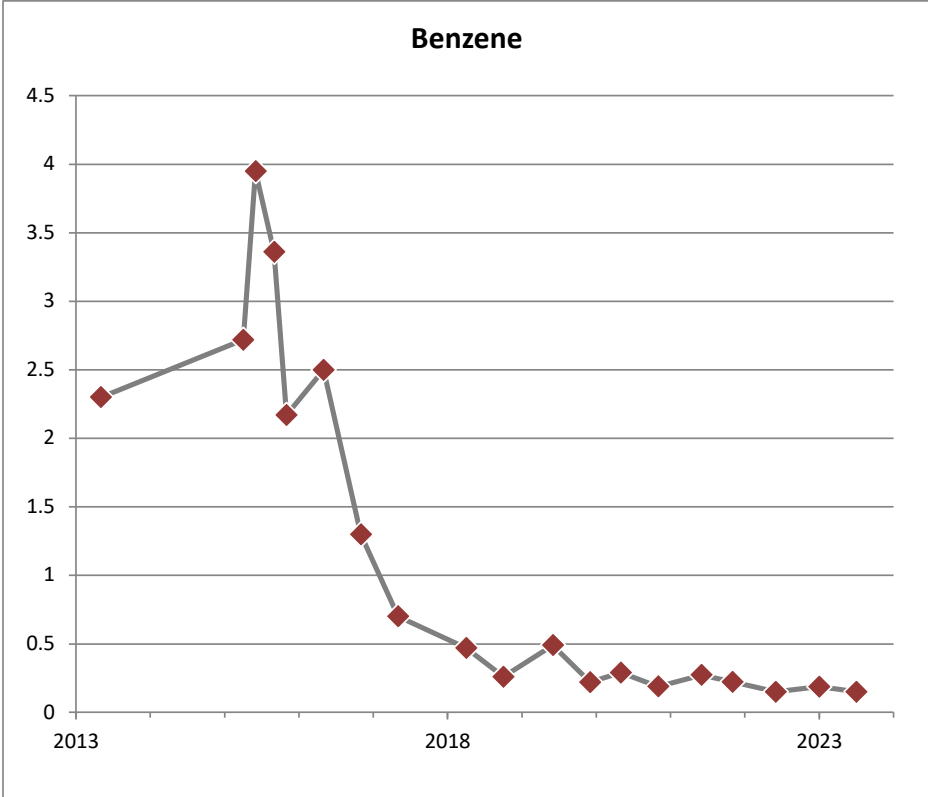
- ◇ Non-detect value
- ◆ ◇ Post-remediation

All samples are shown, including duplidates and multiple samples on the same date.

**EX-3
(mg/L)**

PARSONS

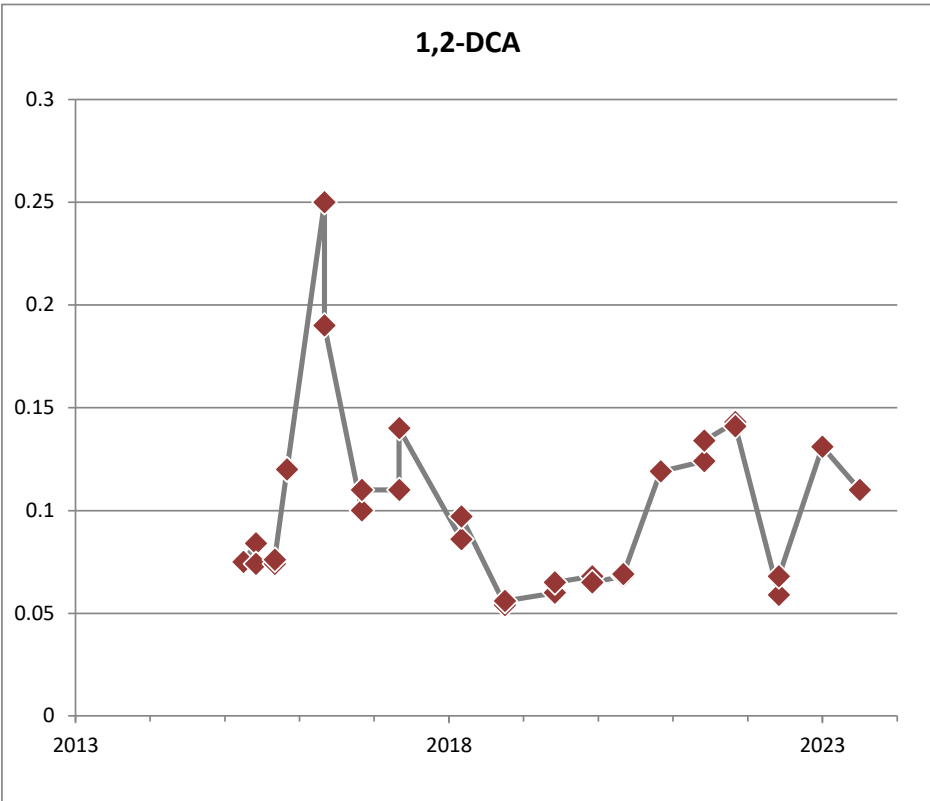
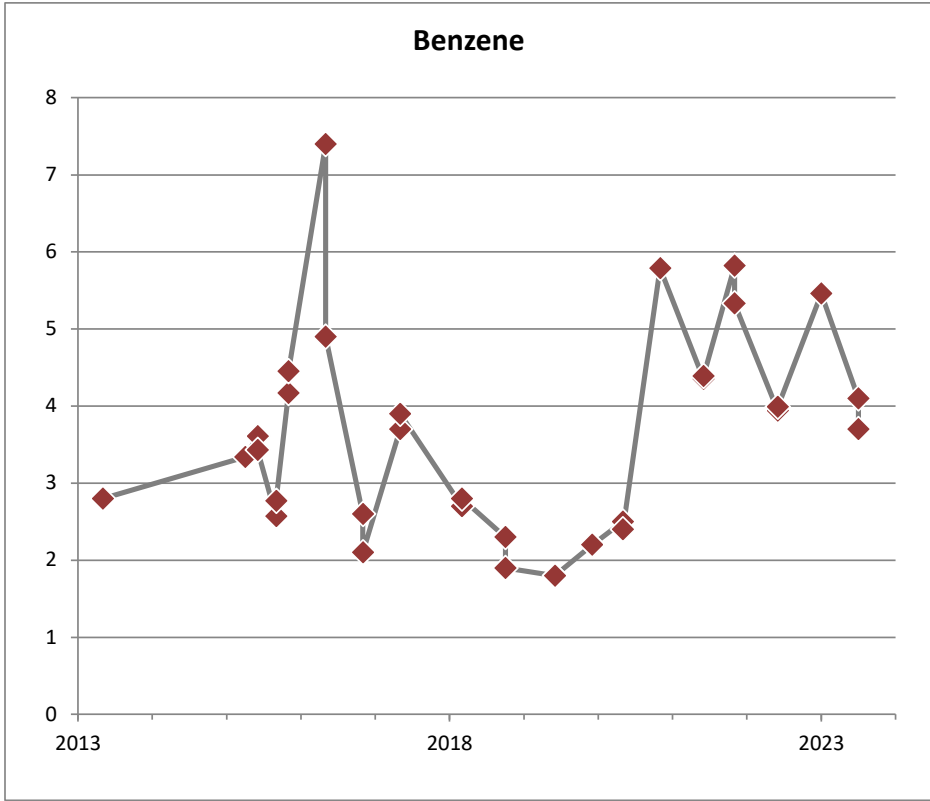
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-119	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

EX-4
(mg/L)

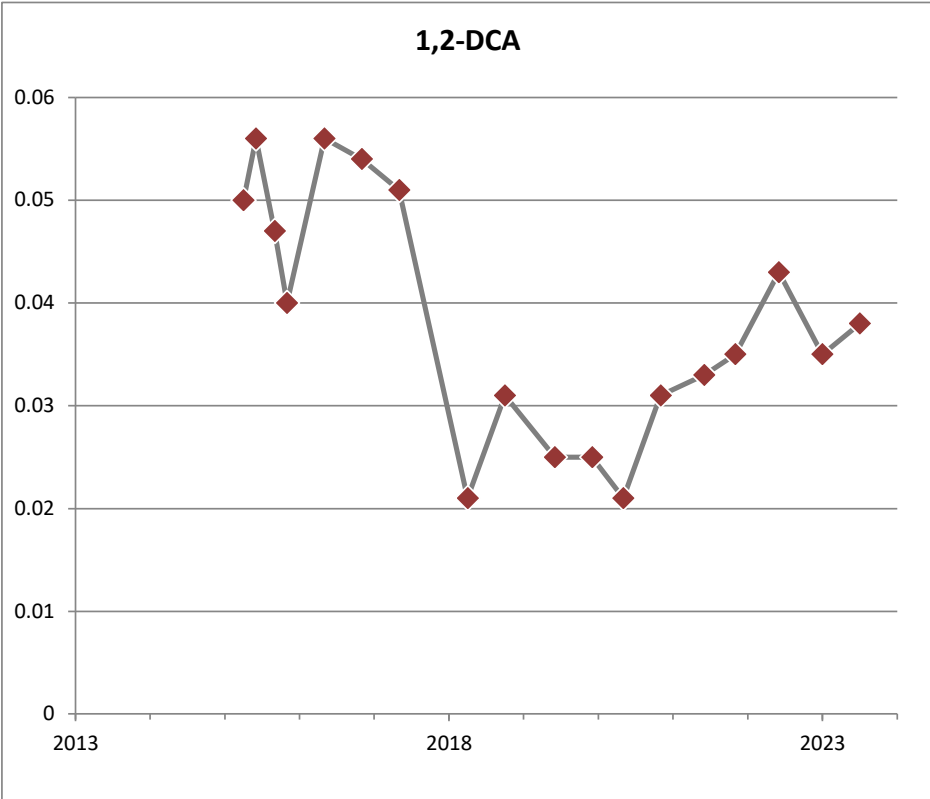
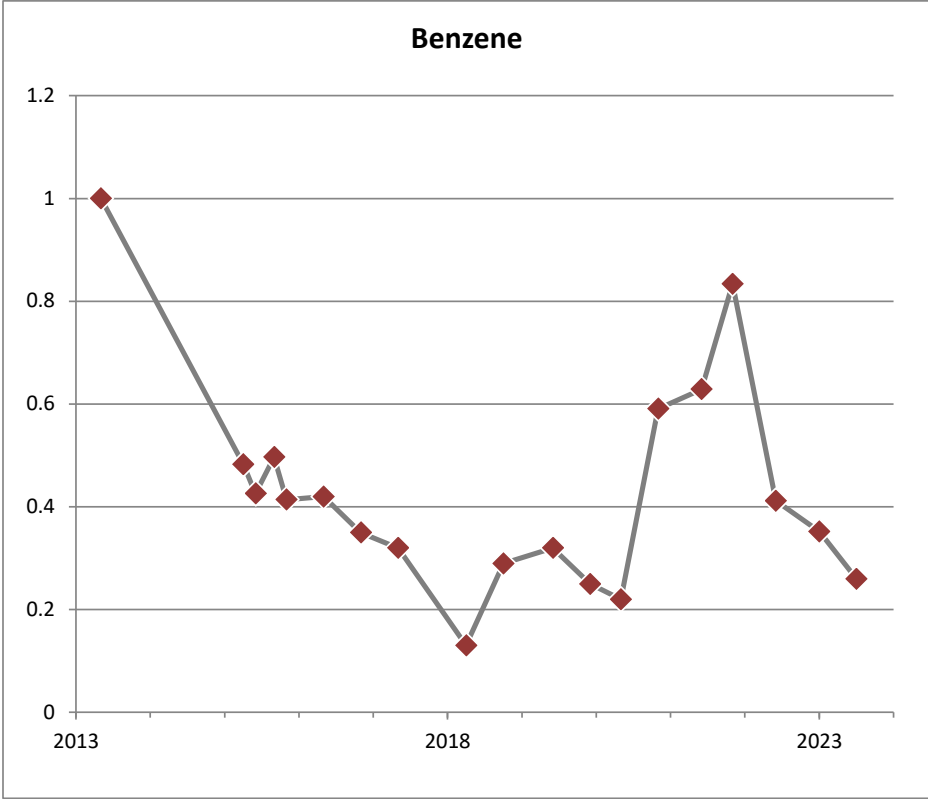
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-120	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

EX-5
(mg/L)

