
GROUNDWATER & SOIL VAPOUR MONITORING EVENT – 2025

RENEWAL SA

**RESIDENTIAL AUDIT AREA - TONSLEY
SOUTH AUSTRALIA**

**November 2025
Ref: EC0193**

Document Control

Report Name:	Groundwater & Soil Vapour Monitoring Event – 2025	
Site:	Residential Audit Area - Tonsley	
Echo Reference:	EC0193	
Client:	Renewal SA	
Signatures:	Reviewed By:  Andrew Durand Principal Environmental Engineer	Prepared By:  Nick Waniarcha Principal Consultant

Version No.	Status	Date	Issued to:
0	Draft	7 August 2025	Renewal SA Mud Environmental
1	Final	7 November 2025	Renewal SA Mud Environmental

EXECUTIVE SUMMARY

Echo Risk Consulting has completed a monitoring event for portion of the Tonsley Development site. The works were completed as part of an ongoing monitoring program and in line with the 2020 Environmental Monitoring Plan (2020 EMP) prepared for the site. Ongoing groundwater and soil vapour monitoring is required as a condition of a Site Contamination Audit Report prepared for area of the site being used for residential proposes (Residential Audit Area).

Groundwater Testing

There were no exceedances above the adopted onsite trigger levels for any of the monitoring wells sampled during this monitoring event.

There were minor exceedances above the offsite trigger levels (associated with variations between sampling events) for isolated chlorinated hydrocarbons and an increasing trend assessed for 1,1-dichloroethene at two locations in the up-hydraulic gradient direction of the site. Based on the reported soil vapour results, the minor exceedances of trigger levels do not appear to have impacted the risk profile associated with vapour intrusion under the Residential Audit Area.

The groundwater results indicate a stable or decreasing trend with respect to petroleum hydrocarbons, which are the primary chemicals of interest at the site.

Soil Vapour Testing

There were no exceedances of the adopted trigger levels for any of the analytes tested in soil vapour. In addition, a trend analysis indicated that, where able to be calculated, contaminant trends for the primary fuel related chemicals of interest are generally stable or decreasing.

Recommendations

A review of the 2020 EMP was due to be completed following the 2023 sampling event. Echo understands that while limited sampling was completed in 2023, there was no formal report completed and no review of the 2020 EMP. Furthermore, no sampling was completed in 2024.

Based on the reported results from the 2025 monitoring event and consideration of trends utilising data from historical sampling events, it may be appropriate to reduce monitoring requirements for the Residential Audit Area. Echo recommends the following:

- *A confirmatory sampling event to be completed in April 2026. The aim of the 2026 sampling event would be to focus on the minor trigger level exceedances reported in the 2025 sampling, with a view of providing additional data that may allow complete cessation of monitoring.*
- *Limit the scope the 2026 confirmatory monitoring to the sampling of groundwater wells only, and selected vapour points upgradient of the Residential Audit Area. While the primary focus would be to further assess trends for chlorinated hydrocarbons, the monitoring should also include other petroleum and chlorinated hydrocarbons. This would provide further lines of evidence to support the complete cessation of monitoring.*
- *Instead of preparing a formal amended EMP, the proposed 2026 sampling approach (including monitoring points and analytical suites) will be documented under a separate cover, to be endorsed by the Auditor.*
- *All monitoring infrastructure should be retained until completion of the 2026 sampling event.*

Table of Contents

EXECUTIVE SUMMARY.....	ii
1 INTRODUCTION.....	1
1.1 Background.....	1
1.2 Objective.....	2
1.3 Scope of Works.....	2
2 SITE DETAILS & CONDITIONS.....	3
3 HISTORICAL INVESTIGATIONS.....	4
4 ENVIRONMENTAL MONITORING PLAN (2020 EMP).....	5
4.1 EMP Objectives.....	5
4.2 Monitoring Network.....	5
4.2.1 Groundwater.....	5
4.2.2 Soil Vapour.....	6
4.3 Analytical Program.....	8
4.3.1 Groundwater.....	8
4.3.2 Soil Vapour.....	9
4.4 Trigger Levels.....	9
4.4.1 Onsite Trigger Levels.....	9
4.4.2 Offsite Trigger Levels.....	10
5 GROUNDWATER MONITORING.....	12
5.1 Sampling Methodology.....	12
5.2 Analytical Program.....	12
5.3 Groundwater Gauging and Flow Direction.....	13
5.4 Field Measured Water Quality Parameters.....	14
5.5 Analytical Results.....	15
5.6 Trend Analysis.....	16
6 SOIL VAPOUR MONITORING.....	18
6.1 Sampling Methodology.....	18
6.2 Weather Conditions.....	19
6.3 Analytical Program.....	19
6.4 Field Measured Soil Gas Parameters.....	19
6.5 Analytical Results.....	21
6.6 Trend Analysis.....	21
7 QUALITY ASSURANCE AND QUALITY CONTROL.....	23
7.1 Internal Laboratory Quality Assurance.....	23
7.2 Groundwater Duplicate Analysis.....	23
7.3 Soil Vapour Duplicate Analysis.....	24
7.4 Blank Analyses.....	25
8 DISCUSSION.....	26

8.1	Groundwater.....	26
8.2	Soil Vapour.....	27
8.3	Risk Profile	27
9	CONCLUSIONS AND RECOMMENDATIONS.....	28
9.1	Conclusions	28
9.2	Recommendations.....	29

Results Summary Tables – Groundwater		I
Results Summary Tables – Soil Vapour		II
Appendix A	Groundwater Sampling Records & Calibration Certificates.....	III
Appendix B	NATA Laboratory Test Certificates - Groundwater.....	IV
Appendix C	Mann-Kendall Statistical Analysis – Groundwater.....	V
Appendix D	Soil Vapour Sampling Records & Calibration Certificates.....	VI
Appendix E	Rainfall Data (April 2025).....	VII
Appendix F	NATA Laboratory Test Certificates – Soil Vapour	VIII
Appendix G	Mann-Kendall Statistical Analysis – Soil Vapour	IX
Appendix H	Statement of Limitations	X

Report Figures

Figure 1: Residential Audit Area and Monitoring Area	1
Figure 2: Monitoring Area & Surrounds	3
Figure 3: Groundwater Monitoring Well Locations	6
Figure 4: Soil Vapour Point Locations.....	8
Figure 5: Groundwater levels Hydrograph (2017 – 2025).....	13
Figure 6: Groundwater levels (m AHD) and inferred flow direction	14