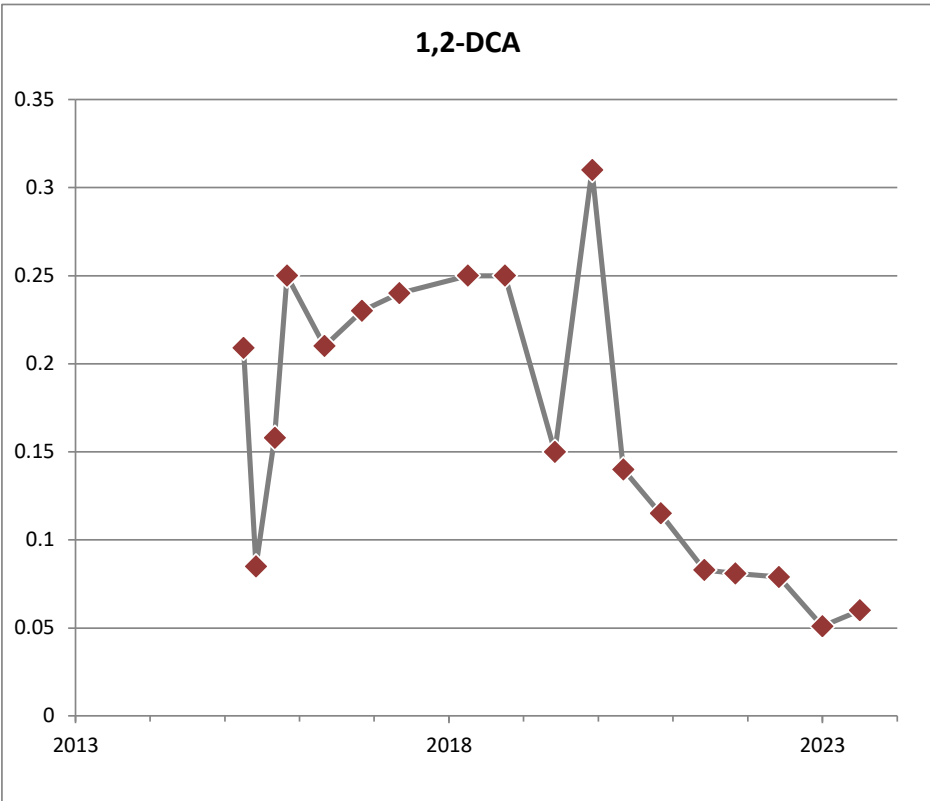
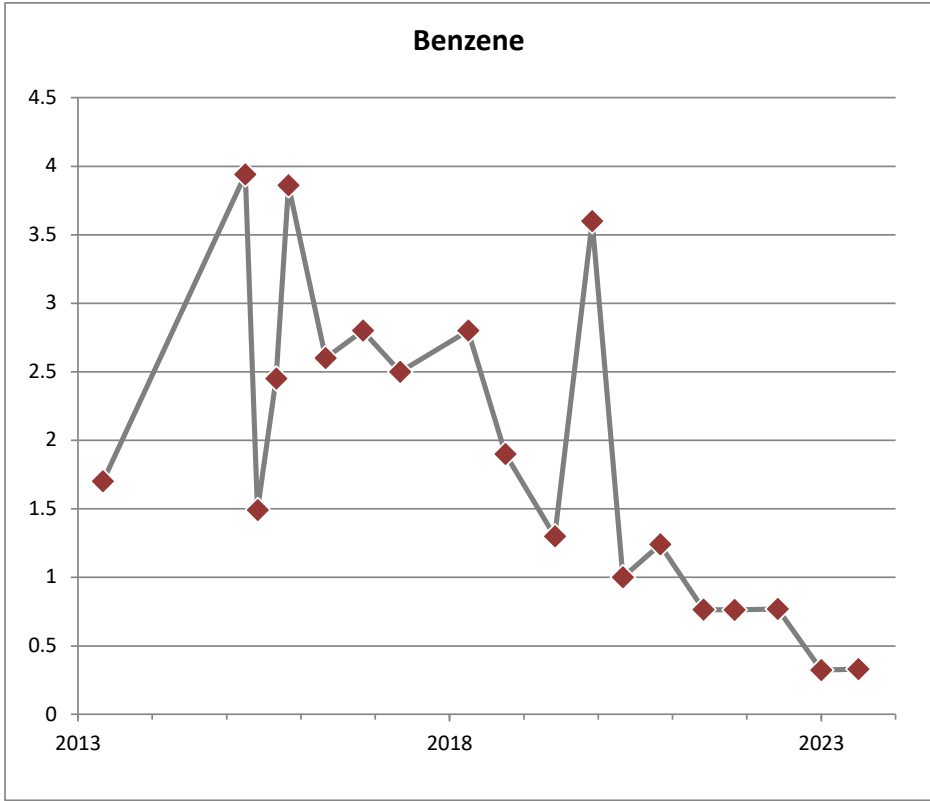
PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-121	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplides and multiple samples on the same date.

EX-6
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-122	



◇ Non-detect value
◇ Post-remediation
 All samples are shown, including duplidates and multiple samples on the same date.

EX-7
(mg/L)

PARSONS	
JOB NO.: 10-12832	DATE: Feb 24, 2024
REF. NO.: 478903.17100	DRAWN BY: MR/SLD
DWG NO.: E-123	

APPENDIX F

**LABORATORY CERTIFICATES OF ANALYSIS –
MICROBIAL ANALYSIS**

DATA QUALITY REVIEW CHECKLIST

Consultant: Parsons Inc.

Sampling Date: 2023/7/11

Location: 1620 14 AVE NW, CALGARY

Laboratory : Microbial Insights, Burlington, ON

Consultant Project Number: 10-12832

Sample Submission Number: MI_020UG

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery			X	
Method Blank Concentration			X	
Matrix Duplicate RPD			X	
Matrix Spike Recovery			X	
Other Quality Control Data			X	

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	<i>No field QC samples were submitted.</i>
Trip Blank Concentration			X	
Field Duplicate RPD			X	

Has CoA been signed off (Yes/No)? Yes

Has lab warranted all tests were in statistical control in CoA (Yes/No)? Yes

Has lab warranted all tests were analyzed following SOP's in CoA (Yes, No or N/A)? Yes

Were all samples analyzed within hold times (Yes/No)? Yes

Is Chain of Custody completed and signed (Yes/No)? Yes

Were sample temperatures acceptable when they reached lab (Yes/No)? Yes


Is data considered to be reliable (Yes/No)? Yes

If answer is "No", describe and provide rationale:

Performed by (Print): Mackenzie Robart

Reviewed by (Print): Michelle Patterson

Reviewed date: 2023/10/03

Reviewed by (Signature): 

SITE LOGIC Report

QuantArray[®]-Petro Study

Contact: Michelle Patterson

Phone:

Address: Parsons
214 11th Avenue SW
Unit 510
Calgary, AB T2G 0Y2

Email: michelle.patterson@parsons.com

MI Identifier: 020UG

Report Date: 07/28/2023

Project: 10-12832
Comments:

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

The QuantArray[®]-Petro Approach

Comprehensive evaluation of biodegradation potential at petroleum impacted sites is inherently problematic due to two factors:

- (1) Petroleum products are complex mixtures of hundreds of aliphatic, aromatic, cyclic, and heterocyclic compounds.
- (2) Even for common classes of contaminants like benzene, toluene, ethylbenzene, and xylenes (BTEX), biodegradation can proceed by a multitude of pathways.

The QuantArray[®]-Petro has been designed to address both of these issues by providing the simultaneous quantification of the specific functional genes responsible for both aerobic and anaerobic biodegradation of BTEX, PAHs, and a variety of short and long chain alkanes.

Thus, when combined with chemical and geochemical groundwater monitoring programs, the QuantArray[®]-Petro allows site managers to simultaneously yet economically evaluate the potential for biodegradation of a spectrum of petroleum hydrocarbons through a multitude of aerobic and anaerobic pathways to give a much clearer and comprehensive view of contaminant biodegradation.

The QuantArray[®]-Petro is used to quantify specific microorganisms and functional genes to evaluate aerobic and anaerobic biodegradation of the following classes of compounds present in petroleum products:

BTEX and MTBE

Toluene dioxygenase (TOD) and monooxygenase (RMO, RDEG, PHE, TOL) genes for aerobic BTEX biodegradation

Includes MTBE utilizing strain *Methylibium petroleiphilum* PM1 and TBA monooxygenase

Benzylsuccinate synthase (BSS) for anaerobic biodegradation of toluene, ethylbenzene, and xylenes

Benzene carboxylase (ABC) for anaerobic benzene biodegradation]

Naphthalene and PAHs

Includes two groups of naphthalene dioxygenase genes (NAH, PHN) for aerobic biodegradation

Naphthylmethylsuccinate synthase (MNSSA) for anaerobic biodegradation of methyl-naphthalenes

Naphthalene carboxylase (ANC) initiates the only known pathway for anaerobic naphthalene biodegradation

Alkanes/TPH

The *n*-alkanes are a substantial portion of petroleum products

The QuantArray[®]-Petro includes quantification of alkane monooxygenase genes (ALK and ALMA)

Also includes quantification of alkylsuccinate synthase (assA) genes to evaluate anaerobic biodegradation of alkanes

How do QuantArrays[®] work?

The QuantArray[®]-Petro in many respects is a hybrid technology combining the highly parallel detection of microarrays with the accurate and precise quantification provided by qPCR into a single platform. The key to highly parallel qPCR reactions is the nanoliter fluidics platform for low volume, solution phase qPCR reactions.

How are QuantArray® results reported?

One of the primary advantages of the QuantArray®-Petro is the simultaneous quantification of a broad spectrum of different microorganisms and key functional genes involved in a variety of pathways for hydrocarbon biodegradation. However, highly parallel quantification combined with various metabolic and cometabolic capabilities of different target organisms can complicate data presentation. Therefore, in addition to Summary Tables, QuantArray®-Petro results will be presented as Microbial Population Summary and Comparison Figures to aid in the data interpretation and subsequent evaluation of site management activities.

Types of Tables and Figures:

Microbial Population Summary

Figure presenting the concentrations of QuantArray®-Petro target gene concentrations (e.g. toluene dioxygenase) relative to typically observed values.

Summary Tables

Tables of target population concentrations grouped by biodegradation pathway and contaminant type.

Comparison Figures

Depending on the project, sample results can be presented to compare changes over time or examine differences in microbial populations along a transect of the dissolved plume.

Results

Table 1: Summary of the QuantArray®-Petro results obtained for samples BH4008A, BH1963, BH1906, and BH1917.

Sample Name Sample Date	BH4008A 07/11/2023	BH1963 07/11/2023	BH1906 07/11/2023	BH1917 07/11/2023
<i>Aerobic BTEX and MTBE</i>				
	cells/mL	cells/mL	cells/mL	cells/mL
Toluene/Benzene Dioxygenase (TOD)	1.56E+02	6.80E+00	1.51E+03	<4.60E+00
Phenol Hydroxylase (PHE)	8.81E+03	<4.70E+00	1.14E+02	3.30E+00 (J)
Toluene 2 Monooxygenase/Phenol Hydroxylase (RDEG)	9.85E+03	<4.70E+00	1.33E+01	<4.60E+00
Toluene Ring Hydroxylating Monooxygenases (RMO)	1.42E+04	<4.70E+00	4.50E+01	<4.60E+00
Xylene/Toluene Monooxygenase (TOL)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Ethylbenzene/Isopropylbenzene Dioxygenase (EDO)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Biphenyl/Isopropylbenzene Dioxygenase (BPH4)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
<i>Methylibium petroleiphilum</i> PM1 (PM1)	5.22E+02	<4.70E+00	<5.30E+00	<4.60E+00
TBA Monooxygenase (TBA)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
<i>Aerobic PAHs and Alkanes</i>				
Naphthalene Dioxygenase (NAH)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Naphthalene-inducible Dioxygenase (NidA)	1.01E+02	<4.70E+00	<5.30E+00	<4.60E+00
Phenanthrene Dioxygenase (PHN)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Alkane Monooxygenase (ALK)	1.10E+00 (J)	<4.70E+00	<5.30E+00	<4.60E+00
Alkane Monooxygenase (ALMA)	1.79E+02	<4.70E+00	<5.30E+00	<4.60E+00
<i>Anaerobic BTEX</i>				
Benzoyl Coenzyme A Reductase (BCR)	2.10E+03	<4.70E+00	1.25E+02	1.40E+00 (J)
Benzylsuccinate Synthase (BSS)	1.79E+02	<4.70E+00	1.24E+02	<4.60E+00
Benzene Carboxylase (ABC)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
<i>Anaerobic PAHs and Alkanes</i>				
Naphthylmethylsuccinate Synthase (MNSSA)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Naphthalene Carboxylase (ANC)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Alkylsuccinate Synthase (ASSA)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
<i>Other</i>				
Total Eubacteria (EBAC)	5.41E+06	1.04E+04	4.41E+04	2.67E+03
Sulfate Reducing Bacteria (APS)	1.71E+04	<4.70E+00	1.65E+03	<4.60E+00

Legend:

NA = Not Analyzed
I = Inhibited

NS = Not Sampled
< = Result Not Detected

J = Estimated Gene Copies Below PQL but Above LQL

Table 2: Summary of the QuantArray[®]-Petro results obtained for samples BH1102, BH1944, BH1924, and BH1982.

Sample Name	BH1102	BH1944	BH1924	BH1982
Sample Date	07/13/2023	07/13/2023	07/13/2023	07/13/2023
<i>Aerobic BTEX and MTBE</i>				
	cells/mL	cells/mL	cells/mL	cells/mL
Toluene/Benzene Dioxygenase (TOD)	<4.60E+00	1.79E+01	<7.70E+00	<4.60E+00
Phenol Hydroxylase (PHE)	<4.60E+00	4.44E+03	4.15E+03	1.46E+04
Toluene 2 Monooxygenase/Phenol Hydroxylase (RDEG)	<4.60E+00	6.69E+03	6.69E+02	9.43E+03
Toluene Ring Hydroxylating Monooxygenases (RMO)	<4.60E+00	1.19E+04	1.35E+03	1.23E+04
Xylene/Toluene Monooxygenase (TOL)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Ethylbenzene/Isopropylbenzene Dioxygenase (EDO)	<4.60E+00	<4.70E+00	<7.70E+00	8.32E+01
Biphenyl/Isopropylbenzene Dioxygenase (BPH4)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
<i>Methylibium petroleiphilum</i> PM1 (PM1)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
TBA Monooxygenase (TBA)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
<i>Aerobic PAHs and Alkanes</i>				
Naphthalene Dioxygenase (NAH)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Naphthalene-inducible Dioxygenase (NidA)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Phenanthrene Dioxygenase (PHN)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Alkane Monooxygenase (ALK)	<4.60E+00	2.75E+01	<7.70E+00	2.44E+01
Alkane Monooxygenase (ALMA)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
<i>Anaerobic BTEX</i>				
Benzoyl Coenzyme A Reductase (BCR)	<4.60E+00	6.83E+02	5.84E+02	3.10E+03
Benzylsuccinate Synthase (BSS)	<4.60E+00	6.43E+02	4.24E+02	4.92E+01
Benzene Carboxylase (ABC)	<4.60E+00	<4.70E+00	<7.70E+00	1.73E+02
<i>Anaerobic PAHs and Alkanes</i>				
Naphthylmethylsuccinate Synthase (MNSSA)	<4.60E+00	<4.70E+00	6.00E-01 (J)	<4.60E+00
Naphthalene Carboxylase (ANC)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Alkylsuccinate Synthase (ASSA)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
<i>Other</i>				
Total Eubacteria (EBAC)	1.96E+04	1.84E+06	8.67E+05	2.96E+06
Sulfate Reducing Bacteria (APS)	2.45E+02	2.82E+03	1.10E+04	4.76E+04

Legend:

NA = Not Analyzed
I = Inhibited

NS = Not Sampled
< = Result Not Detected

J = Estimated Gene Copies Below PQL but Above LQL

Microbial Populations BH4008A

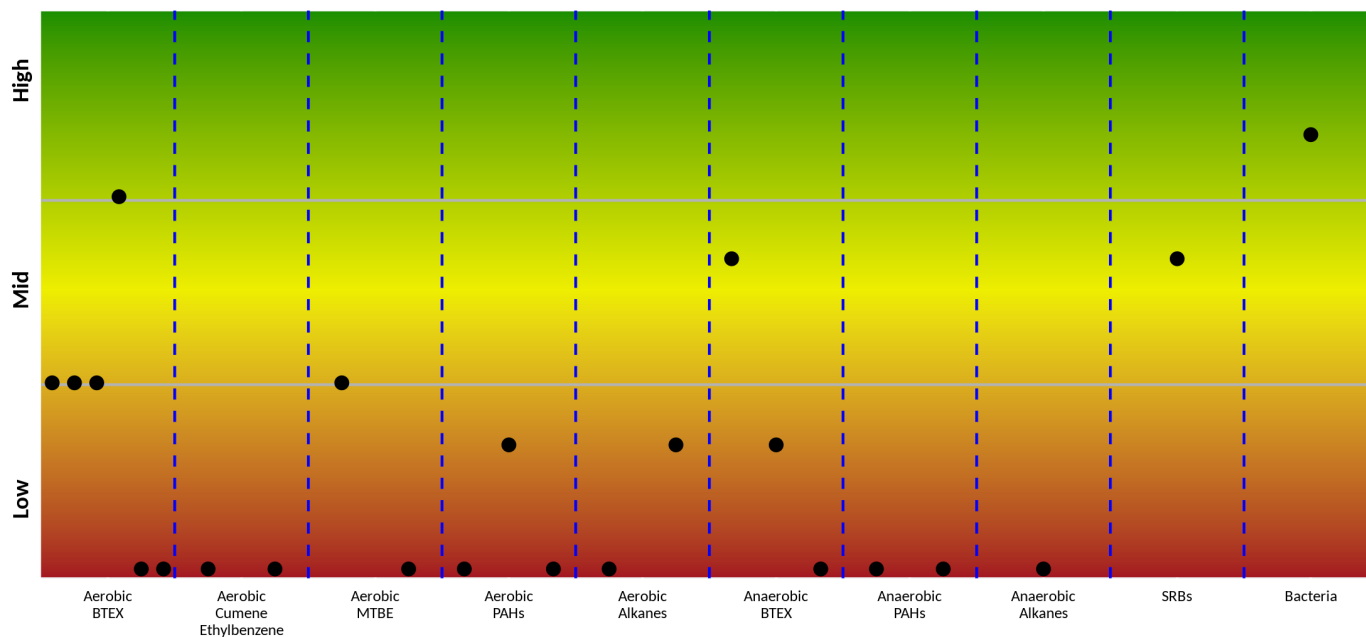


Figure 1: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants.

Aerobic		Anaerobic
BTEX	TOD, PHE, RDEG, RMO, TOL, EDO	BTEX
Cumene, Ethylbenzene	EDO, BPH4	Naphthalene/Methylnaphthalene
MTBE/TBA	PM1, TBA	Alkanes
Naphthalene	NAH, NidA	BCR, BSS, ABC
Phenanthrene	PHN	MNSSA, ANC
Alkanes	ALK, ALMA	assA

Microbial Populations BH1963

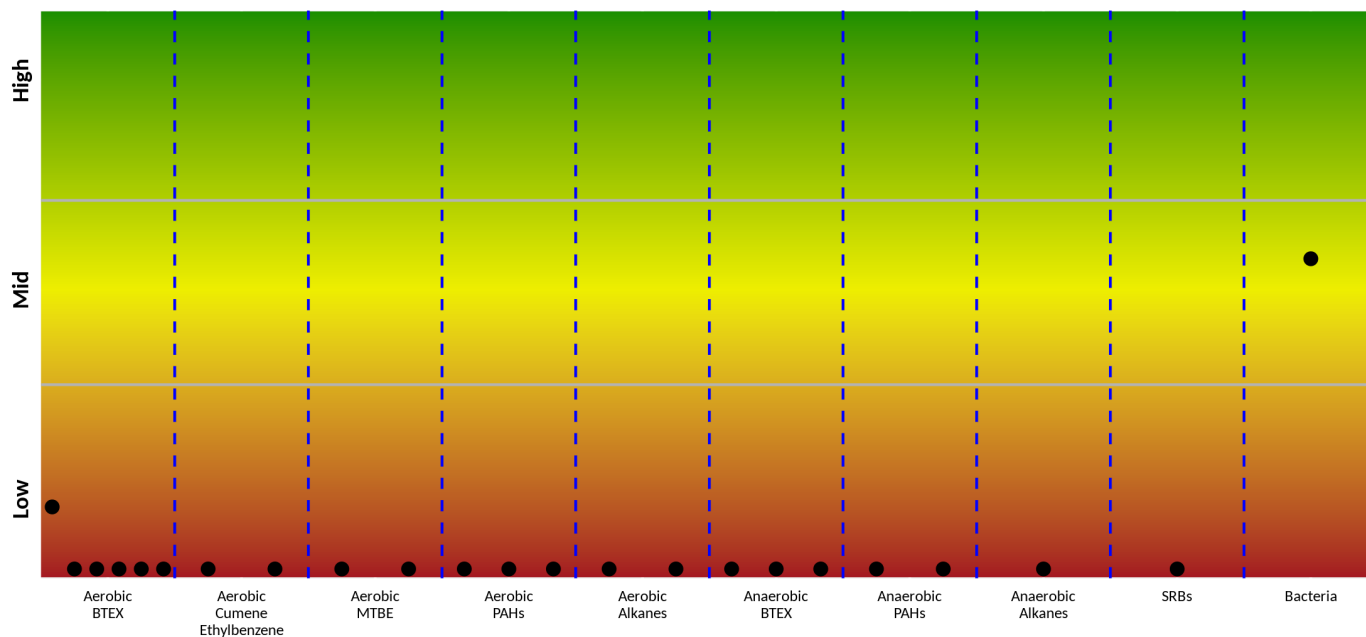


Figure 2: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants.

Aerobic		Anaerobic
BTEX	TOD, PHE, RDEG, RMO, TOL, EDO	BTEX
Cumene, Ethylbenzene	EDO, BPH4	Naphthalene/Methylnaphthalene
MTBE/TBA	PM1, TBA	Alkanes
Naphthalene	NAH, NidA	BCR, BSS, ABC
Phenanthrene	PHN	MNSSA, ANC
Alkanes	ALK, ALMA	assA

Microbial Populations BH1906

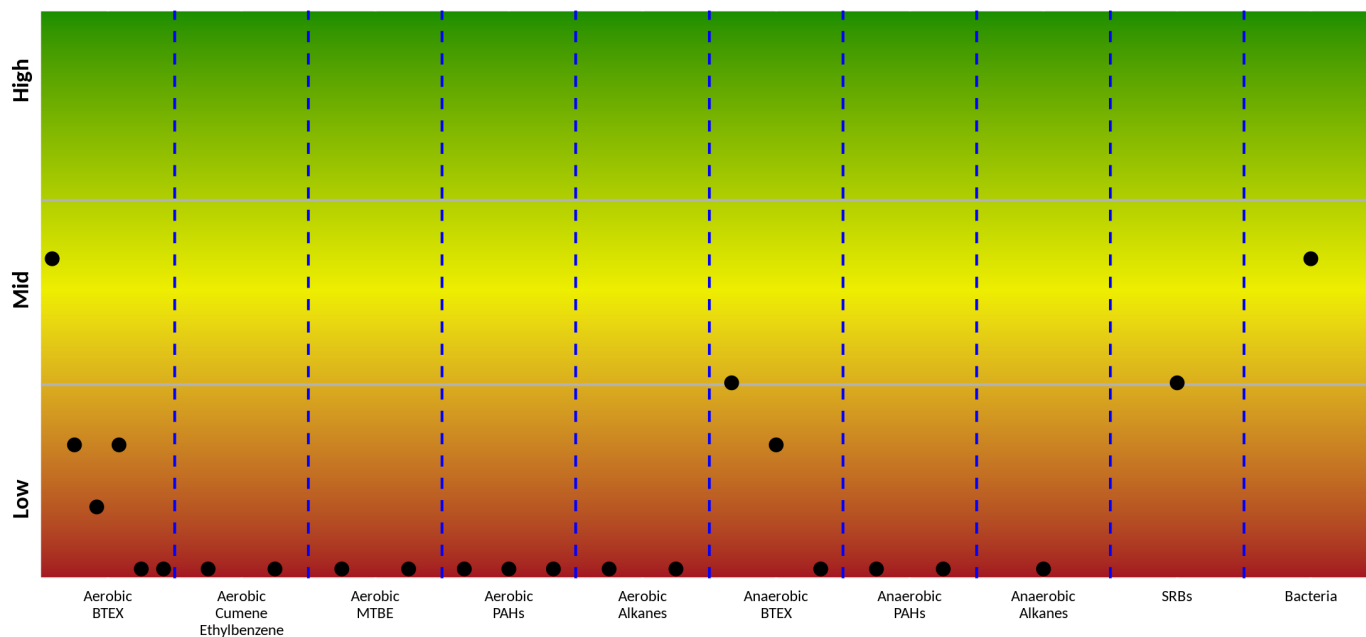


Figure 3: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants.

Aerobic		Anaerobic	
BTEX	TOD, PHE, RDEG, RMO, TOL, EDO	BTEX	BCR, BSS, ABC
Cumene, Ethylbenzene	EDO, BPH4	Naphthalene/Methylnaphthalene	MNSSA, ANC
MTBE/TBA	PM1, TBA	Alkanes	assA
Naphthalene	NAH, NidA		
Phenanthrene	PHN		
Alkanes	ALK, ALMA		

Microbial Populations BH1917

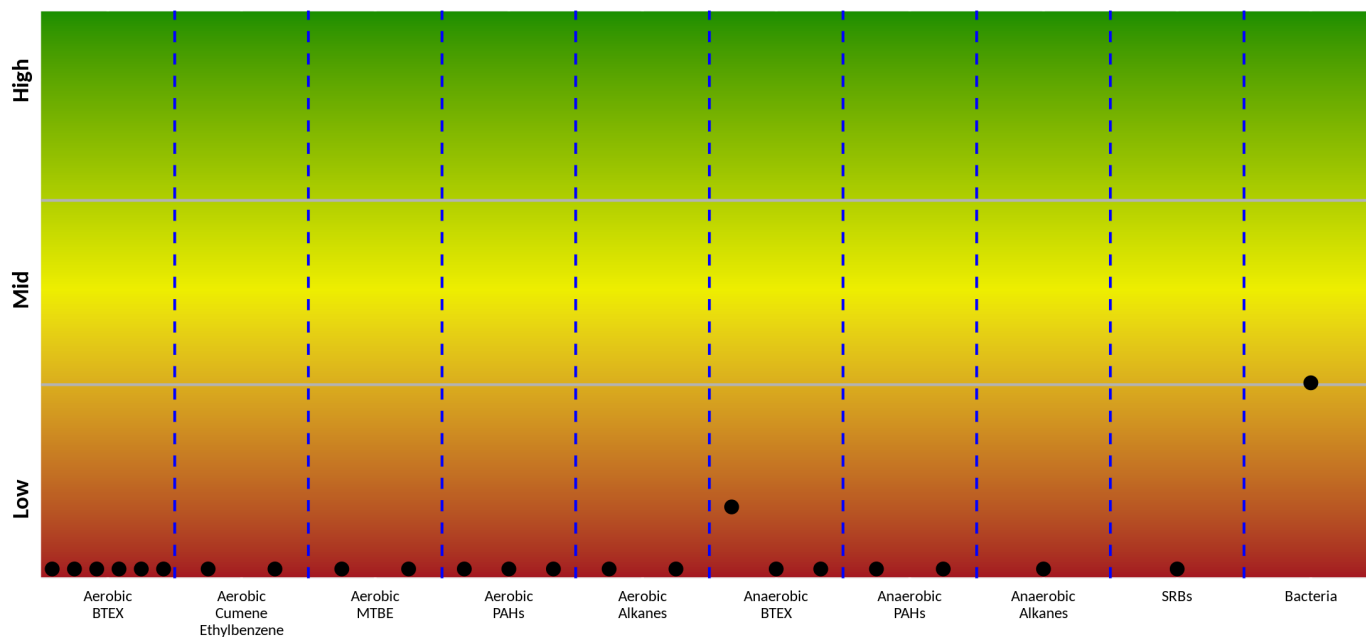


Figure 4: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants.