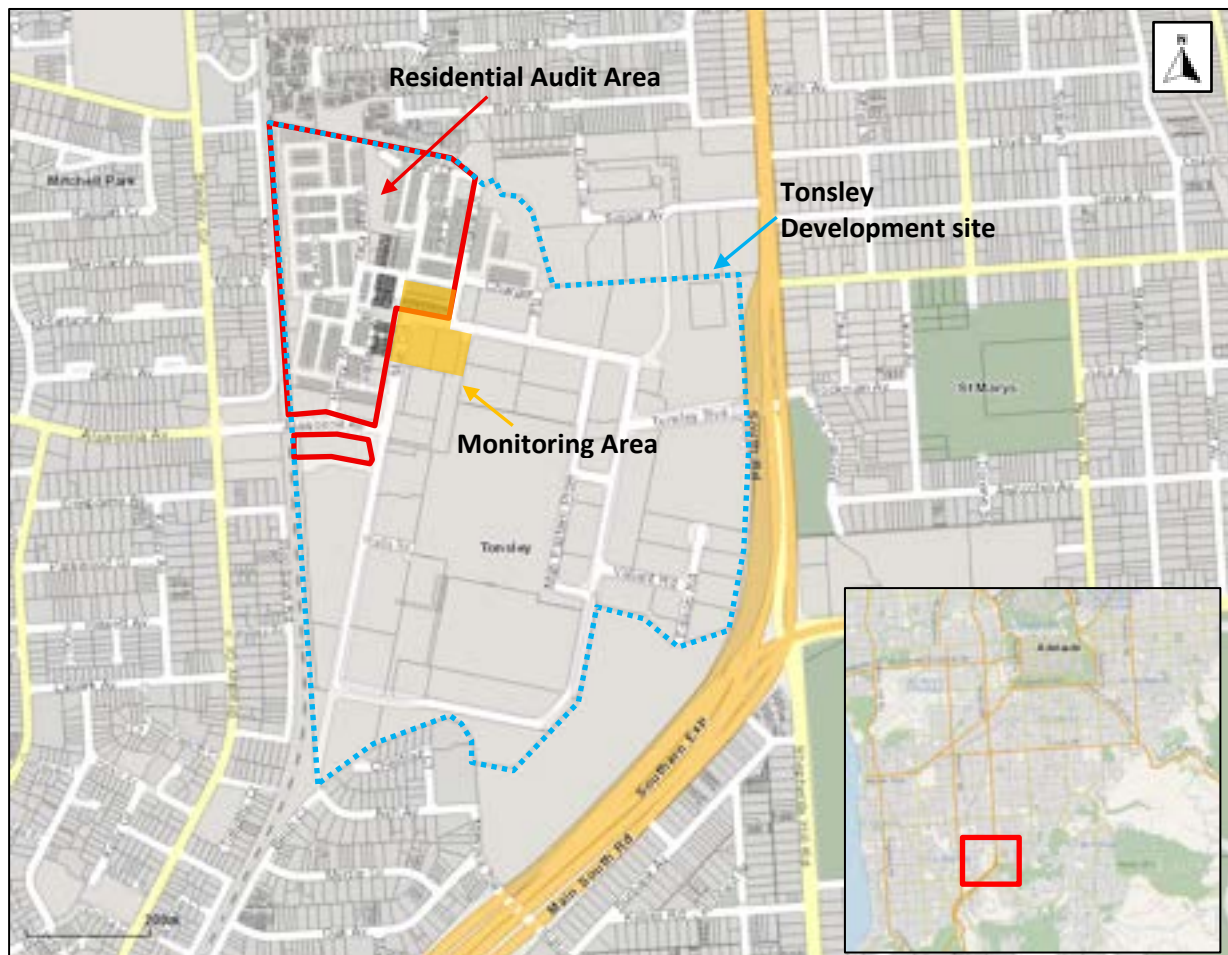
Report Tables

Table 1: Groundwater Monitoring Network	5
Table 2: Soil Vapour Monitoring Network.....	6
Table 3: Groundwater Analytical Program.....	8
Table 4: Soil Vapour Analytical Program	9
Table 5: Trigger Levels.....	10
Table 6: Groundwater Gauging Results.....	13
Table 7: Field Measured Water Quality Parameters.....	14
Table 8: Mann-Kendall Statistical Summary - Groundwater.....	16
Table 9: Vapour Point Field Measurements.....	20
Table 10: Mann-Kendall Statistical Summary – Soil Vapour	22
Table 11: Soil Vapour Duplicates.....	24

1 INTRODUCTION

1.1 Background

Echo Risk Consulting (Echo) was commissioned by Renewal SA to complete a groundwater and soil vapour monitoring event for portion of the Tonsley Development site. The works were carried out to comply with the requirements of an Environmental Monitoring Plan (2020 EMP)¹ that exists for the site. The approximate location of the Tonsley Development site, the boundary of the Residential Audit Area and the monitoring area is presented in Figure 1. Further detail is provided in Section 2.



Source: <https://maps.sa.gov.au/SAPPA/>

Figure 1: Residential Audit Area and Monitoring Area

The 2020 EMP was implemented as a condition for ongoing groundwater and soil vapour monitoring as required by the Site Contamination Audit Report (SCAR) prepared for the Residential Audit Area by South Australian EPA accredited Site Contamination Auditor Mr. Adrian Webber of Mud Environmental (the Auditor). The condition states: *'Ongoing soil vapour and groundwater monitoring is the responsibility of Renewal SA and must be undertaken by a suitably qualified and experienced environmental consultant (with reference to Schedule B9 of the ASC NEPM [National Environment Protection (Assessment of Site Contamination)]), in accordance with the Greencap report 'Environmental Monitoring Plan – Tonsley SANZ' dated October 2017' (2017 EMP)'.*

¹ Environmental Monitoring Plan (EMP) – Tonsley Residential Audit Area' dated March 2020 (2020 EMP)

Echo understands that groundwater monitoring commenced in 2018, with a revised 2020 EMP superseding the earlier 2017 EMP, following review of the monitoring program. Various changes were implemented at this time in consultation with the Auditor.

Data provided to Echo indicates that monitoring was completed in general accordance with the 2020 EMP in 2020, 2021 and 2022. Renewal SA advised that a monitoring event was commissioned in 2023, but no formal report was completed. Furthermore, the data provided following this monitoring event was extremely limited and suggested that most monitoring points were unable to be sampled for a variety of reasons.

The monitoring program was scheduled to be revisited following the 2023 sampling event as per the provisions in the 2020 EMP, however this was not completed.

Echo was originally engaged in mid-2024. Due to the timing, it was agreed with the Auditor to push sampling back to April 2025 to align with the timing recommended in the 2020 EMP for sampling to occur in a period that was considered higher risk (i.e. end of dry season). This meant that no sampling event was completed in 2024.

1.2 Objective

The objective of the groundwater and soil vapour monitoring is to comply with the requirements of the 2020 EMP which has been implemented to monitor the status and risk levels from contamination plumes (primarily petroleum hydrocarbons) in groundwater and soil vapour. An EMP has been in place since 2017 and currently involves the monitoring of selected sampling points on an annual basis with data from the monitoring used to assess contamination trends, risk levels and inform future actions. Further details relating to the 2020 EMP objectives are provided in Section 4.

1.3 Scope of Works

The scope of work completed as part of the 2025 monitoring was in general accordance with the 2020 EMP and included:

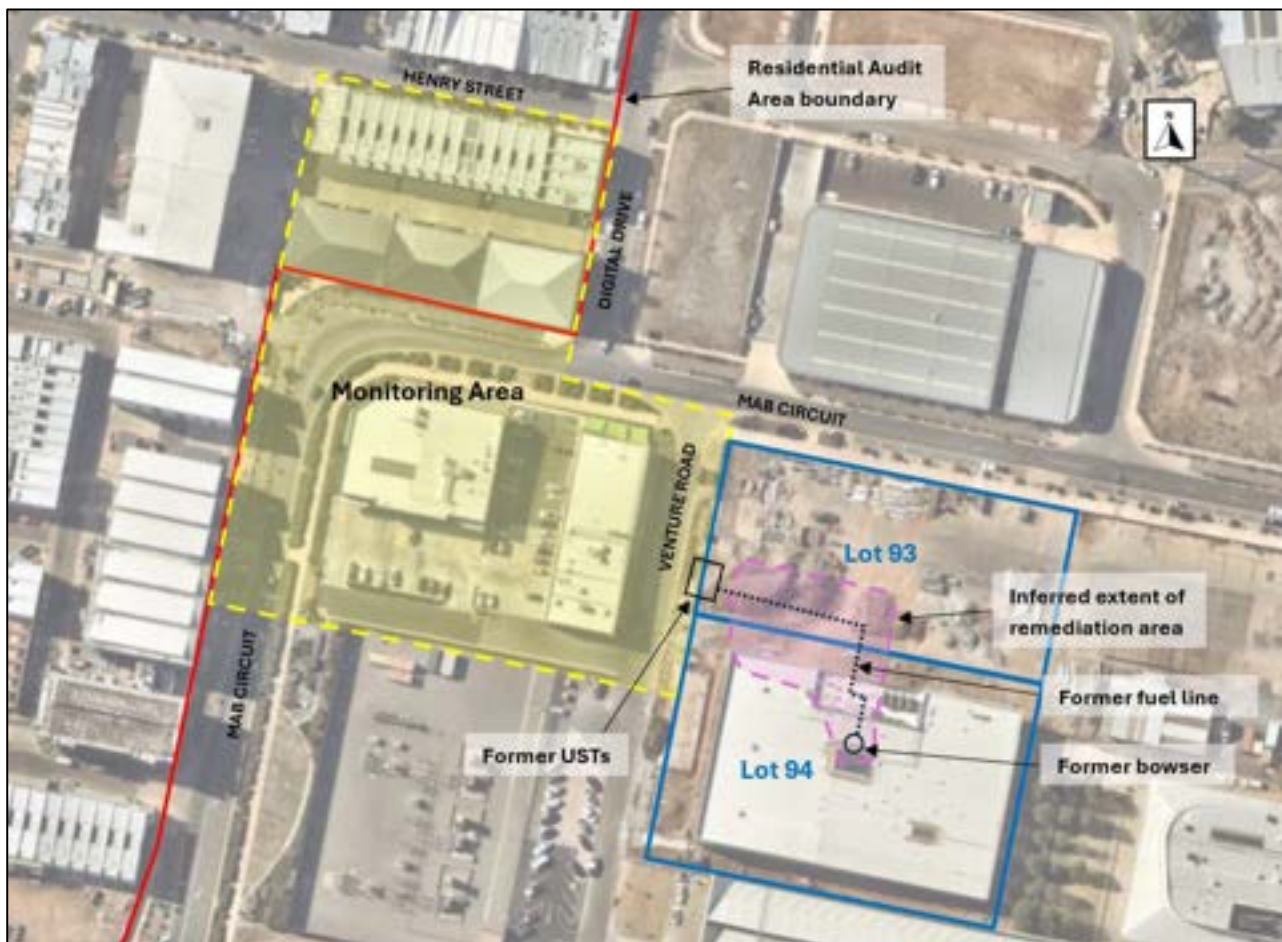
- Gauging and sampling of six groundwater monitoring wells. Seven groundwater monitoring wells are designated for sampling in the 2020 EMP, but one well could not be located and was presumed decommissioned or destroyed.
- Collection of soil vapour samples from 16 soil vapour points targeting multiple depths. Additional soil vapour points (total of 24) are designated for sampling in the 2020 EMP, but several could not be sampled as they could either not be located (presumed decommissioned or destroyed), were damaged or were observed to be affected by water ingress.
- Analysis of groundwater and soil vapour samples for the required analytes.
- Preparation of this report in line with the reporting requirements in the 2020 EMP, which includes details of the work completed and results, trend analysis, comparison of results against trigger levels and recommendations.

2 SITE DETAILS & CONDITIONS

The northern portion of the monitoring area site was part of the Residential Audit Area and currently comprises a series of apartment buildings and townhouses within an Urban Neighbourhood Zone of the greater Tonsley development site. The southern portions of the monitoring area are outside of the Residential Audit Area and currently comprise several commercial tenancies and road reserves (including Mab Circuit and Venture Road) within a Strategic Innovation Zone of the greater Tonsley development site.

An area to the southeast of the monitoring area (Allotments 93 and 94) was identified in previous investigations to be the primary source of impacted soil vapour and groundwater which required ongoing monitoring. The source was assessed to be associated with historical leaks of fuel (likely petrol) from underground storage tanks (USTs) and the associated pipelines and bowser. This source area was remediated between December 2018 and February 2019. Additional information is presented in Section 3.

The monitoring area along with the Residential Audit Area and location of the inferred source and remediation area are shown in Figure 2.



Source: Nearmap (March 2025 image)

Figure 2: Monitoring Area & Surrounds

3 HISTORICAL INVESTIGATIONS

The Residential Audit Area and areas subject to the groundwater and soil vapour monitoring documented in this report were part of the former Mitsubishi Motors Australia Limited (MMAL) car manufacturing plant. This large site was used as a vehicle manufacturing facility by Chrysler and Mitsubishi from the 1960s until 2009. Since manufacturing ceased, the broader former MMAL site has been the subject of ongoing investigations and redevelopment.

Numerous environmental investigations were completed as part of the assessment of the Residential Audit Area. Details of the historical site investigations and the assessment of potential risks to future site occupants were documented in the following reports:

- *Detailed Site Investigation, Suburban Activity Node Zone – Tonsley SANZ*, prepared by Greencap and dated October 2017 (ref. J115317/DSI) (2017 SANZ DSI).
- *Vapour Intrusion Risk Assessment – Tonsley SANZ*, prepared by Greencap and dated October 2017 (ref. J115317/VIRA) (2017 SANZ VIRA).
- *Remediation and Validation Report – Tonsley SANZ*, prepared by Greencap and dated October 2017 (re. J115317/RVR) (2017 SANZ RVR).
- *High Resolution Vertical Profiling Results Summary – Section 12, Former MMAL Plant*, prepared by Greencap and dated March 2017.
- *Preliminary Vapour Intrusion Risk Assessment, VP33 Surrounds, Residential Audit Area (SANZ), Tonsley*, prepared by Greencap and dated June 2017.
- *Additional Site Investigation – Tonsley*, prepared by Greencap and dated October 2017 (2017 Additional Investigation)
- *Remediation Options Assessment – Residential Audit Area – Tonsley*, prepared by Greencap and dated October 2017 (2017 ROA).

The aim of the investigations completed for the Residential Audit Area were to obtain a statement of suitability for the proposed sensitive (residential) land use. A Site Contamination Audit Report (SCAR) was completed by the appointed Auditor.

While a detailed review of the above reports has not been completed as part of this monitoring report, based on information presented in more recent reports (i.e. the 2020 EMP), it is understood the investigations identified volatile chemicals (primarily petroleum hydrocarbons) in soil vapour and groundwater beneath some portions of the site. The sources of these chemicals were assessed to be located outside of the Residential Audit Area, to the southeast of the monitoring area. Due to the presence of elevated concentrations of petroleum hydrocarbons, regular monitoring of groundwater and soil vapour was required as a condition of the SCAR.

Echo understands that groundwater and soil vapour monitoring has been completed since early 2018, originally in accordance with the 2017 EMP and later an updated 2020 EMP. Details of the 2020 EMP are presented in Section 4.

4 ENVIRONMENTAL MONITORING PLAN (2020 EMP)

The 2025 groundwater and soil vapour monitoring event was undertaken in general accordance with the 2020 EMP, which is understood to have been endorsed by the appointed Site Contamination Auditor, Mr Adrian Webber of Mud Environmental.

The GMMP was prepared in accordance with relevant SA EPA guidance documents and documents the monitoring schedule and analytical program, adopted compliance and trigger levels, contingency measures for trigger level exceedances and review protocols.

4.1 EMP Objectives

The objectives of the 2020 EMP are to:

- Conduct regular monitoring of the identified groundwater and soil vapour impacts to verify that the concentrations of chemicals of concern (primarily petroleum hydrocarbons) remain within levels that do not pose an unacceptable risk to future site occupants.
- Identify potential changes to the assessed levels of risk to human health from the identified contamination via the monitoring of concentrations of chemicals of concern, including comparison to established trigger levels that may indicate a variation in the level of risk.
- Establish mechanisms and management measures or remedial actions which should be implemented if level of risk shows an increasing trend.

4.2 Monitoring Network

4.2.1 Groundwater

The groundwater monitoring well network details as documented in the 2020 EMP is summarised in Table 1 and a plan showing the location of the monitoring wells is presented in Figure 3. Echo notes that one of the monitoring wells (MWS6_14) appears to have been either decommissioned or destroyed as part of road upgrade works in the area. This well is no longer available for monitoring.

Table 1: Groundwater Monitoring Network

Location / Reference	Easting (MGA94)	Northing (MGA94)	Elevation (TOC, m AHD)	Screened interval (m AHD)	Notes
MWS12_01A	278283.34	6123446.33	45.687	33.187 - 30.187	-
MWS12_13	278278.9	6123470	46.313	33.913 - 30.913	-
MWS12_14	278295.8	6123493	47.343	34.843 - 31.843	-
MWS15_27	278208.1	6123508	43.899	30.899 - 27.899	-
MWS15_28	278197.6	6123488	43.712	30.712 - 27.712	-
MWS15_29	278193.5	6123465	43.428	33.928 - 30.928	-
MWS16_14	278272.6	6123434	45.374	36.374 - 33.374	Destroyed / decommissioned

Notes:

TOC = top of casing

m AHD = metres, Australian Height Datum



Source: Nearmap (March 2025 image)

Figure 3: Groundwater Monitoring Well Locations

4.2.2 Soil Vapour

The soil vapour point monitoring network details as documented in the 2020 EMP is summarised in Table 2 and a plan showing the location of the monitoring wells is presented in Figure 4. Echo notes that two soil vapour points (VP28 and VP43) appear to have been destroyed as part of either road upgrade works or new development on the commercial allotments in the monitoring area. These vapour points are no longer available for monitoring. In addition, several vapour points were found to be either blocked and/or had water ingress. Further details are provided in Section 6.

Table 2: Soil Vapour Monitoring Network

Location / Reference	Ground surface elevation (m AHD)*	Monitoring depths (m AHD)	Notes
VP12	45.840	2.5m (43.34)	-
		3.8m (42.04)	
		6.0m (39.84)	
VP27	46.397	3.0 (43.397)	3.0m depth had water ingress. While not part of the monitoring program, an adjacent 4.5m depth vapour point was sampled instead.
		6.0 (40.397)	
VP28	45.45	3.0 (42.45)	Presumed destroyed.
VP30	43.518	3.0 (40.518)	Water ingress.

Location / Reference	Ground surface elevation (m AHD)*	Monitoring depths (m AHD)	Notes
VP31	43.78	3.0 (40.78)	-
VP32	43.971	3.0 (40.971)	Water ingress.
VP41	43.8	3.0 (40.80)	-
		6.0 (37.80)	
VP42	43.8	4.5 (39.30)	-
		6.0 (37.80)	
VP43	43.8	3.0 (40.80)	Both points presumed destroyed (within new development site).
		6.0 (37.80)	
VP45	45.85	3.7 (42.15)	-
VP45A	45.3	2.3 (43.0)	-
VP46	44.4	3.7 (40.70)	Not accessed
VP46A	44.5	2.5 (43.0)	-
VP47	43.5	3.7 (39.80)	Both VP47 and VP47A were observed to have water ingress.
VP47A	43.6	2.5 (41.1)	
VP48	45.67	3.7 (41.97)	Water ingress.
VP49	44.23	3.7 (40.53)	
VP50	43.29	3.7 (39.59)	
VP51	44.3	3.7 (40.60)	
VP52	43.6	3.7 (39.90)	Blocked – unable to be sampled.
VP53	43.0	3.7 (39.30)	Blocked – unable to be sampled.