	Aerobic	Anaerobic
BTEX	TOD, PHE, RDEG, RMO, TOL, EDO	BTEX
Cumene, Ethylbenzene	EDO, BPH4	Naphthalene/Methylnaphthalene
MTBE/TBA	PM1, TBA	Alkanes
Naphthalene	NAH, NidA	BCR, BSS, ABC
Phenanthrene	PHN	MNSSA, ANC
Alkanes	ALK, ALMA	assA

Microbial Populations BH1102

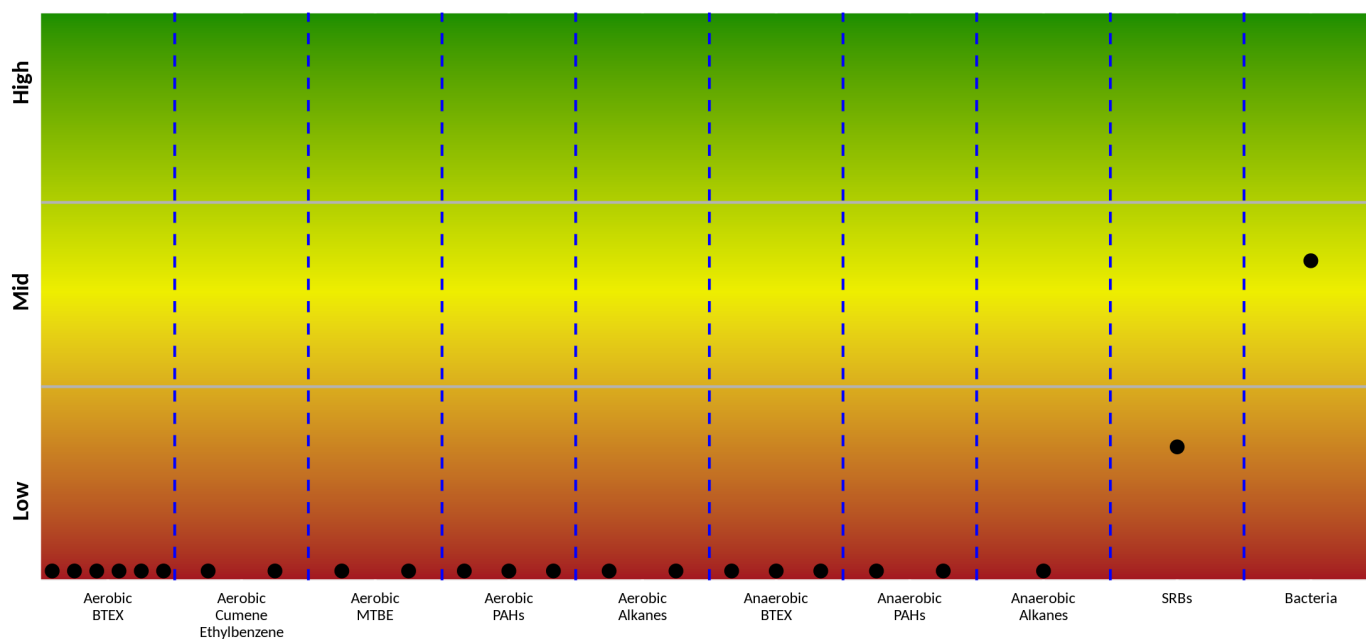


Figure 5: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants.

Aerobic		Anaerobic
BTEX	TOD, PHE, RDEG, RMO, TOL, EDO	BTEX
Cumene, Ethylbenzene	EDO, BPH4	Naphthalene/Methylnaphthalene
MTBE/TBA	PM1, TBA	Alkanes
Naphthalene	NAH, NidA	BCR, BSS, ABC
Phenanthrene	PHN	MNSSA, ANC
Alkanes	ALK, ALMA	assA

Microbial Populations BH1944

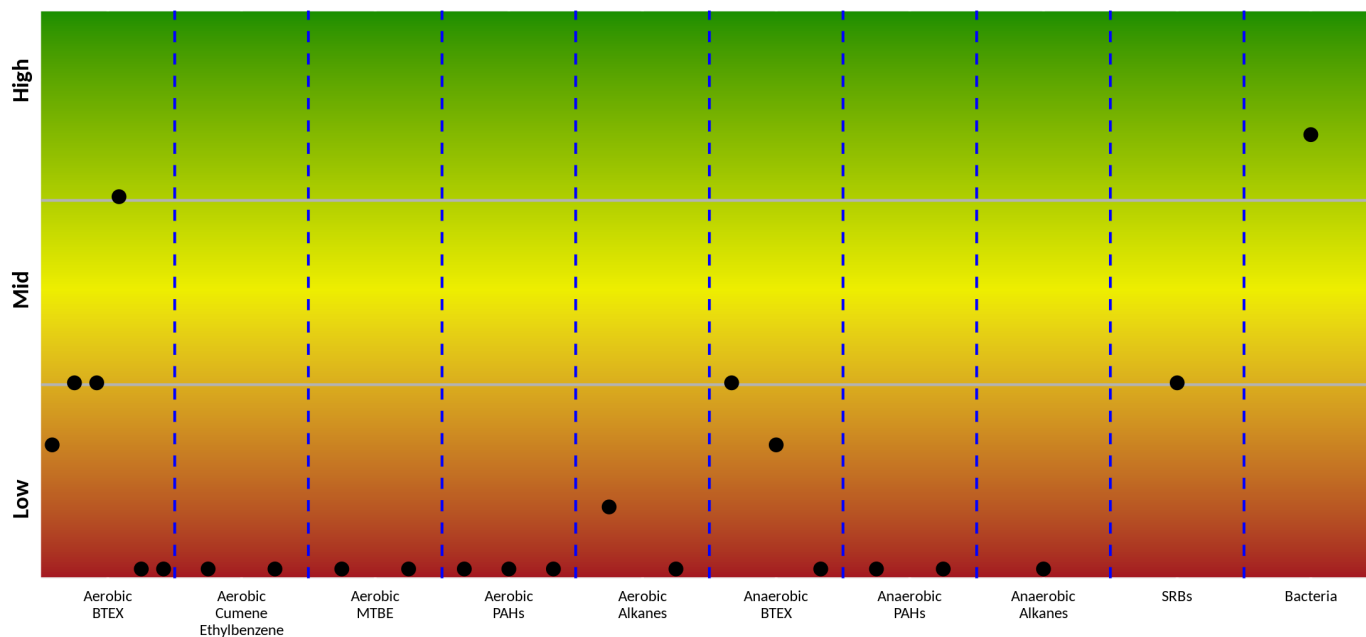


Figure 6: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants.

Aerobic		Anaerobic
BTEX	TOD, PHE, RDEG, RMO, TOL, EDO	BTEX
Cumene, Ethylbenzene	EDO, BPH4	Naphthalene/Methylnaphthalene
MTBE/TBA	PM1, TBA	Alkanes
Naphthalene	NAH, NidA	BCR, BSS, ABC
Phenanthrene	PHN	MNSSA, ANC
Alkanes	ALK, ALMA	assA

Microbial Populations BH1924

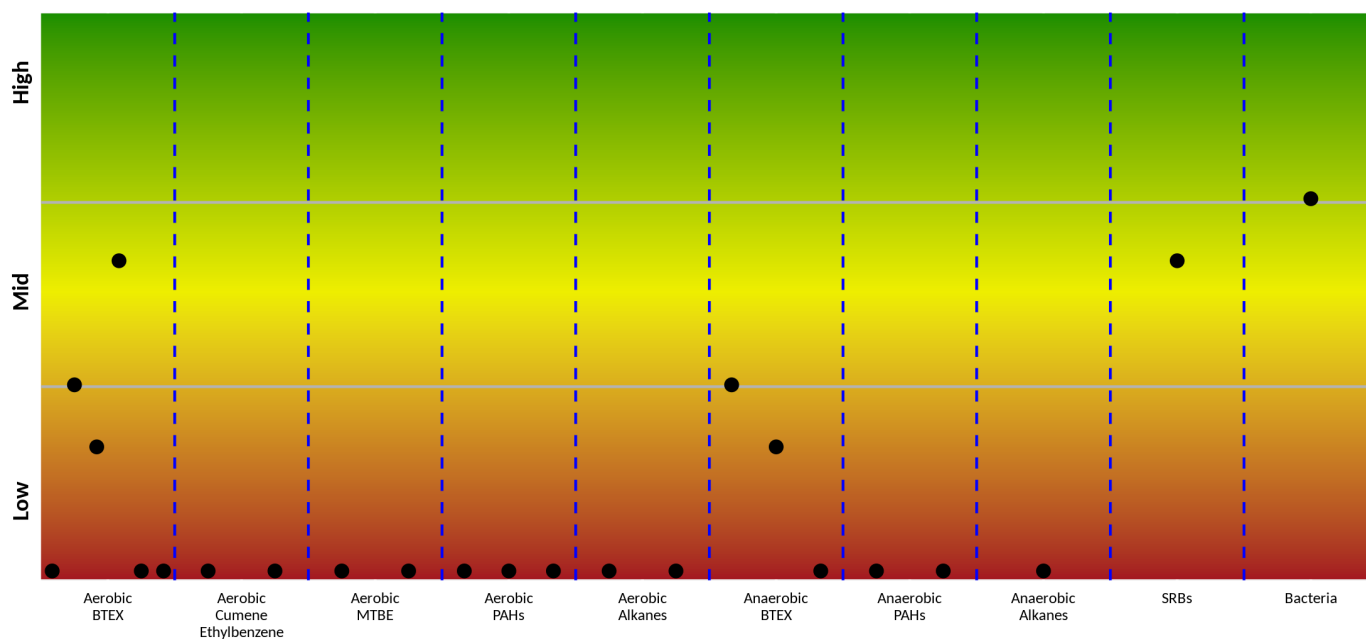


Figure 7: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants.

Aerobic		Anaerobic	
BTEX	TOD, PHE, RDEG, RMO, TOL, EDO	BTEX	BCR, BSS, ABC
Cumene, Ethylbenzene	EDO, BPH4	Naphthalene/Methylnaphthalene	MNSSA, ANC
MTBE/TBA	PM1, TBA	Alkanes	assA
Naphthalene	NAH, NidA		
Phenanthrene	PHN		
Alkanes	ALK, ALMA		

Microbial Populations BH1982

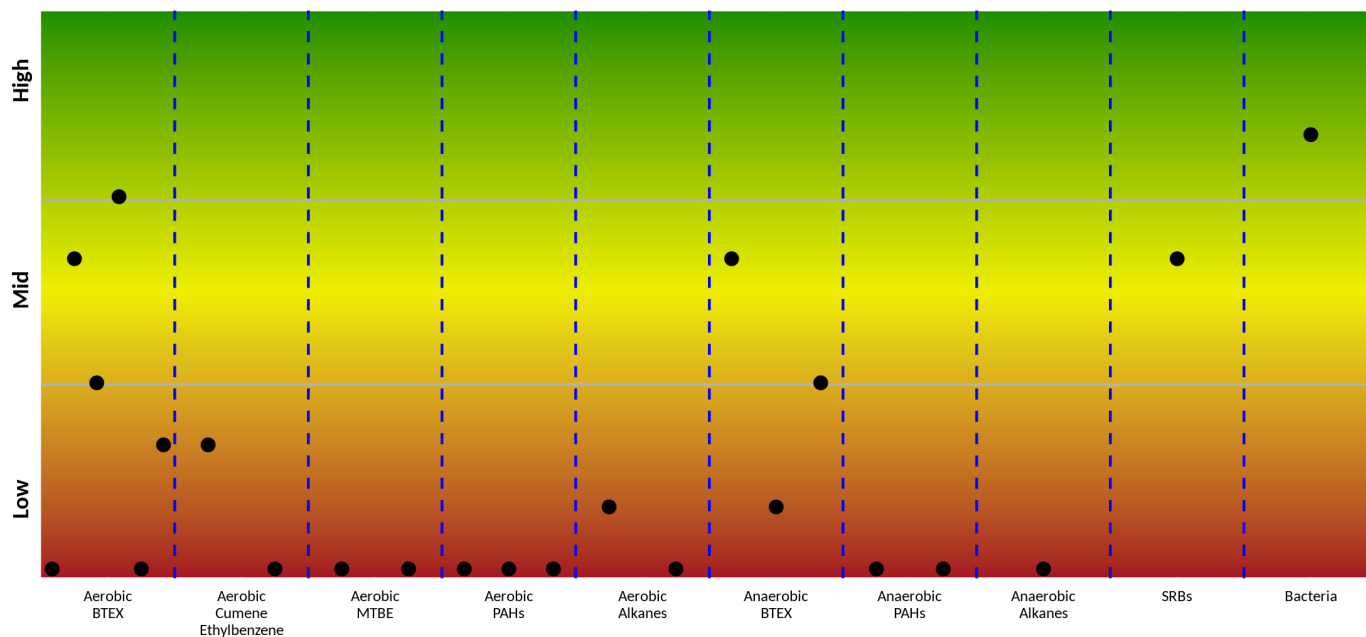


Figure 8: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants.