Notes:

m AHD = metres, Australian Height Datum

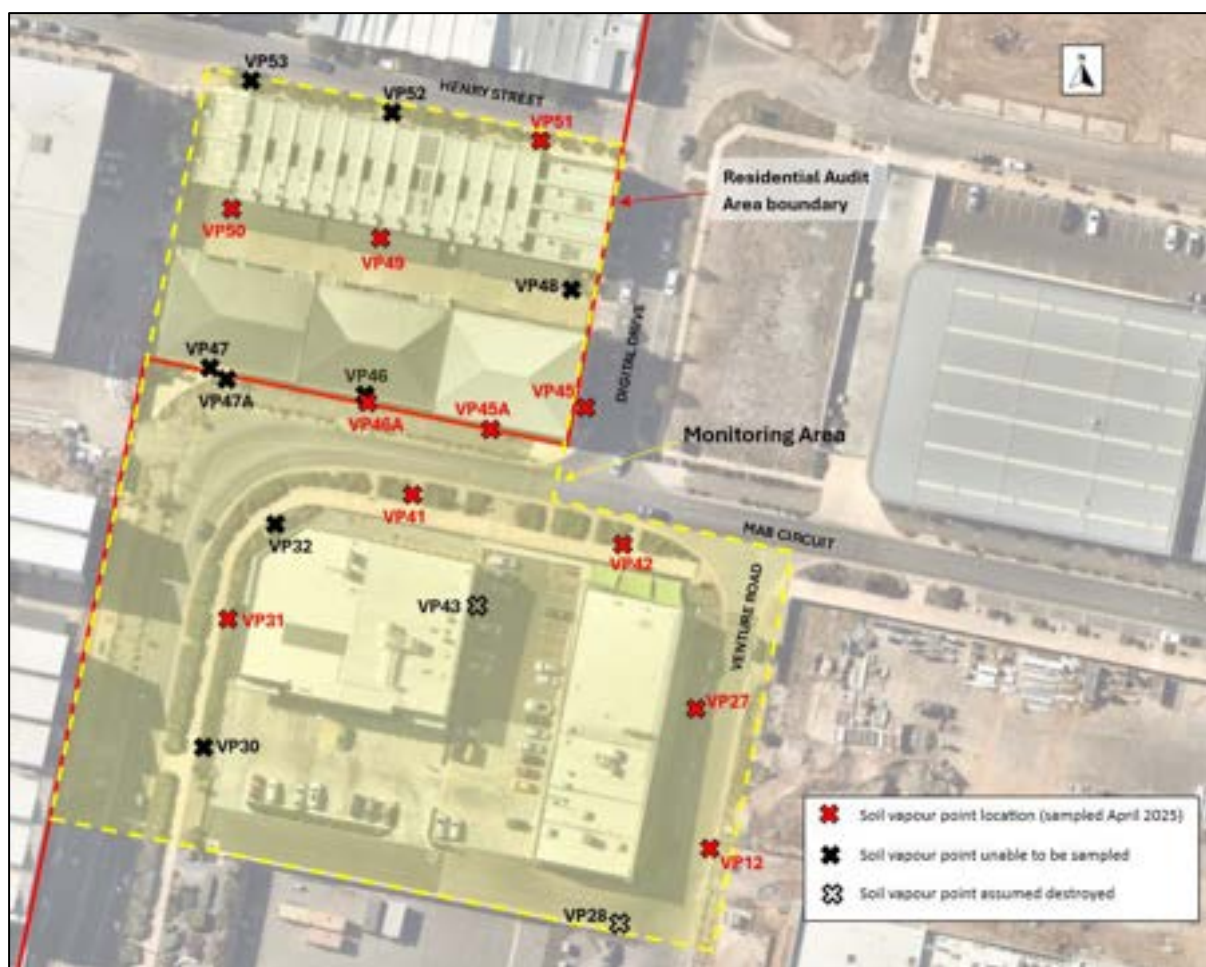
*Elevation information presented in previous reports (including the 2020 EMP) for many vapour points was estimated

While the 2020 EMP includes location data for the vapour points, this has not been replicated in Table 2 given these are unlikely to be accurate for locations where multiple monitoring depths are assessed.

Echo understands that vapour points VP45A, VP46A and VP47A were installed as alternate / replacement vapour points due to historical issues with collecting samples from VP45, VP46 and VP47. The approach for sampling involves first assessing VP45, VP46 and VP47 points and attempting to sample these. However, if samples cannot be collected, the alternate / replacement vapour points (VP45A, VP46A and VP47A) are sampled.

Echo was not involved with previous monitoring events but based on a review of previous reports provided it appears as though most of the monitoring points not able to be sampled during the April 2025 event have had similar issues in earlier sampling events. Section 5.3.2 of the 2020 EMP requires that any monitoring points which are damaged (or similar) should be either repaired or replaced prior to the next monitoring event. Attempts have been made historically to install and sample replacement vapour points, but water ingress has been a common issue.

Irrespective of the above, there are viable vapour points upgradient of the residential area, as well as along the southern boundary and in the central portions of the site. On this basis, Echo is of the opinion that the viable vapour points within the monitoring network are adequate to address the objectives of the monitoring.



Source: Nearmap (March 2025 image)

Figure 4: Soil Vapour Point Locations

4.3 Analytical Program

4.3.1 Groundwater

The 2020 EMP requires the sampling and analysis of all monitoring well listed in Table 1 for the analytes listed in Table 3.

Table 3: Groundwater Analytical Program

Total recoverable hydrocarbons (TRH)	C6-C10 less BTEX (F1) >C10-C16 less naphthalene (F2)	
BTEX compounds	Benzene Ethyl benzene Xylenes	
Monocyclic Aromatic Hydrocarbons (MAH)	1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1-methyl-4-ethyl benzene	
Chlorinated Hydrocarbons:	Tetrachloroethene (PCE)	1,1,1-Trichloroethane
	Trichloroethene (TCE)	1,1,2-Trichloroethane
	cis-1,2-Dichloroethene	1,1,2,2-Tetrachloroethane
	trans-1,2-Dichloroethene	Chloroform
	1,1-Dichloroethene	Hexachloro-1,3-butadiene
	Vinyl chloride (chloroethene)	(Hexachlorobutadiene)
	Bromodichloromethane	

Other volatile organic compounds	2-hexanone (MBK)
----------------------------------	------------------

Echo notes that while 1-methyl-4-ethyl benzene is listed in the 2020 EMP for groundwater it does not appear to have been assessed as part of historical sampling events. Echo was unable to have this compound reported in groundwater, but given its historical absence in groundwater testing and the fact it was tested in soil vapour (refer Section 4.3.2), this is not considered to be significant in terms of the overall outcomes for the monitoring event.

4.3.2 Soil Vapour

The 2020 EMP requires the sampling and analysis of all monitoring well listed in Table 2 for the analytes listed in Table 4:

Table 4: Soil Vapour Analytical Program

Total recoverable hydrocarbons (TRH)	C6-C10 less BTEX (F1) >C10-C16 less naphthalene (F2)
BTEX compounds	Benzene Ethyl benzene Xylenes
Monocyclic Aromatic Hydrocarbons (MAH)	1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1-methyl-4-ethyl benzene
Chlorinated Hydrocarbons:	Tetrachloroethene (PCE) 1,1,1-Trichloroethane Trichloroethene (TCE) 1,1,2-Trichloroethane cis-1,2-Dichloroethene 1,1,2,2-Tetrachloroethane trans-1,2-Dichloroethene Chloroform 1,1-Dichloroethene Hexachloro-1,3-butadiene Vinyl chloride (chloroethene) (Hexachlorobutadiene) Bromodichloromethane
Other volatile organic compounds	1,4-Dioxane 2-hexanone (MBK) 2-Propanol (isopropyl alcohol)

4.4 Trigger Levels

Trigger levels in the 2020 EMP are based on the potential for complete linkages between the contamination sources (impacts in soil vapour and groundwater) and potential human receptors via the inhalation pathways. Two sets of trigger levels were developed: one set for the onsite monitoring locations, and one set for the offsite monitoring locations. These are detailed further below.

4.4.1 Onsite Trigger Levels

Although not within the Residential Audit Area, 'onsite' trigger levels are presented in the 2020 EMP for several boundary wells (MWS12_14, MWS15_27, MWS15_28 and MWS15_29, refer Figure 3). Elevated concentrations in these boundary monitoring wells may directly affect the assessed risk to occupants in the Residential Audit Area. As such, specific trigger levels were developed.

Trigger levels were also developed for the onsite vapour points (VP45 to VP53 inclusive, refer Figure 4). These trigger levels would also apply to the alternate / replacement vapour points (VP45A, VP46A and VP47A). The trigger levels for these vapour points are based on 80% of the concentrations assessed as being acceptable in the historical site-specific risk assessment.

The adopted onsite trigger levels for the specified groundwater wells and soil vapour points are presented in Table 5.

Table 5: Trigger Levels

Analyte	Groundwater trigger levels (mg/L)	Soil vapour trigger levels (mg/m3)
C6-C10 less BTEX (F1)	6.0	9,900
Benzene	5.0	256
Ethylbenzene	NL	4,640
Xylenes	NL	41,630
1,2,4-Trimethylbenzene	0.002	1,184
1,3,5-Trimethylbenzene	0.001	5,120
1-methyl-4-ethyl benzene	-	1,600
Tetrachloroethene (PCE)	0.001^	13.6
Trichloroethene (TCE)	0.018	10.4
cis-1,2-Dichloroethene	0.006	7.2
trans-1,2-Dichloroethene	0.001^	7.92
1,1-Dichloroethene (1,1-DCE)	0.042	7.92
Vinyl chloride (VC)	0.0076	5.12
Bromodichloromethane	0.001^	13.6
1,1,1-Trichloroethane	0.001^	11.2
1,1,2-Trichloroethane	0.001^	11.2
1,1,2,2-Tetrachloroethane	0.001^	14.4
Chloroform	0.005^	9.6
Hexachlorobutadiene	0.02^	21.6
2-Propanol (isopropyl alcohol)	-	208
1,4-Dioxane	-	25.6
2-hexanone (MBK)	0.005^	208

NL – not limiting as defined in the ASC NEPM

^ Laboratory limit of reporting

4.4.2 Offsite Trigger Levels

No specific trigger levels were developed for offsite groundwater wells (other than for the wells discussed in Section 4.4.1) as the results from these wells are representative of up-gradient groundwater concentrations between the inferred source area and the Residential Audit Area and are not directly relevant to the potential risks site occupants.

In addition, no specific trigger levels were developed for offsite vapour points as these areas will be used primarily for commercial/industrial activities. These activities have a different risk profile (not considered as part of site-specific risk assessments completed for the Residential Audit Area). The risk to future occupants of these areas was not directly considered in the 2020 EMP however the following is noted based on information presented in previous reports:

- Allotment 331 adjacent the monitoring area to the northeast is proposed to have commercial/industrial land-use on the ground floor with high density residential use above. A SCAR was prepared for this allotment, and it is understood the site was deemed to be suitable for this proposed use.
- Allotments 93 and 94 to the southeast of the monitoring area within which the offsite 'source' area (former fuel infrastructure) was located, are (or were recently) under Audit. Remediation activities were conducted across the source area. Allotment 94 is understood to have been deemed suitable for use for tertiary education purposes, with development currently underway and Allotment 93 is earmarked for commercial/industrial use.

The results of offsite groundwater monitoring wells and soil vapour points have been compared with the previous results to assess trends and the potential for future migration of contaminated groundwater and soil vapour towards the Residential Audit Area. The 2020 EMP notes that where a relative percentage difference of more than 50% is calculated for two successive sampling events, or an ongoing increasing trend is noted that suggests an increasing potential risk, response measures (as outlined in Section 6.2 of the 2020 EMP) should be implemented.

Where one result is below the laboratory detection limit, the limit of reporting should be used to assess the relative percentage differences.

5 GROUNDWATER MONITORING

5.1 Sampling Methodology

Groundwater samples were collected using industry standard procedures as outlined in the 2020 EMP. Initially, standing water levels were measured from the surveyed point on the top of the well casing. The groundwater level gauging was undertaken as a standalone task on 8 May 2025 prior to any sampling to ensure the timing of the readings between wells was as close as practicable. Readings were taken using a water-product interface water level meter to check for the presence of any separate phase hydrocarbons in the groundwater monitoring wells. The interface probe was decontaminated prior to use in each well by rinsing the probe and tape in a phosphate-free detergent solution followed by rinsing twice in demineralised water.

Groundwater purging and sampling was undertaken using a micro-purge bladder pump and low-flow sampling techniques, also on 8 May 2025. New dedicated tubing and pump bladders were used for each monitoring well.

Water quality parameters (pH, temperature, electrical conductivity, oxidation reduction potential and dissolved oxygen) were monitored during purging using a YSI Pro Plus water quality meter. Sampling was conducted once the field parameters and drawdown had stabilised (for a minimum of three consecutive readings). Copies of the groundwater sampling records are presented in Appendix A. The water quality meter calibration certificate is also presented in Appendix A.

Groundwater samples collected from the wells were placed in containers provided by National Association of Testing Authorities (NATA) accredited analytical laboratories. The samples were stored in a chilled portable cooler immediately following sampling and were delivered under similar conditions to the analytical laboratory with accompanying chain of custody documentation.

5.2 Analytical Program

The groundwater analytical program included testing for chemicals as per the requirements of the 2020 EMP, as presented in Table 3.

The laboratories used for the groundwater testing were Eurofins and Australian Laboratory Services (ALS). The laboratories are registered by NATA, and the analyses conducted are within their NATA registration of the laboratories. Details of quality assurance and quality control (QA/QC) procedures and results are discussed in detail in Section 7.

The results of the 2025 groundwater sampling are presented in the following sections.

5.3 Groundwater Gauging and Flow Direction

Groundwater was encountered between 5.85 and 7.97m bgl in the wells sampled. No separate phase hydrocarbons were detected in any of the wells.

Groundwater level gauging data is included with the sampling records in Appendix A and the gauging data is summarised in Table 6.

When compared to the most recently available data (from May 2022), groundwater elevations are observed to have increased in all wells by between 0.51m (MWS15_28) and 0.83m (MWS15_29). A groundwater level hydrograph summarising water levels between 2017 and 2025 is presented as Figure 5.

Table 6: Groundwater Gauging Results

Well ID	TOC ¹ (m AHD)	Depth to groundwater from TOC (m)	Groundwater elevation (m AHD)
MWS12_01A	45.687	6.878	38.809
MWS12_13	46.313	7.658	38.655
MWS12_14	47.36	7.969	39.391
MWS15_27	43.8	6.746	37.054
MWS15_28	43.47	6.565	36.905
MWS15_29	43.32	5.851	37.469

¹ TOC denotes top of casing

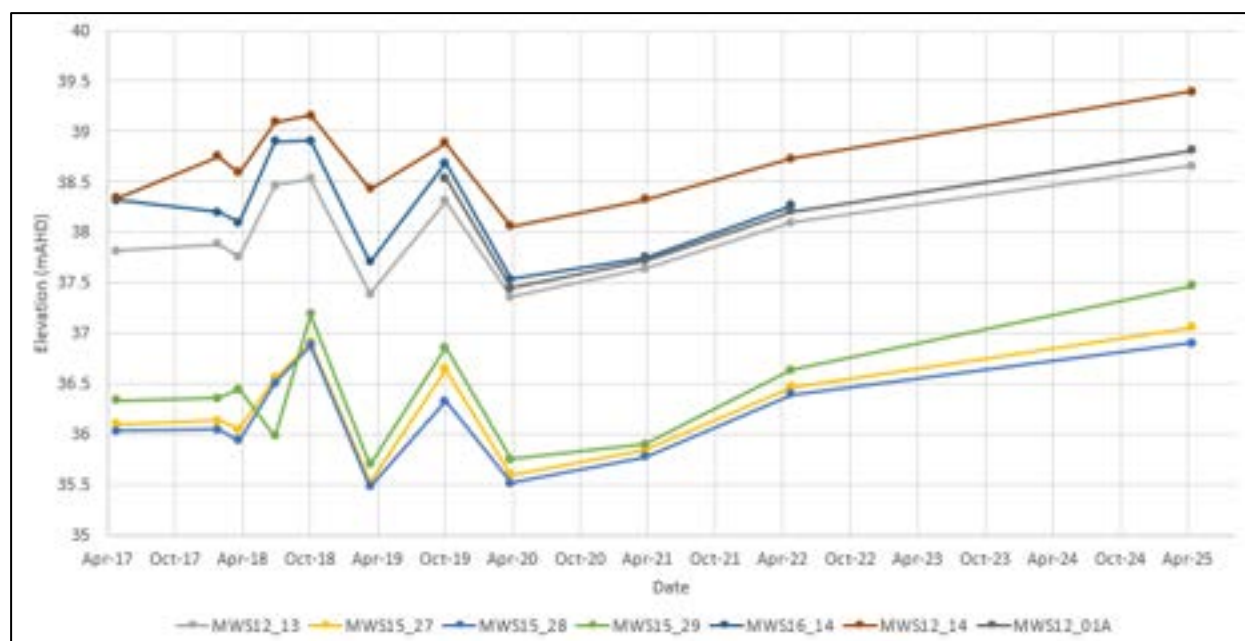


Figure 5: Groundwater levels Hydrograph (2017 – 2025)

Based on the measured groundwater elevations, the groundwater flow direction was assessed to be in a general westerly direction, possibly trending slightly northwest in the western portion of the monitoring area, and generally consistent with historical investigations. A plot of groundwater levels showing the inferred flow direction is presented in Figure 6.



Source: Nearmap (March 2025 image)

Figure 6: Groundwater levels (m AHD) and inferred flow direction

5.4 Field Measured Water Quality Parameters

Groundwater quality parameters (pH, temperature, electrical conductivity, oxidation-reduction potential and dissolved oxygen) were monitored during purging of groundwater from the wells. Stabilised parameters from the 2025 monitoring event are shown in Table 7, along with the range of values from the previous three sampling events (since the inception of the 2020 EMP) for comparison purposes.

Table 7: Field Measured Water Quality Parameters

Well ID	Date*	pH	Temperature (° C)	Electrical Conductivity (µS/cm)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (ppm)
MWS12_01A	Historical	7.67 – 7.02	20.8 – 21.8	4,591 – 5,554	-36.7 – 56.1	2.04 – 3.32
	May 2025	6.81	21.1	4,868	-3.8	0.36
MWS12_13	Historical	6.58 – 6.99	20.6 – 22.8	8,006 – 13,428	-8.6 – 47.3	2.57 – 3.00
	May 2025	6.63	21.2	8,820	-16.1	-0.15
MWS12_14	Historical	6.35 – 6.93	20.3 – 21.6	6,312 – 7,333	-31.3 – 23.3	1.44 – 5.99
	May 2025	6.33	21.6	6,363	-0.6	0.02
MWS15_27	Historical	6.49 – 7.19	19.8 – 20.9	14,049 – 16,327	18.2 – 49.2	2.45 – 2.65
	May 2025	6.44	21.1	14,326	97.0	0.05
MWS15_28	Historical	6.66 – 7.46	18.6 – 21.3	5,537 – 6,805	-68.2 – -0.5	0.83 – 5.45

Well ID	Date*	pH	Temperature (° C)	Electrical Conductivity (µS/cm)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (ppm)
	May 2025	6.76	20.0	5,973	-2.3	-0.08
MWS15_29	Historical	6.60 – 7.66	20.5 – 20.7	4,796 – 6,395	-132.8 – -38.0	1.94 – 2.61
	May 2025	5.74	19.3	4,317	144.3	0.77

*Historical range is from sampling events completed in April 2020, April 2021 and May 2022. May 2025 monitoring was completed by Echo on 8 May 2025.