Aerobic		Anaerobic
BTEX	TOD, PHE, RDEG, RMO, TOL, EDO	BTEX
Cumene, Ethylbenzene	EDO, BPH4	Naphthalene/Methylnaphthalene
MTBE/TBA	PM1, TBA	Alkanes
Naphthalene	NAH, NidA	BCR, BSS, ABC
Phenanthrene	PHN	MNSSA, ANC
Alkanes	ALK, ALMA	assA

Table 3: Summary of the QuantArray®-Petro results for microorganisms responsible for aerobic biodegradation of BTEX and MTBE for samples BH4008A, BH1963, BH1906, and BH1917.

Sample Name	BH4008A	BH1963	BH1906	BH1917
Sample Date	07/11/2023	07/11/2023	07/11/2023	07/11/2023
<i>Aerobic BTEX and MTBE</i>	cells/mL	cells/mL	cells/mL	cells/mL
Toluene/Benzene Dioxygenase (TOD)	1.56E+02	6.80E+00	1.51E+03	<4.60E+00
Phenol Hydroxylase (PHE)	8.81E+03	<4.70E+00	1.14E+02	3.30E+00 (J)
Toluene 2 Monooxygenase/Phenol Hydroxylase (RDEG)	9.85E+03	<4.70E+00	1.33E+01	<4.60E+00
Toluene Ring Hydroxylating Monooxygenases (RMO)	1.42E+04	<4.70E+00	4.50E+01	<4.60E+00
Xylene/Toluene Monooxygenase (TOL)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Ethylbenzene/Isopropylbenzene Dioxygenase (EDO)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Biphenyl/Isopropylbenzene Dioxygenase (BPH4)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
<i>Methylibium petroleiphilum</i> PM1 (PM1)	5.22E+02	<4.70E+00	<5.30E+00	<4.60E+00
TBA Monooxygenase (TBA)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00

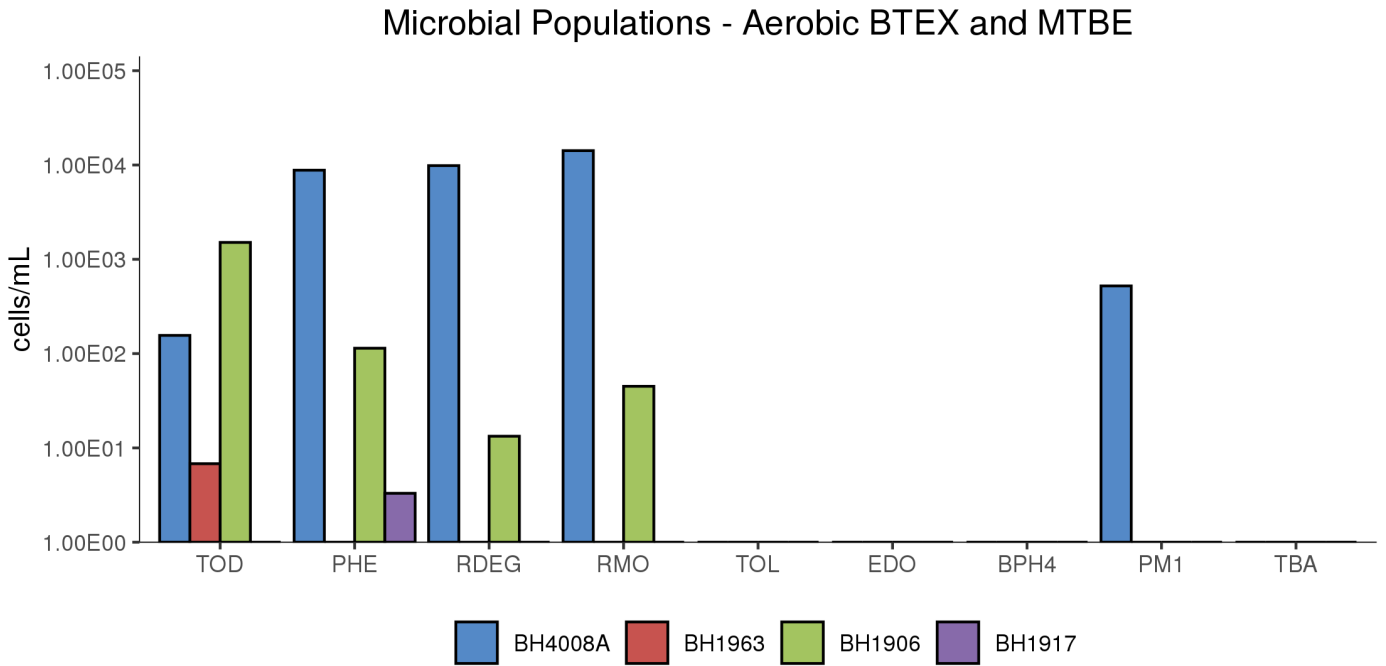


Figure 9: Comparison - microbial populations involved in aerobic biodegradation of BTEX and MTBE.

Table 4: Summary of the QuantArray®-Petro results for microorganisms responsible for aerobic biodegradation of BTEX and MTBE for samples BH1102, BH1944, BH1924, and BH1982.

Sample Name	BH1102	BH1944	BH1924	BH1982
Sample Date	07/13/2023	07/13/2023	07/13/2023	07/13/2023
<i>Aerobic BTEX and MTBE</i>	cells/mL	cells/mL	cells/mL	cells/mL
Toluene/Benzene Dioxygenase (TOD)	<4.60E+00	1.79E+01	<7.70E+00	<4.60E+00
Phenol Hydroxylase (PHE)	<4.60E+00	4.44E+03	4.15E+03	1.46E+04
Toluene 2 Monooxygenase/Phenol Hydroxylase (RDEG)	<4.60E+00	6.69E+03	6.69E+02	9.43E+03
Toluene Ring Hydroxylating Monooxygenases (RMO)	<4.60E+00	1.19E+04	1.35E+03	1.23E+04
Xylene/Toluene Monooxygenase (TOL)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Ethylbenzene/Isopropylbenzene Dioxygenase (EDO)	<4.60E+00	<4.70E+00	<7.70E+00	8.32E+01
Biphenyl/Isopropylbenzene Dioxygenase (BPH4)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
<i>Methylibium petroleiphilum</i> PM1 (PM1)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
TBA Monooxygenase (TBA)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00

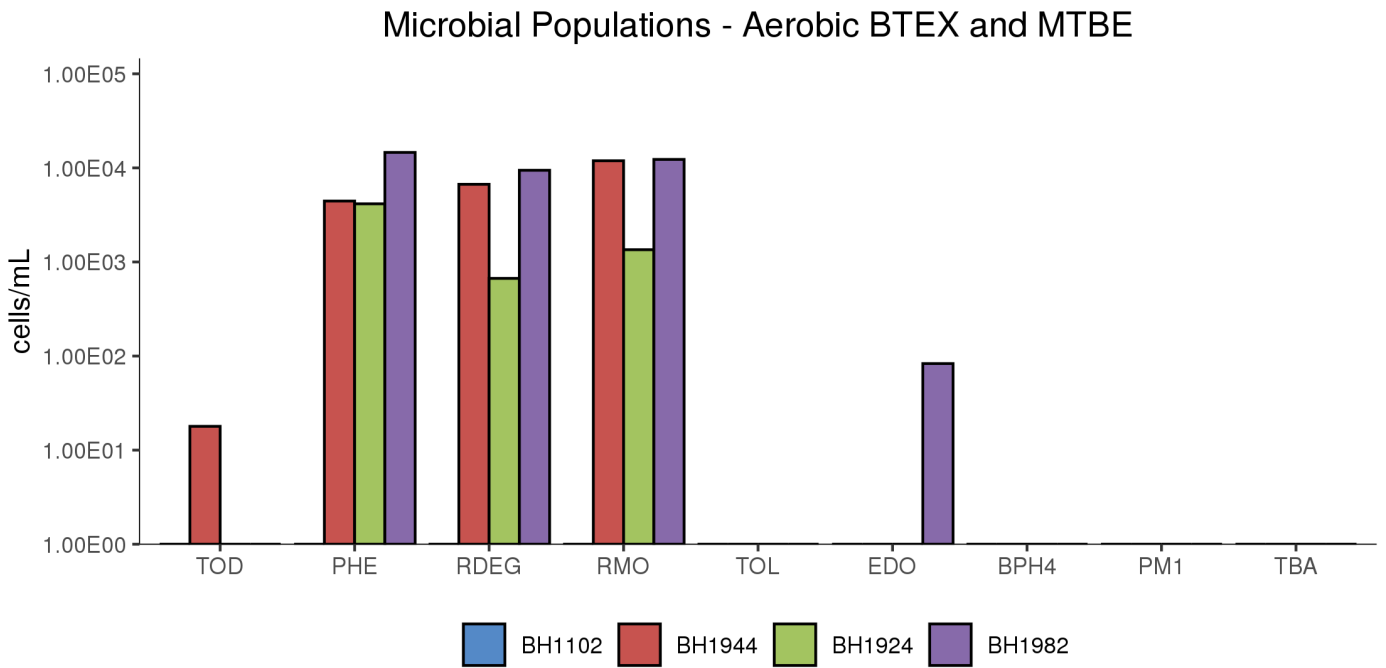


Figure 10: Comparison - microbial populations involved in aerobic biodegradation of BTEX and MTBE.

Table 5: Summary of the QuantArray®-Petro results for microorganisms responsible for aerobic biodegradation of PAHs and alkanes for samples BH4008A, BH1963, BH1906, and BH1917.

Sample Name	BH4008A	BH1963	BH1906	BH1917
Sample Date	07/11/2023	07/11/2023	07/11/2023	07/11/2023
<i>Aerobic PAHs and Alkanes</i>	cells/mL	cells/mL	cells/mL	cells/mL
Naphthalene Dioxygenase (NAH)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Naphthalene-inducible Dioxygenase (NidA)	1.01E+02	<4.70E+00	<5.30E+00	<4.60E+00
Phenanthrene Dioxygenase (PHN)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Alkane Monooxygenase (ALK)	1.10E+00 (J)	<4.70E+00	<5.30E+00	<4.60E+00
Alkane Monooxygenase (ALMA)	1.79E+02	<4.70E+00	<5.30E+00	<4.60E+00

Microbial Populations - Aerobic PAHs and Alkanes

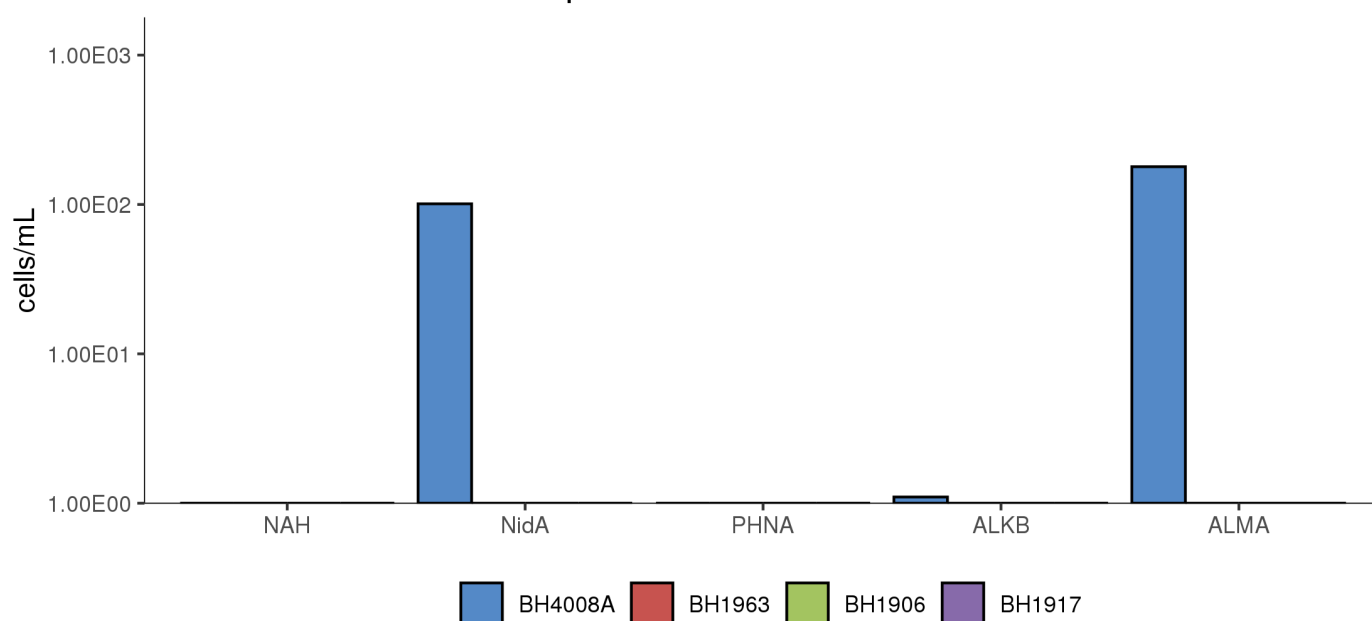


Figure 11: Comparison - microbial populations involved in aerobic biodegradation of PAHs and alkanes.

Table 6: Summary of the QuantArray®-Petro results for microorganisms responsible for aerobic biodegradation of PAHs and alkanes for samples BH1102, BH1944, BH1924, and BH1982.