Groundwater conditions during the 2025 GME were generally within the ranges reported in previous events. Variations observed included:

- A slightly lower pH and electrical conductivity in MWS15_29 compared to historical sampling events. In addition, the oxidation-reduction potential in MWS15_29 was higher compared to previous sampling events where negative readings had been recorded.
- Lower dissolved oxygen levels compared to historical sampling events. Given the negative oxidation-reduction potential in some wells historically the recorded dissolved oxygen levels appear to be higher than might be expected.

Overall, the measured field parameters are generally within expected ranges and are not indicative of any significant changes in groundwater conditions underlying the monitoring area.

5.5 Analytical Results

Tables summarising the results of May 2025 groundwater sampling are attached to this report. The tables also include historical monitoring data. Laboratory certificates are included in Appendix B. The reported concentrations of chemicals of concern were assessed against the trigger levels presented in Section 4.4.

Onsite Trigger Levels

There were no exceedances above the adopted onsite trigger levels for monitoring wells MWS12_14, MWS15_27, MWS15_28 or MWS15_28.

Offsite Trigger Levels

As discussed in Section 4.4.2, the adopted offsite trigger levels for monitoring wells MWS12_01A and MWS12_13 relate to relative percentage differences (RPDs) between consecutive sampling results. Where there is increase in results that results in an RPD of more than 50%, this represents a trigger level exceedance.

RPDs were calculated between the most recent available results (i.e. between May 2022 and May 2025). Most RPDs (where able to be calculated – i.e. results above laboratory detection limits) were below the trigger level of 50%. Variations to this included:

- An RPD of 58% for 1,1-dichloroethene at MWS12_01A. The reported result was 47µg/L compared to the May 2022 result of 26µg/L. The May 2025 result is very similar to earlier monitoring results (2020/2021) and as such this trigger level exceedance appears to be due to a lower than expected result reporting in May 2022.
- An RPD of 55% for tetrachloroethene at MWS12_01A. The reported result was 0.07µg/L compared to the May 2022 result of 0.04µg/L. This variation is accentuated by the very low reported concentrations, with results still more than an order of magnitude lower than the onsite trigger level of 1µg/L.
- An RPD of 74% for 1,1-dichloroethene at MWS12_13. The reported result was 120µg/L compared to the May 2022 result of 55µg/L. While still higher, the May 2025 result is more similar to earlier

monitoring results (2020/2021). When directly comparing to the earlier result from April 2021 of 85µg/L, the RPD is 34%.

- An RPD of 123% for vinyl chloride at MWS12_13. The reported result was 24µg/L compared to the May 2022 result of 5.7µg/L. Variable results for vinyl chloride have been reported from this well historically. The highest reported result from this well historically was 18µg/L.

5.6 Trend Analysis

Trend analysis for petroleum hydrocarbons (TRH C₆-C₁₀ less BTEX, benzene, ethyl benzene and xylenes), the key chemicals of concern was undertaken using Mann Kendall statistical methods.

In addition, trend analysis was completed for the chlorinated solvents which reported exceedances of the offsite trigger levels (1,1-dichloroethene (1,1-DCE), tetrachloroethene (PCE) and vinyl chloride (VC), refer Section 5.5).

This analysis provides an indication of statistical trends of data sets where there is a minimum of four results above laboratory detection limits. Where results are below laboratory detection limits (but there is still a minimum of four detectable concentrations), the analysis uses half of the limit of reporting used by the laboratory. Earlier data points where results were reported below laboratory detection limits, but the laboratory had significantly elevated detection limits have not been considered.

Trends from the analysis and the statistical confidence factors are provided in Table 8. Outputs of the analysis is provided in Appendix C.

Table 8: Mann-Kendall Statistical Summary - Groundwater

Well ID	TRH C ₆ -C ₁₀ less BTEX	Benzene	Ethyl benzene	Xylenes	1-1-DCE	PCE	VC
MWS12_01A	Decreasing (97%)	Decreasing (>99.9%)	Decreasing (99.9%)	Decreasing (97.4%)	Stable (37.5%)	No Trend (83.3%)	Stable (86.2%)
MWS12_13	#	#	#	#	Increasing (97.7%)	#	No Trend (82.1%)
MWS12_14	#	Decreasing (99.5%)	#	#	#	#	#
MWS15_27	#	#	#	#	Increasing (96.4%)	#	#
MWS15_28	Stable (72.9%)	#	#	#	Probably decreasing (90.7%)	#	Stable (75.3%)
MWS15_29	#	#	#	#	#	#	#

Notes:

Non-detect results with raised detection limits have been removed from the dataset.

Trend assessment not possible as less than four results have been reported above laboratory limits of reporting.

There are no trigger levels attached to the Mann-Kendall trend analysis. The intent of the analysis is to provide early warning of contaminants that may be approaching trigger levels concentrations in the future.

Contaminant trends are generally stable or decreasing for the primary fuel related chemicals of interest. This is particularly evident closer to the inferred source area (i.e. MWS12_01A and MWS12_14).

The contaminant trends for several of the chlorinated solvents assessed were more variable. However, the only observed increasing trends were for 1,1-dichloroethene at MWS12_13 and MWS15_27:

- The results at MWS12_13 are above the onsite trigger level of 42ug/L. However, it is important to note that this well is offsite and results have exceeded the adopted onsite trigger levels in all monitoring events since 2017.
- 1,1-dichloroethene has been detected in MWS15_27 since 2018, but results have always been below the adopted onsite trigger level. The May 2025 result is higher than all other historically reported results but is still below the trigger level.

6 SOIL VAPOUR MONITORING

Soil vapour samples were collected using industry standard procedures as outlined in the 2020 EMP. The soil vapour sampling was completed between 11 and 14 April 2025.

Soil vapour points were attempted to be sampled as per the requirements of the 2020 EMP using Summa canister methods. As discussed in Section 4.2.2, several soil vapour points could not be sampled. Soil vapour points VP28 and VP43 appear to have been destroyed as part of either road upgrade works or new development on the commercial allotments in the monitoring area. Other vapour points which could be located, but were not able to be sampled included:

- VP27_3.0 due to observed water ingress, when applying a hand vacuum pump. VP27_4.5 (not part of the monitoring program but at this same location) was sampled instead. While the results from VP27_4.5 have been compared to historical results from VP27_3.0, Echo notes there may be some variability due to the different depths assessed.
- VP30_3.7 and VP32_3.7 due to observed water ingress, when applying a hand vacuum pump. Historically, there have not been similar issues observed at these locations.
- VP47/47A and VP48_3.7 due to observed water ingress, when applying a hand vacuum pump. This is consistent with historical attempts to sample soil vapour from these locations.
- VP52_3.7 and VP53_3.7 were not sampled as vapour could not be extracted. This is consistent with previous sampling events, and it is assumed these vapour points are blocked.
- VP46 was unable to be sampled. VP46A, which was installed as a back-up vapour point was able to be sampled.

Vapour was able to be sampled from both VP45 and VP45A. While VP45A was installed as a back-up vapour point because VP45 was unable to be sampled in previous sampling events, both points were sampled in April 2025.

6.1 Sampling Methodology

All sampling was completed by an experienced Echo environmental engineer using the following methodology:

- A pressure test was conducted to ensure a significant vacuum was not formed when purging soil vapour (i.e. ensure there was sufficient soil vapour present to sample) and ensure no water was present in the soil vapour probe. This was undertaken using a handheld vacuum pump with a pressure gauge. As discussed above, in several vapour points, either a vacuum was generated which indicates a blockage, or water was observed being drawn up the Teflon tubing. These points were not sampled.
- Vapour points deemed viable for sampling were then screened/purged using a calibrated PID and landfill gas meter to measure for the presence of volatile compounds and carbon dioxide (CO₂), methane (CH₄), oxygen (O₂), carbon monoxide (CO) and hydrogen sulphide (H₂S) gases. Screening was conducted both pre- and post-sampling to confirm consistency across the sampling period and ensure vapour sampled was representative.
- A minimum of one bore volume was purged from each vapour point, primarily utilising the landfill gas meter. The pump in the landfill gas meter (GA5000) has a typical flow rate of 550mL/min. As such, each vapour point was generally purged for between 2 and 4 minutes depending on the calculated bore volume.
- Leak tests were conducted at the vapour points and the sample train to ensure the integrity of the vapour points and sampling equipment was not compromised and to ensure representative soil vapour was being sampled. These tests included:

- A helium leak test to ensure that ambient air was not being drawn into the vapour point. This comprised filling a shroud (overlying the soil vapour point) with helium. During this process, measurements were collected from the vapour point (using an MGD-2002 multi-gas detector) to assess the real-time helium concentration. Measurements were also collected from within the shroud. A comparison was made between the helium concentrations within the shroud and the vapour point. The measured helium concentrations from the vapour points were less than 10% of that measured in the shroud, which confirmed the integrity of the vapour points and suitability for obtaining representative samples that were not adversely impacted by atmospheric air.
- A shut-in test was also performed on the sample train. The shut-in test involved capping the intake opening the canister regulator to allow the sample train to be under the vacuum from the summa canister. The sample train was then allowed to sit under the vacuum for several minutes during which the vacuum gauge on the summa canister was monitored for any drop in vacuum. No obvious drops in vacuum were observed.
- Following leak testing, a clean calibrated flow regulator was connected to the top of each canister (and the soil vapour point), and the summa canister valve was opened allowing the desired volume (~800mL) to enter the 1L canister over a period of approximately 1-2 hours.

Soil vapour sampling sheets and equipment calibration certificates are presented in Appendix D. Details of the leak test and shut-in tests are provided on the field sampling records.

6.2 Weather Conditions

Echo reviewed weather conditions leading up to and on the sampling dates (based on data from the Bureau of Meteorology Adelaide weather station #023034. The data is presented in Appendix E.

In the 7-day period leading up to the sampling on 11 April 2025, 0.4mm of rainfall was recorded on 10 April 2025, and no rainfall on any of the days when sampling was undertaken.

The timing for the soil vapour sampling met the requirements of the NEPM (Schedule B2, Section 9.3.5) and CRC Technical Report No. 23 which indicate that sampling for soil gas from soil vapour points shallower than 3m should not occur within three days of a significant rainfall event (i.e. rainfall >25mm within an approximate 24-hour period).

6.3 Analytical Program

The soil vapour analytical program included testing for chemicals as per the requirements of the 2020 EMP, as presented in Table 4.

The laboratories used for the soil vapour testing were Eurofins and ALS. The laboratories are registered by NATA, and the analyses conducted are within their NATA registration of the laboratories. Details of quality assurance and quality control (QA/QC) procedures and results are discussed in detail in Section 7.

The results of the 2025 soil vapour sampling are presented in the following sections.

6.4 Field Measured Soil Gas Parameters

As discussed in Section 6.1, field measurements were collected from the vapour points during sampling. The measured readings (pre-sampling, during purging of the vapour points) are summarised in Table 9, which also included the field measurements from the most recent sampling event (May 2022), where available.

Table 9: Vapour Point Field Measurements

Vapour Point	Date	Oxygen (O ₂) (%)	Carbon Dioxide (CO ₂) (%)	Methane (CH ₄) (%)	Hydrogen Sulphide (H ₂ S) (ppm)	Carbon Monoxide (CO) (ppm)	PID reading (ppm)
VP12_2.5	May 2022	5.3	8.0	0	0	1	17.7
	April 2025	6.8	9.6	0	0	0	13.2
VP12_3.8	May 2022	0	10	5.0	0	0	199
	April 2025	4.3	12.3	0	0	0	14.4
VP12_6.0	May 2022	0	10	7.2	1	1	175.0
	April 2025	0.1	10.8	4.3	4	1	119.7
VP27_3.0 (VP27_4.5)*	May 2022	9.5	11.1	0	0	1	21.1
	April 2025	19.7	0.3	0	0	0	2.8
VP27_6.0	May 2022	0	11.9	3.2	0	0	255
	April 2025	7.2	9.3	5.8	0	0	66.3
VP30_3.0	May 2022	17.8	4.1	0.0	0	0	7.0
	April 2025	Water Ingress, not sampled					
VP31_3.0	May 2022	16.0	5.5	0.0	0	1	6.4
	April 2025	4.7	7.8	0	0	0	3.2
VP32_3.0	May 2022	10.7	8.2	0.0	0	1	11.7
	April 2025	Water Ingress, not sampled					
VP41_3.0	May 2022	0.7	13.9	0.0	0	1	7.1
	April 2025	1.2	19.8	0	0	1	6.1
VP41_6.0	May 2022	0.0	14.4	0.3	0	2	21.9
	April 2025	0.1	14.2	0.2	1	1	22.3
VP42_4.5	May 2022	Gas meter stalled – sample was not collected					
	April 2025	4.6	10.7	0	0	1	1.8
VP42_6.0	May 2022	0.0	14.0	0.0	0	2	72
	April 2025	1.8	14.1	0	0	1	0.9
VP45_3.7	May 2022	11.6	15.1	0.0	0	1	1.6
	April 2025	9.7	16.6	0	0	0	0.0
VP45A	May 2022	0.0	6.5	0.0	0	1	7.2
	April 2025	8.0	11.4	0	0	0	0.0
VP46A	May 2022	0.0	3.3	0.0	0	1	10.4
	April 2025	6.2	3.3	0	0	0	0.0
VP47_3.7	May 2022	No soil vapour could be extracted - not sampled					
	April 2025	Water Ingress, not sampled					
VP47A	May 2022	Water Ingress Not Sampled					
	April 2025	Water Ingress, not sampled					
VP48_3.7	May 2022	Water Ingress Not Sampled					
	April 2025	Water Ingress, not sampled					
VP49_3.7	May 2022	1.0	7.4	0.0	0	1	4.8
	April 2025	0.2	10.0	0	0	0	4.0
VP50_3.7	May 2022	2.9	9.4	0.0	0	1	2.8
	April 2025	10.6	7.7	0	0	1	0.1
VP51_3.7	May 2022	2.4	10.9	0.0	0	1	1.7
	April 2025	11.9	5.4	0	0	1	1.2
VP52_3.7	May 2022	PID stalled – sample not collected					
	April 2025	Blocked, not sampled					
VP53_3.7	May 2022	No soil vapour could be extracted - not sampled					
	April 2025	Blocked, not sampled					

*VP47_4.5 was sampled instead of VP27_3.0 due to water ingress in the shallower point.

While there is some observed variability of field measurements at some locations, generally elevated PID measurements and low oxygen measurements were recorded at similar locations to the previous sampling event.

It is noted that the measured oxygen and carbon dioxide measurements at VP27_4.5 are quite close to atmospheric conditions which suggests there may be some connection and the vapour results from this vapour point may not be representative. As discussed in Table 2, VP27_4.5 was opportunistically sampled instead of VP27_3.0 which was observed to have water ingress. As VP27_4.5 is not part of the regularly monitored network, there is no readily available field measurements to compare the April 2025 measurements with. Regardless, the deeper vapour point at this location (VP27_6.0) was also sampled and representative field measurements recorded with no significant increases in vapour concentrations (refer Section 6.6). As such, even though VP27_4.5 may of lower reliability given a potential atmospheric connection, there is a line of evidence that there is no increase in vapour concentrations at this location.

6.5 Analytical Results

Tables summarising the results of April 2025 soil vapour sampling are attached to this report. The tables also include historical monitoring data. Laboratory certificates are included in Appendix F. The reported concentrations of chemicals of concern were assessed against the trigger levels presented in Section 4.4.

Onsite Trigger Levels

There were no exceedances above the adopted onsite trigger levels for any of the vapour points sampled.

Offsite Trigger Levels

As discussed in Section 4.4.2, the adopted offsite trigger levels for offsite vapour points relate to RPDs between consecutive sampling results. Where there is increase that results in an RPD of more than 50%, this represents a trigger level exceedance.

There were no significant increases in vapour concentrations observed, and all calculated RPDs where there was an increase were below 50%. As such, no trigger level exceedances were reported.

6.6 Trend Analysis

Trend analysis for petroleum hydrocarbons (TRH C₆-C₁₀ less BTEX, benzene, ethyl benzene and xylenes), the key chemicals of concern was undertaken using Mann Kendall statistical methods.

This analysis provides an indication of statistical trends of data sets where there is a minimum of four results above laboratory detection limits. Where results are below laboratory detection limits (but there is still a minimum of four detectable concentrations), the analysis uses half of the limit of reporting used by the laboratory.

Trends from the analysis and the statistical confidence factors are provided in Table 10. Outputs of the analysis is provided in Appendix G. For vapour point which were unable to be sampled during the 2025 sampling event, trends have not been assessed as part of the 2025 sampling event. However, analysis following the previous event (May 2022) did not show any increasing trends for the abovementioned chemicals of interest.

Table 10: Mann-Kendall Statistical Summary – Soil Vapour

Vapour Point	TRH C6-C10 less BTEX	Benzene	Ethyl benzene	Xylenes
VP12_2.5	Decreasing (99.9%)	#	#	#
VP12_3.8	Stable (87.0%)	#	#	#
VP12_6.0	Stable (75.8%)	#	#	#
VP27_3.0	Decreasing (100%)	#	#	Decreasing (>99.9%)
VP27_6.0	Decreasing (98.7%)	#	#	Decreasing (96.4%)
VP41_3.0	Stable (64.0%)	No Trend (84.5%)	#	No Trend (86.2%)
VP41_6.0	Decreasing (97.7%)	#	#	#
VP42_4.5	Decreasing (98.9%)	#	#	#
VP42_6.0	Decreasing (>99.9%)	Decreasing (99.9%)	Decreasing (>99.9%)	Decreasing (>99.9%)
VP49_3.7	Stable (59.2%)	#	#	#

Notes:

Trend assessment not possible as less than four results have been reported above laboratory limits of reporting.

Where calculated, contaminant trends are generally stable or decreasing for the primary fuel related chemicals of interest. No trend was evident in the analysis for benzene and xylenes from VP41_3.0.