Sample Name	BH1102	BH1944	BH1924	BH1982
Sample Date	07/13/2023	07/13/2023	07/13/2023	07/13/2023
<i>Aerobic PAHs and Alkanes</i>	cells/mL	cells/mL	cells/mL	cells/mL
Naphthalene Dioxygenase (NAH)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Naphthalene-inducible Dioxygenase (NidA)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Phenanthrene Dioxygenase (PHN)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Alkane Monooxygenase (ALK)	<4.60E+00	2.75E+01	<7.70E+00	2.44E+01
Alkane Monooxygenase (ALMA)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00

Microbial Populations - Aerobic PAHs and Alkanes

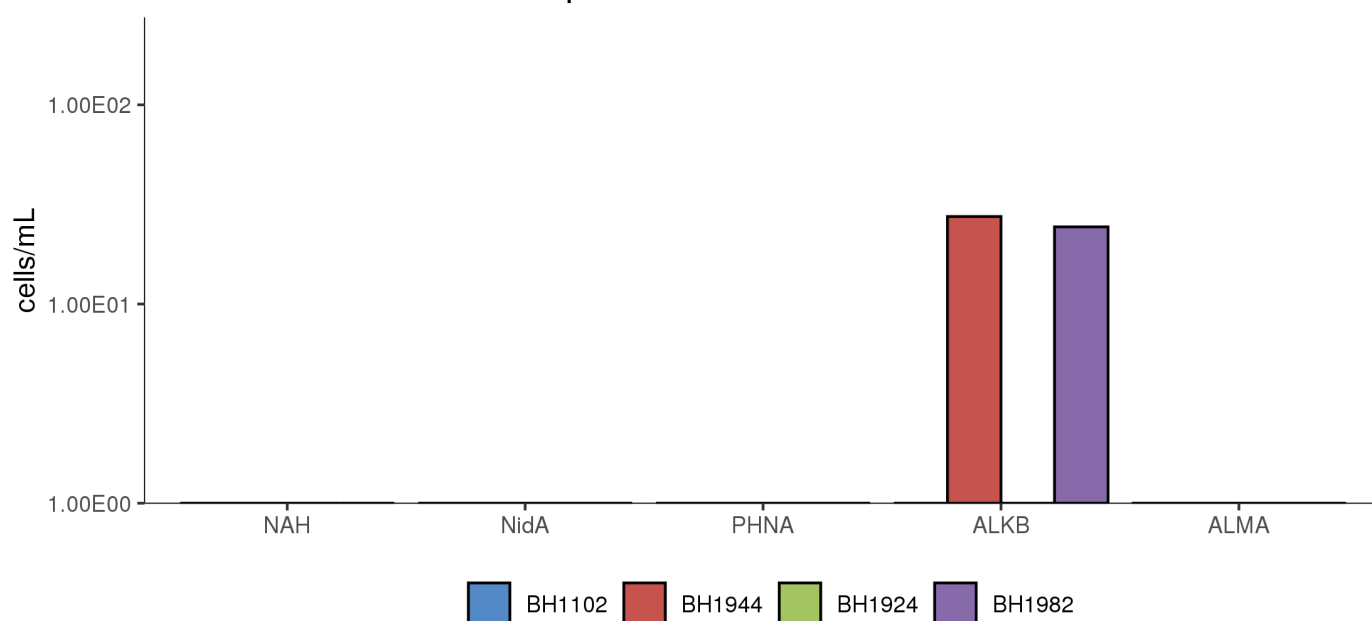


Figure 12: Comparison - microbial populations involved in aerobic biodegradation of PAHs and alkanes.

Table 7: Summary of the QuantArray®-Petro results for microorganisms responsible for anaerobic biodegradation of BTEX, PAHs and alkanes for samples BH4008A, BH1963, BH1906, and BH1917.

Sample Name	BH4008A	BH1963	BH1906	BH1917
Sample Date	07/11/2023	07/11/2023	07/11/2023	07/11/2023
<i>Anaerobic BTEX</i>	cells/mL	cells/mL	cells/mL	cells/mL
Benzoyl Coenzyme A Reductase (BCR)	2.10E+03	<4.70E+00	1.25E+02	1.40E+00 (J)
Benzylsuccinate Synthase (BSS)	1.79E+02	<4.70E+00	1.24E+02	<4.60E+00
Benzene Carboxylase (ABC)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
<i>Anaerobic PAHs and Alkanes</i>				
Naphthylmethylsuccinate Synthase (MNSSA)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Naphthalene Carboxylase (ANC)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00
Alkylsuccinate Synthase (ASS)	<4.70E+00	<4.70E+00	<5.30E+00	<4.60E+00

Microbial Populations - Anaerobic BTEX, PAHs, and Alkanes

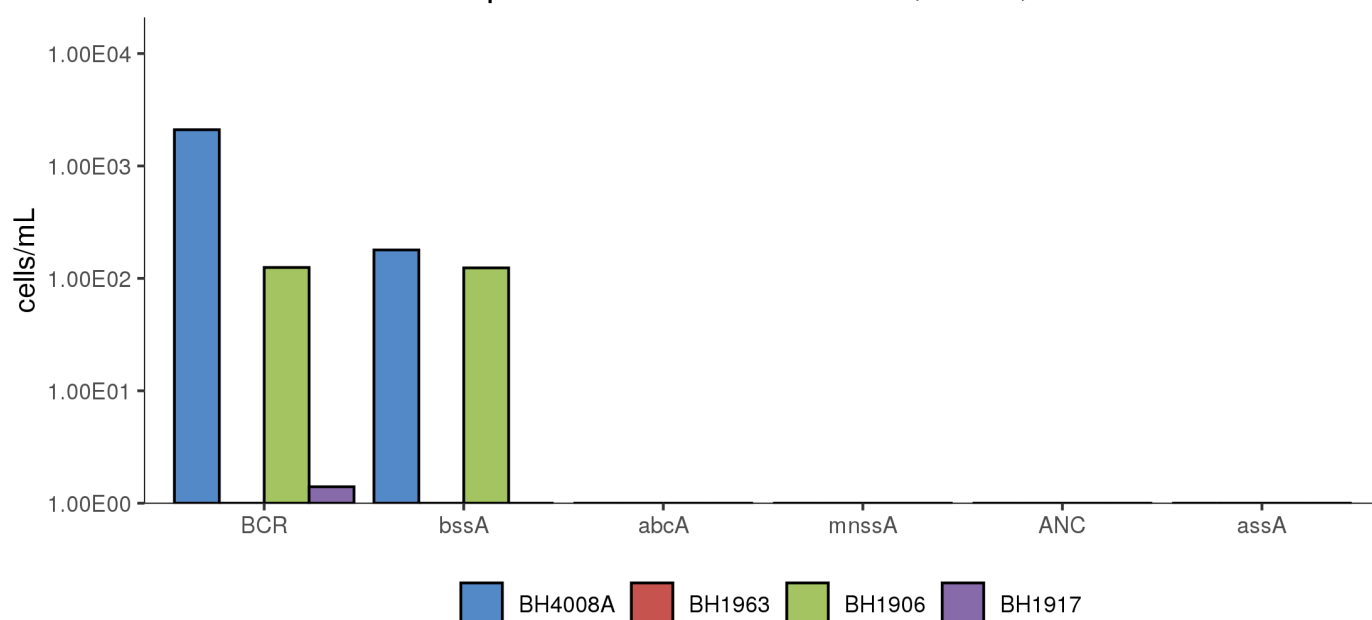


Figure 13: Comparison - microbial populations involved in anaerobic biodegradation of BTEX, PAHs and alkanes.

Table 8: Summary of the QuantArray[®]-Petro results for microorganisms responsible for anaerobic biodegradation of BTEX, PAHs and alkanes for samples BH1102, BH1944, BH1924, and BH1982.

Sample Name	BH1102	BH1944	BH1924	BH1982
Sample Date	07/13/2023	07/13/2023	07/13/2023	07/13/2023
<i>Anaerobic BTEX</i>				
	cells/mL	cells/mL	cells/mL	cells/mL
Benzoyl Coenzyme A Reductase (BCR)	<4.60E+00	6.83E+02	5.84E+02	3.10E+03
Benzylsuccinate Synthase (BSS)	<4.60E+00	6.43E+02	4.24E+02	4.92E+01
Benzene Carboxylase (ABC)	<4.60E+00	<4.70E+00	<7.70E+00	1.73E+02
<i>Anaerobic PAHs and Alkanes</i>				
Naphthylmethylsuccinate Synthase (MNSSA)	<4.60E+00	<4.70E+00	6.00E-01 (J)	<4.60E+00
Naphthalene Carboxylase (ANC)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00
Alkylsuccinate Synthase (ASS)	<4.60E+00	<4.70E+00	<7.70E+00	<4.60E+00

Microbial Populations - Anaerobic BTEX, PAHs, and Alkanes

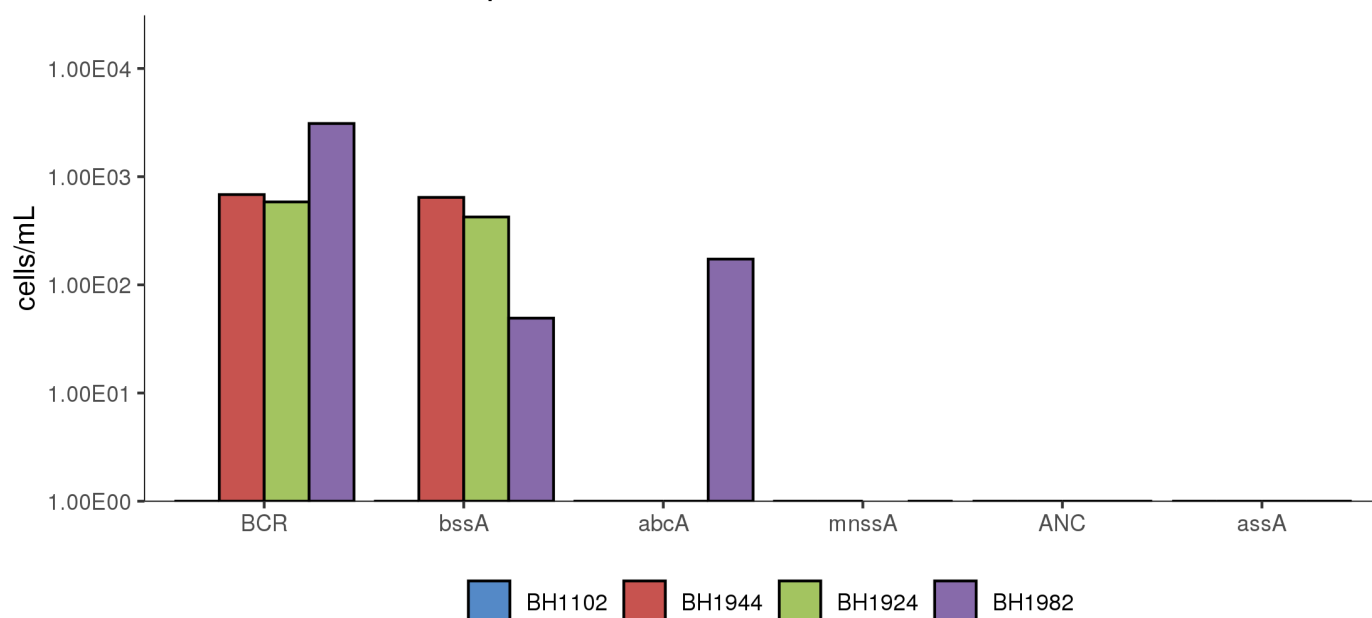


Figure 14: Comparison - microbial populations involved in anaerobic biodegradation of BTEX, PAHs and alkanes.

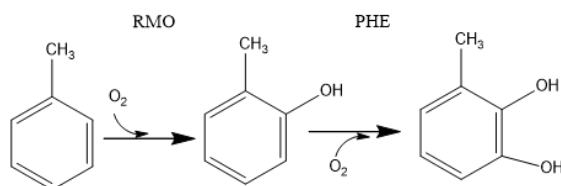
Interpretation

The overall purpose of the QuantArray[®]-Petro is to give site managers the ability to simultaneously yet economically evaluate the potential for biodegradation of a spectrum of contaminants found in petroleum products through a multitude of aerobic and anaerobic pathways to give a much more clear and comprehensive view of contaminant biodegradation. The following discussion describes interpretation of results in general terms and is meant to serve as a guide.

Aerobic Biodegradation - Benzene Toluene, Ethylbenzene, and Xylenes (BTEX): At sites impacted by petroleum products, aromatic hydrocarbons including BTEX are often contaminants of concern. Aerobic biodegradation of aromatic hydrocarbons has been intensively studied and multiple catabolic pathways have been well characterized. The substrate specificity of each pathway (range of compounds biodegraded via each pathway) is largely determined by the specificity of the initial oxygenase enzyme. The QuantArray[®]-Petro includes a suite of assays targeting the initial oxygenase genes of the known pathways for aerobic BTEX biodegradation.

Toluene/Benzene Dioxygenase (TOD): Toluene/benzene dioxygenase (TOD) incorporates both atoms of molecular oxygen into the aromatic ring. Although commonly called toluene dioxygenase, the substrate specificity of this enzyme is relaxed, allowing growth on toluene and benzene along with co-oxidation of a variety of compounds including ethylbenzene, *o*-xylene, *m*-xylene, and trichloroethene (TCE) when expressed.

Toluene/Benzene Monooxygenases (RMO/RDEG) and Phenol Hydroxylases (PHE): The next three known pathways for aerobic biodegradation of toluene (as well as benzene and xylenes) involve two steps: (1) an initial oxidation mediated by a toluene monooxygenase and (2) a second oxidation step catalyzed by a phenol hydroxylase. In these pathways, the toluene monooxygenases have been referred to as “ring hydroxylating monooxygenases” because they initiate biodegradation of toluene by incorporating oxygen directly into the aromatic ring rather than at a methyl group. The ring hydroxylating monooxygenases (RMOs) can be further described as toluene-2-monooxygenases, toluene-3-monooxygenases, or toluene-4-monooxygenases based upon where they attack the aromatic ring.



In General, phenol hydroxylases (PHE) catalyze the continued oxidation of phenols produced by RMOs. However, the difference between toluene monooxygenases (RMOs) and phenol hydroxylases (PHEs) is not absolute in terms of substrate specificity and catabolic function. For example, the TbmD toluene/benzene-2-monooxygenase [1] may be responsible for both the initial and second oxidation step [2].

The RMO, RDEG, and PHE assays target groups of genes encoding enzymes which perform the critical first and/or second steps in the aerobic biodegradation of BTEX compounds. In general terms, the RMO assay quantifies families of toluene-3-monooxygenase and toluene-4-monooxygenase genes. The RDEG assay is used to quantify groups of toluene-2-monooxygenase and phenol hydroxylase genes. Similarly, the PHE assay targets phenol hydroxylase genes and several benzene monooxygenase genes which catalyze both oxidation steps.

Toluene/Xylene Monooxygenase (TOL): The final known pathway for aerobic toluene biodegradation involves initial monooxygenase attack at the methyl group by a toluene/xylene monooxygenase.

Ethylbenzene Dioxygenase (EDO): Similar to TOD, this group of aromatic oxygenases exhibits relatively broad specificity and is responsible for aerobic biodegradation of alkylbenzenes including ethylbenzene and isopropylbenzene or cumene [3].

Biphenyl Dioxygenase (BPH4): In environmental restoration, biphenyl dioxygenases are best known for cometabolism of polychlorinated biphenyls (PCBs). However, this subfamily includes benzene [4] and isopropylbenzene [5] dioxygenases from *Rhodococcus* spp.

Aerobic Biodegradation - MTBE and TBA: With increased use in the 1990s, the fuel oxygenate methyl *tert*-butyl ether (MTBE) has become one of the most commonly detected groundwater contaminants at gasoline contaminated sites. Pure cultures capable of utilizing MTBE as a growth supporting substrate have been isolated [6] and aerobic biodegradation of MTBE and the intermediate *tert*-butyl alcohol (TBA) has been reasonably well characterized. The QuantArray[®]-Petro includes quantification of two gene targets to assess the potential for aerobic biodegradation of MTBE and TBA.

***Methylibium petroleiphilum* PM1 (PM1):** One of the few organisms isolated to date which is capable of utilizing MTBE and TBA as growth supporting substrates [6].

TBA Monooxygenase (TBA): Targets the TBA monooxygenase gene responsible for oxidation of TBA by *Methylibium petroleiphilum* PM1 [7].

Aerobic Biodegradation - Naphthalene and Other PAHs:

Naphthalene Dioxygenase (NAH): Naphthalene dioxygenase incorporates both atoms of molecular oxygen into naphthalene to initiate aerobic metabolism of the compound. However, the broad substrate specificity of naphthalene dioxygenase has been widely noted. When expressed, naphthalene dioxygenase is capable of catalyzing the oxidation of larger PAHs like anthracene, phenanthrene, acenaphthylene, fluorene, and acenaphthene. For a more comprehensive list of reactions mediated by naphthalene dioxygenases, see the University of Minnesota Biocatalysis/Biodegradation Database. (<http://eawag-bbd.ethz.ch/naph/ndo.html>, [8]).

Phenanthrene Dioxygenases (PHN): The PHN assays quantify phenanthrene/naphthalene dioxygenase genes from a diverse collection of microorganisms including *Pseudomonas*, *Burkholderia*, *Sphingomonas*, and *Acidovorax* spp. As with other naphthalene dioxygenases, substrate specificity is relatively broad and phenanthrene dioxygenases have been implicated in the biodegradation of naphthalene, phenanthrene, and anthracene and the co-oxidation of larger PAHs. Moreover, at least one research group has suggested that the PHN group of phenanthrene/naphthalene dioxygenases may be more environmentally relevant than the classical *nah*-like naphthalene dioxygenase [9].

Aerobic Biodegradation - *n*-alkanes: The *n*-alkanes are a substantial portion of petroleum products and are a component of TPH concentrations. The QuantArray[®]-Petro also includes quantification of alkane monooxygenase genes (ALK) which allow a wide range of *Proteobacteria* and *Actinomycetals* to grow on *n*-alkanes with carbon lengths from C₅ to C₁₆ [10]. The QuantArray[®]-Petro also includes a second type of alkane hydroxylase (*almA*) which catalyzes the aerobic biodegradation of longer chain alkanes (C₂₀-C₃₂) by some *Alcanivorax* spp. considered dominant in marine systems [11].

Anaerobic Biodegradation - Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX): BTEX compounds are also susceptible to biodegradation under anoxic and anaerobic conditions although biodegradation pathways for each compound are not as well characterized as aerobic pathways. The QuantArray[®]-Petro includes sets of assays targeting a number of upper and lower pathway functional genes involved in the anaerobic catabolism of BTEX compounds for better evaluation of anaerobic biodegradation at petroleum contaminated sites.

Benzylsuccinate Synthase (BSS): Of the BTEX compounds, toluene biodegradation under anaerobic conditions is the most extensively studied and best characterized. The first step in this pathway, mediated by benzylsuccinate synthase (*bssA*) is the addition of fumarate onto the toluene methyl group to form benzylsuccinate. While additional pathways are possible, some bacterial isolates capable of anaerobic biodegradation of ethylbenzene and xylenes follow the same metabolic approach where the first step is the addition of fumarate.

Anaerobic Benzene Carboxylase (ABC): Although additional pathways are possible, the only pathway for anaerobic biodegradation of benzene elucidated to date is initiated by a benzene carboxylase enzyme.

Benzoyl Coenzyme A Reductase (BCR): Benzoyl-CoA is the central intermediate in the anaerobic biodegradation of many aromatic hydrocarbons. Benzoyl-CoA Reductase (BCR) is the essential enzyme for reducing the benzene ring structure.

Anaerobic Biodegradation - PAHs: The anaerobic biodegradation of PAHs involves analogous mechanisms to those described for anaerobic biodegradation of BTEX compounds. For example, the anaerobic biodegradation of methyl-substituted PAHs like 2-methylnaphthalene is initiated by fumarate addition to the methyl group while the only characterized pathway for anaerobic naphthalene biodegradation is initiated by a carboxylase.

Naphthylmethylsuccinate Synthase (MNSSA): MNSSA is analogous to the benzylsuccinate synthase described above for anaerobic biodegradation of toluene. Naphthylmethylsuccinate synthase catalyzes the addition of fumarate onto the methyl group of 2-methylnaphthalene [12].

Anaerobic Naphthalene Carboxylase (ANC): To date, the only pathway that has been characterized for anaerobic biodegradation of naphthalene is initiated by a naphthalene carboxylase enzyme [13].

Anaerobic Biodegradation - *n*-alkanes: As mentioned previously, the *n*-alkanes are a substantial portion of petroleum products and should be considered particularly when site cleanup goals include TPH reduction. The addition of fumarate is a common mechanism for activating and initiating biodegradation of a variety of petroleum hydrocarbons under anaerobic conditions including *n*-alkanes. The QuantArray[®]-Petro includes quantification of alkyl succinate synthase genes (*assA*) which have been characterized in nitrate reducing and sulfate reducing isolates utilizing *n*-alkanes from C₆ to at least C₁₈ [14].

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 Project No.: 10-12832

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 More samples to follow
 No Additional Samples

Report Type: Standard (default) Microbial Insights Level III (15% surcharge) Microbial Insights Level IV (25% surcharge) Comprehensive (15% surcharge) Historical (35% surcharge)
 EDD type: Microbial Insights Standard (default) All other available EDDs (5% surcharge) Specify EDD Type: _____

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After these hours please email customerservice@microbe.com.

Sample Information					Analyses				CENSUS: Please select the target organism/gene																									
MI ID <small>(Laboratory Use Only)</small>	Sample Name	Date Sampled	Time Sampled	Matrix	PLFA	Next Generation Sequencing	QuantArray Chlor	QuantArray Petro	DHC (Dehalococoides)	DHC Functional genes <small>(inc. tsx, xcf)</small>	DHB (Dehalobacter)	DHC (Dehalogenomonas)	DSM (Desulfomonas)	DSB (Desulfobacterium)	EBAC (Total)	SRB <small>Sulfate Reducing Bacteria-APS</small>	MGN (Methanogens)	MOIs (Methanotrophs)	SMWO	DNF (Denitrifiers-nitS and nitK)	AOB <small>Ammonia oxidizing bacteria</small>	PM1 (MTBE aerobic)	PMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Naphthalene-aerobic)	BSSA <small>Toluene/Xylene Anaerobic</small>	add qPCR	RNA <small>(Expression Option)*</small>	Other	Other	Other		
020UG1	BH4008 A	07/11/23	0715	GW				X																										
2	BH1963	07/11/23	0930	GW				X																										
3	BH1906	07/11/23	1130	GW				X																										
4	BH1917	07/11/23	1335	GW				X																										

Relinquished by: Cody Whittaker
 [Signature]

Received by: [Signature] Date: July 12/23 9:20

It is vital that chain of custody is filled out correctly & that all relative information is provided.
 Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

* additional cost and sample preservation are associated with RNA samples. **Saturday delivery: Not available

1 of 1

REPORT TO:

Name: Michelle Patterson
 Company: Parsons Inc
 Address: Unit 510, 214-11 Ave SW,
Calgary, AB

email: michelle.patterson@parsons.com
 Phone: _____
 Fax: _____

Project Manager: Michelle Patterson
 Project Name: 478621.17104
 Project No.: 10-12832

INVOICE TO: (For Invoices paid by a third party it is imperative that all information be provided)

Name: Accounts Payable
 Company: Parsons Inc.
 Address: 2751 John Street, Markham
Ontario, L3R-2Y8

email: parsonsinc.ap.parsons@parsons.com
 Phone: 905-944-8872
 Fax: _____

Purchase Order No. 478621.17104
 Subcontract No. _____
 MI Quote No. C30805



10515 Research Dr
 Knoxville, TN 37932
 865-573-8188

www.microbe.com

Please Check One:

- More samples to follow
- No Additional Samples

Report Type: Standard (default) Microbial Insights Level III raw data(15% surcharge) Microbial Insights Level IV (25% surcharge) Comprehensive Interpretive(15%) Historical Interpretive (35%)
 EDD type: Microbial Insights Standard (default) All other available EDDs (5% surcharge) Specify EDD Type: _____

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information						Analyses				CENSUS: Please select the target organism/gene																												
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	Total Number of Containers	PLFA	NGS	QuantArray Chlor	QuantArray Petro	DHC (Dehalococoides)	DHC Functional genes (see list)	DHB (Dehalobacter)	DHG (Dehalogenomonas)	DSM (Desulfomonas)	DSB (Desulfobacterium)	EBAC (Total)	SRB	Sulfate Reducing Bacteria-APS	MGN (Methanogens)	MCB (Methanotrophs)	SMMO	DNF (Denitrifiers-nrS and nrK)	AMO	Ammonia oxidizing bacteria	PM1 (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Naphthalene-aerobic)	BSSA	Toluene/Xylene-Anaerobic	add. qPCR	RNA (Expression Option)*	Other:	Other:	Other:		
020UG5	BH1102	07/13/23	0900	GW	1				X																													
6	BH1944	↓	1100	GW	1				X																													
7	BH1924	↓	1300	GW	1				X																													
8	BH1982	07/13/23	1505	GW	1				X																													

Relinquished by: Cody Whitaker Date 07/13/23 Received by: [Signature] Date July 14/23 3.0 °C

It is vital that chain of custody is filled out correctly & that all relative information is provided.
 Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

DATA QUALITY REVIEW CHECKLIST

Consultant: Parsons Inc.

Sampling Date: 2023/7/13

Location: 1620 14 AVE NW, CALGARY

Laboratory : SiREM Laboratories, Guelph, ON

Consultant Project Number: 10-12832

Sample Submission Number: CAG-0625

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery			X	All lab QC met acceptance criteria.
Method Blank Concentration			X	
Matrix Duplicate RPD			X	
Matrix Spike Recovery			X	
Other Quality Control Data	X			

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	No field QC samples were submitted.
Trip Blank Concentration			X	
Field Duplicate RPD			X	

Has CoA been signed off (Yes/No)?:

Yes

Has lab warranted all tests were in statistical control in CoA (Yes/No)?:

Yes

Has lab warranted all tests were analyzed following SOP's in CoA (Yes, No or N/A)?:

Yes

Were all samples analyzed within hold times (Yes/No)?:

Yes

Is Chain of Custody completed and signed (Yes/No)?:

Yes

Were sample temperatures acceptable when they reached lab (Yes/No)?:

Yes

Is data considered to be reliable (Yes/No)?:


Yes

If answer is "No", describe and provide rationale:

Performed by (Print): Mackenzie Robart

Reviewed by (Print): Michelle Patterson

Reviewed date: 2023/10/03

Reviewed by (Signature): 

Gene-Trac® Certificate of Analysis

Customer: Michelle Patterson

Email: michelle.patterson@parsons.com

Phone: Not provided

Company: Parsons

Project Name: 478621.17104

Method Reference: SOP-002, 019, 108, 113, & 117

Batch Reference: S-9916

Report Date: 31-Jul-23

Certificate Number: CAG-0625

Test Location(s): Guelph

Customer Reference: 10-12832

The results included herein only apply to the samples described within and are applicable to the items as received. This certificate is not to be reproduced unless in full.



Certificate of Analysis: Gene-Trac® ORM-2 Assay

Certificate Number: CAG-0625

Data File(s): QS3A-ORM2-QPCR-0176

Run Date(s): 25-Jul-23

Table 1: Test Results

Sample ID	Deltaproteobacterium ORM-2	
	Percent ORM-2 ⁽¹⁾	ORM-2 Gene Copies/Liter ⁽²⁾
BH1102	NA	3 x 10 ³ U
BH1944	0.0005 - 0.001 %	3 x 10 ³
BH1924	0.0009 - 0.003 %	2 x 10 ⁴
BH1982	0.0003 - 0.0009 %	2 x 10 ³

See final page for notes.

Analyst: _____

KJE
KJ Elipse-Cruz, B.Sc.
Laboratory Technician II

Approved: _____

J. Wilkinson
Jen Wilkinson
Senior Genetic Testing Specialist

Table 2: Detailed Test Parameters, Test Certificate CAG-0625

Customer Sample ID	BH1102	BH1944	BH1924	BH1982
Date Sampled ⁽³⁾	13-Jul-23	13-Jul-23	13-Jul-23	13-Jul-23
Matrix	Groundwater	Groundwater	Groundwater	Groundwater
Date Received ⁽³⁾	14-Jul-23	14-Jul-23	14-Jul-23	14-Jul-23
Sample Temperature	3.8 °C	3.8 °C	3.8 °C	3.8 °C
Filtration Date ⁽³⁾	19-Jul-23	19-Jul-23	19-Jul-23	19-Jul-23
Volume Used for DNA Extraction	100 mL	500 mL	100 mL	500 mL
DNA Extraction Date	20-Jul-23	20-Jul-23	20-Jul-23	20-Jul-23
DNA Concentration in Sample (extractable)	4,125 ng/L	1,005 ng/L	4,200 ng/L	1,395 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected	Detected
DNA Extraction Control ⁽⁴⁾	Passed	Passed	Passed	Passed
Detection Limit (copies/L)	3×10^3	7×10^2	3×10^3	7×10^2
Quantitation Limit (copies/L)	7×10^3	1×10^3	7×10^3	1×10^3
qPCR Controls (see Table 3)	Passed	Passed	Passed	Passed
Comments	--	--	--	--

See final page for notes.

Table 3: Gene-Trac ORM-2 Control Results, Test Reference CAG-0625

Laboratory Control	Analysis Date	Control Description	Deltaproteobacterium ORM-2		Comments
			Spiked Gene Copies per Liter	Recovered Gene Copies per Liter	
Positive Control Low Concentration	25-Jul-23	Synthetic DNA (CSLO-0176)	1.4×10^7	1.1×10^7	Passed
Positive Control High Concentration	25-Jul-23	Synthetic DNA (CSHO-0176)	1.4×10^9	1.3×10^9	Passed
DNA Extraction Blank	25-Jul-23	Sterile Water (FB-4445)	0	6.6×10^2 U	Passed
Negative Control	25-Jul-23	Reagent Blank (TBO-0176)	0	6.6×10^2 U	Passed

See final page for notes.

Notes:

ORM-2 = Deltaproteobacterium ORM-2

M Non-specific amplification was observed via melt curve analysis

J The associated value is an estimated quantity between the detection limit and quantitation limit.

U Not detected, associated value is the detection limit.

B Analyte was detected in the method blank within an order of magnitude of the test sample.

E Extracted genomic DNA was not detected in the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

ng/L = nanograms per liter

mL = milliliter

NA = not applicable

ND = not detected

DNA = deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

°C = degrees Celsius

¹ Percent Deltaproteobacterium ORM-2 (ORM-2) in microbial population. This value is calculated by dividing the number of 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in ORM-2 enumeration.

² Target quantitation is subject to the variability of the method, this variability has been demonstrated to be +/- 60%.

³ Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 14 days of date received or filtration date.

⁴ DNA is extracted from a standardized bacterial culture sample once per week and Total Bacteria qPCR is performed using standard methods. A recovery greater than 25% of the expected value is deemed acceptable.

⁵ Control was outside recovery limit guidelines (+/- 50%), however, test results are deemed acceptable if one of two positive controls fall within the recovery limit guidelines.

DATA QUALITY REVIEW CHECKLIST

Consultant: Parsons Inc.

Sampling Date: 2023/8/11

Location: 1620 14 AVE NW, CALGARY

Laboratory : SiREM Laboratories, Guelph, ON

Consultant Project Number: 10-12832

Sample Submission Number: CAG-0624

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery			X	All lab QC met acceptance criteria.
Method Blank Concentration			X	
Matrix Duplicate RPD			X	
Matrix Spike Recovery			X	
Other Quality Control Data	X			

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	No field QC samples were submitted.
Trip Blank Concentration			X	
Field Duplicate RPD			X	

Has CoA been signed off (Yes/No)? Yes

Has lab warranted all tests were in statistical control in CoA (Yes/No)? Yes

Has lab warranted all tests were analyzed following SOP's in CoA (Yes, No or N/A)? Yes

Were all samples analyzed within hold times (Yes/No)? Yes

Is Chain of Custody completed and signed (Yes/No)? Yes

Were sample temperatures acceptable when they reached lab (Yes/No)? Yes


Is data considered to be reliable (Yes/No)? Yes

If answer is "No", describe and provide rationale:

Performed by (Print): Mackenzie Robart

Reviewed by (Print): Michelle Patterson

Reviewed date: 2023/10/03

Reviewed by (Signature): 

Gene-Trac® Certificate of Analysis

Customer: Michelle Patterson

Email: michelle.patterson@parsons.com

Phone: Not provided

Company: Parsons

Project Name: 478092.17104

Method Reference: SOP-002, 019, 108, 113, & 117

Batch Reference: S-9909

Report Date: 31-Jul-23

Certificate Number: CAG-0624

Test Location(s): Guelph

Customer Reference: 10-12832

The results included herein only apply to the samples described within and are applicable to the items as received. This certificate is not to be reproduced unless in full.



Certificate of Analysis: Gene-Trac® ORM-2 Assay

Certificate Number: CAG-0624


Data File(s): QS3A-ORM2-QPCR-0176

Run Date(s): 25-Jul-23

Table 1: Test Results

Sample ID	Deltaproteobacterium ORM-2	
	Percent ORM-2 ⁽¹⁾	ORM-2 Gene Copies/Liter ⁽²⁾
BH4008A	NA	7 x 10 ² U
BH1963	NA	3 x 10 ³ U
BH1906	NA	3 x 10 ³ U
BH1917	NA	1 x 10 ³ U

See final page for notes.

Analyst: 
KJ Elipse-Cruz, B.Sc.
Laboratory Technician II


Approved: 
Jen Wilkinson
Senior Genetic Testing Specialist

Table 2: Detailed Test Parameters, Test Certificate CAG-0624

Customer Sample ID	BH4008A	BH1963	BH1906	BH1917
Date Sampled ⁽³⁾	11-Jul-23	11-Jul-23	11-Jul-23	11-Jul-23
Matrix	Groundwater	Groundwater	Groundwater	Groundwater
Date Received ⁽³⁾	12-Jul-23	12-Jul-23	12-Jul-23	12-Jul-23
Sample Temperature	6.1 °C	6.1 °C	6.1 °C	6.1 °C
Filtration Date ⁽³⁾	18-Jul-23	18-Jul-23	18-Jul-23	18-Jul-23
Volume Used for DNA Extraction	500 mL	100 mL	100 mL	300 mL
DNA Extraction Date	19-Jul-23	19-Jul-23	19-Jul-23	19-Jul-23
DNA Concentration in Sample (extractable)	1,950 ng/L	3,750 ng/L	4,575 ng/L	1,150 ng/L
PCR Amplifiable DNA	Detected	Detected	Detected	Detected
DNA Extraction Control ⁽⁴⁾	Passed	Passed	Passed	Passed
Detection Limit (copies/L)	7×10^2	3×10^3	3×10^3	1×10^3
Quantitation Limit (copies/L)	1×10^3	7×10^3	7×10^3	2×10^3
qPCR Controls (see Table 3)	Passed	Passed	Passed	Passed
Comments	--	--	--	--

See final page for notes.

Table 3: Gene-Trac ORM-2 Control Results, Test Reference CAG-0624

Laboratory Control	Analysis Date	Control Description	Deltaproteobacterium ORM-2		Comments
			Spiked Gene Copies per Liter	Recovered Gene Copies per Liter	
Positive Control Low Concentration	25-Jul-23	Synthetic DNA (CSLO-0176)	1.4×10^7	1.1×10^7	Passed
Positive Control High Concentration	25-Jul-23	Synthetic DNA (CSHO-0176)	1.4×10^9	1.3×10^9	Passed
DNA Extraction Blank	25-Jul-23	Sterile Water (FB-4444)	0	6.6×10^2 U	Passed
Negative Control	25-Jul-23	Reagent Blank (TBO-0176)	0	6.6×10^2 U	Passed

See final page for notes.

Notes:

ORM-2 = Deltaproteobacterium ORM-2

M Non-specific amplification was observed via melt curve analysis

J The associated value is an estimated quantity between the detection limit and quantitation limit.

U Not detected, associated value is the detection limit.

B Analyte was detected in the method blank within an order of magnitude of the test sample.

E Extracted genomic DNA was not detected in the sample.

I Sample inhibited the test reaction based on inability to PCR amplify extracted DNA with universal primers.

ng/L = nanograms per liter

mL = milliliter

NA = not applicable

ND = not detected

DNA = deoxyribonucleic acid

16S rRNA = 16S ribosomal ribonucleic acid

PCR = polymerase chain reaction

qPCR = quantitative PCR

°C = degrees Celsius

¹ Percent Deltaproteobacterium ORM-2 (ORM-2) in microbial population. This value is calculated by dividing the number of 16S ribosomal ribonucleic acid (rRNA) gene copies by the total number of bacteria as estimated by the mass of DNA extracted from the sample. Range represents normal variation in ORM-2 enumeration.

² Target quantitation is subject to the variability of the method, this variability has been demonstrated to be +/- 60%.

³ Samples are stabilized by freezing at -80 °C upon sample reception (field filters) or in-lab filtration (groundwater). Hold time not exceeded if sampling date is within 14 days of date received or filtration date.

⁴ DNA is extracted from a standardized bacterial culture sample once per week and Total Bacteria qPCR is performed using standard methods. A recovery greater than 25% of the expected value is deemed acceptable.

⁵ Control was outside recovery limit guidelines (+/- 50%), however, test results are deemed acceptable if one of two positive controls fall within the recovery limit guidelines.



Canadian Shipping Address:
 130 Stone Road West
 Guelph, Ontario N1G 3Z2
 PH: 1-519-822-2265
 Toll Free PH: 1-866-251-1747
 www.siremlab.com

U.S. Shipping Address:
 180B Market Place Blvd
 Knoxville, TN 37922
 PH: 1-865-330-0037
 Toll Free PH: 1-866-251-1747

Chain of Custody (COC) Record

Lab #
 S-9909

Project Name 478092.17104		Project # (Optional) 10-12832		Analysis										1 of 1 COCs	
Project Manager Michelle Patterson		Proposal #												For Lab Use Only SiREM Database Info Recorded By: _____ Date: _____	
Company Parsons	Email Address Michelle.patterson@parsons.com														
Address (Street) Unit 210, 214-11th Ave SW															
City Calgary	State/Province Alberta	Country Canada													
Phone #															
Sampler's Signature <i>[Signature]</i>		Sampler's Printed Name Cody Whittaker													
Client Sample ID	Sampling		Matrix	Number of Containers	Sample Preservative	X	Other Information (Optional)	Sample ID							
	Date	Time													
BH4008A	07/11/23	7:15	GW	1	N/A	X	B-05032								
BH1903	07/11/23	0930	GW	1	N/A	X	B-05031								
BH1906	07/11/23	1130	GW	1	N/A	X	B-05026								
BH1917	07/11/23	1335	GW	1	N/A	X	B-05025								

X ORM-2

Billing Information (Optional) P.O. #: 478092 478092.17104 Quote # C30805		For Lab Use Only Observed Cooler Temperature (°C): _____ Corrected Cooler Temperature (°C): 6.1 Thermometer ID: 0123		Cooler Number (if applicable): _____ Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable Custody Seal Number (if applicable): _____	
Bill To: Parsons Inc, Accounts Payable, Parsons Inc, Parsons 251 John Street, Markham ON, L3R 2Y8 (905-944-8877) parsons.com					

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature <i>[Signature]</i>	Signature <i>[Signature]</i>	Signature	Signature	Signature	Signature
Printed Name Cody Whittaker	Printed Name Jordan Linkletter	Printed Name	Printed Name	Printed Name	Printed Name
Firm	Firm SiREM	Firm	Firm	Firm	Firm
Date/Time 1545/07/11/23	Date/Time 7:12/23 9:40 am	Date/Time	Date/Time	Date/Time	Date/Time

Please note: The SiREM Knoxville location does not have a loading dock and cannot accept shipments from trucks without a lift gate.