7 QUALITY ASSURANCE AND QUALITY CONTROL

Quality assurance / quality control (QA / QC) measures included:

- Ensuring the sampling equipment (water quality meter, landfill gas meter, helium meter and PID) was calibrated before use.
- Appropriate sampling procedures for the potential contaminants of concern, as per the requirements of the 2020 EMP.
- Appropriate sample labelling, preservation, storage and transport under chain of custody procedures.
- Collection and analyses of field QA / QC samples including intra and inter laboratory duplicate samples.
- Laboratory analyses conducted within appropriate holding times.
- Use of laboratories that hold NATA accreditation for the analyses undertaken.
- Analyses of laboratory QA / QC samples including matrix spikes, matrix spike duplicates and surrogates.

The following sections detail the QA / QC analyses and consider the analytical data quality.

7.1 Internal Laboratory Quality Assurance

The results of the internal quality assurance programs of the laboratory are presented with the NATA laboratory certificates provided in Appendix B and Appendix F. Appropriate internal QA / QC were generally reported by the laboratories as follows:

- Accuracy (measured by laboratory spike and surrogate recovery samples) generally within 70 - 130% recovery.
- Precision (measured by duplicate sample analysis) within 50% relative percentage difference.
- Minimum 95% completeness (measured by total number of analyses within acceptable limits).

7.2 Groundwater Duplicate Analysis

Samples QW1 and QW2, duplicates of samples from monitoring well MWS15_28, were collected and analysed at the primary (Eurofins) and secondary (ALS) laboratories for chemicals as summarised in Table 3. The frequency of intra-laboratory and inter-laboratory duplicate analyses is within the required frequency of the 2020 EMP.

Most of the relative percentage difference (RPD) values calculated for duplicate groundwater analyses were below the recommended comparison criteria of 50%. Variations were calculated for isolated individual volatile compounds:

- Elevated RPDs for 1,1-dichloroethane between the primary sample MWS15_28 and both the primary laboratory duplicate (QW1 – 115%) and the secondary laboratory duplicate (QW2 – 135%).
- Elevated RPDs for vinyl chloride between the primary sample MWS15_28 and both the primary laboratory duplicate (QW1 – 69%) and the secondary laboratory duplicate (QW2 – 57%).

For this monitoring event, Echo has considered the highest reported results for these analytes, which were from the primary data set. However, it is noted that both the primary and secondary duplicate samples for both chemicals correlated quite well with each other. As such, it is possible that that primary result is an overestimate of the concentrations in groundwater at this location. Regardless, all reported results are below the adopted trigger levels and results for all other individual volatile organic compounds showed good correlation. As such, the variations are not considered to be significant in terms of the overall useability of the data and interpretation of site conditions.

A table summarising the field duplicate results is presented with the groundwater results summary tables attached to this report.

7.3 Soil Vapour Duplicate Analysis

Field duplicate soil vapour samples were submitted for analyses at the primary and secondary laboratories as summarised in Table 11.

Table 11: Soil Vapour Duplicates

Date	Primary Samples	Field Duplicates – Primary Laboratory (Eurofins)	Field Duplicates – Secondary Laboratory (ALS)
13 April 25	VP12_3.8: TRH, BTEXN, VOC	QV1: TRH, BTEXN, VOC	-
13 April 25	VP12_2.5: TRH, BTEXN, VOC	-	QV2: TRH, BTEXN, VOC
14 April 25	VP45A: TRH, BTEXN, VOC	QV3: TRH, BTEXN, VOC	-
14 April 25	VP42_4.5: TRH, BTEXN, VOC	-	QV4: TRH, BTEXN, VOC
14 April 25	VP50_3.7: TRH, BTEXN, VOC	QV5: TRH, BTEXN, VOC	-
14 April 25	VP49_3.7: TRH, BTEXN, VOC	-	QV6: TRH, BTEXN, VOC

Notes: TRH = total recoverable hydrocarbons, BTEXN = benzene, toluene, ethylbenzene, xylenes and naphthalene, VOC = volatile organic compounds

The frequency of intra-laboratory and inter-laboratory duplicate analyses is within the required frequency of the 2020 EMP.

Most of the relative percentage difference (RPD) values calculated for duplicate groundwater analyses were below the recommended comparison criteria of 50%. Variations were calculated for isolated compounds:

- An elevated RPD for 2-propanol (isopropanol) between the primary sample VP12_3.8 and the primary laboratory duplicate (QV1 – 85%).
- An elevated RPD for TRH >C10-C16 less naphthalene (F2) between the primary sample VP45A and the primary laboratory duplicate (QV3 – 165%).
- An elevated RPD for 2-propanol (isopropanol) between the primary sample VP45A and the primary laboratory duplicate (QV1 – 86%).
- An elevated RPD for TRH >C10-C16 less naphthalene (F2) between the primary sample VP50_3.7 and the primary laboratory duplicate (QV5 – 88%).

The variations above appear to be due to very low concentrations reported which accentuates the calculated variation. Echo notes that TRH >C10-C16 less naphthalene (F2) is not a chemical of particular concern required as part of the analytical suites. However, it is reported by the laboratories as part of a broader TRH suite. For isopropanol, all reported results were at least two orders of magnitude below the onsite trigger levels. As such, these minor variations are not considered to be significant in terms of the overall useability of the data and interpretation of site conditions.

A table summarising the field duplicate results is presented with the soil vapour results summary tables attached to this report.

7.4 Blank Analyses

During the groundwater investigation, a rinsate blank, RB1 and a trip blank, TB1 were collected and analysed at the primary laboratory for a suite of volatile halogenated compounds. The rinsate blank sample was collected from decontaminated sampling equipment. A trip blank was a laboratory supplied sample that was placed in the esky throughout the monitoring event and during transport of the samples to the laboratory.

All results were below the adopted laboratory limits of reporting indicating that decontamination procedures were acceptable, cross contamination between samples and sampling equipment did not occur and there was no introduction of volatiles into the samples during transport. The results are presented in the laboratory certificates attached in Appendix B.

8 DISCUSSION

8.1 Groundwater

All groundwater wells required to be sampled as part of the 2020 EMP were sampled, except for MWS16_14 which appears to have been decommissioned or destroyed as part of road upgrade works. The omission of MWS16_14 from the monitoring scope is not considered to greatly impact the objectives of the monitoring as there are other wells located down-hydraulic gradient (MWS15_28 and MWS15_29) which are closer to the residential areas.

Groundwater elevations underlying the monitoring area had generally risen by 0.5 to 0.8m compared to the previous monitoring event in 2022. However, the groundwater flow direction and field parameters were generally consistent with previous sampling events.

In terms of the analytical results from the groundwater monitoring:

- There were no exceedances above the adopted onsite trigger levels (which includes offsite monitoring wells near the boundary of the Residential Audit Area) for any of the monitoring wells sampled.
- Overall, the groundwater results do not indicate any increase in groundwater concentrations with respect to petroleum hydrocarbons, which are the primary chemicals of interest at the site. Petroleum hydrocarbon concentrations are assessed to be decreasing, where trend analysis was able to be completed. This is consistent with expectations due to the removal of the source and associated soil impacts. There is no evidence of migration of petroleum hydrocarbon impacts in groundwater under the Residential Audit Area based on the monitoring completed.
- There were minor exceedances above the offsite trigger levels (i.e. an RPD increase of more than 50%) for some isolated chlorinated hydrocarbons:
 - 1,1-dichloroethene at MWS12_01A. The increase appears to be a result of low results reported in May 2022 and the 2025 result is consistent with earlier monitoring results from this location. An assessment of the trends for 1,1-dichloroethene from this monitoring well indicates a stable trend, albeit with a relatively low confidence.
 - Tetrachloroethene at MWS12_01A. The increase appears to be accentuated by the very low reported concentrations, with results still more than an order of magnitude lower than the onsite trigger level. An assessment of the trends for tetrachloroethene from this monitoring well indicates no obvious trend.
 - 1,1-dichloroethene at MWS12_13. An assessment of the trends for 1,1-dichloroethene from this monitoring well indicates an increasing trend. An increasing trend was also determined for a downgradient well closer to the Residential Audit Area (MWS15_27), however the result is still below the adopted onsite trigger levels.

It is important to note that no elevated results for 1,1-dichloroethene were reported above the adopted trigger levels in soil vapour from around monitoring well MWS12_13, nor across the balance of the monitoring area. Vapour samples were unable to be collected from the vapour point adjacent MWS15_27 due to water ingress.

- Vinyl chloride at MWS12_13. Variable results for vinyl chloride have been reported from this well historically. An assessment of the trends for vinyl chloride from this monitoring well indicates no obvious trend.

8.2 Soil Vapour

Most soil vapour points required to be sampled as part of the 2020 EMP were sampled. However, there were several locations where samples could not be collected either due to the vapour points having been destroyed or due to moisture ingress or other unknown blockages. Overall, the distribution of the vapour points sampled is considered appropriate to address the objectives of the 2020 EMP.

There were no exceedances of the adopted trigger levels for any of the analytes tested in soil vapour. In addition, a trend analysis indicated that, where able to be calculated, contaminant trends for the primary fuel related chemicals of interest are generally stable or decreasing.

8.3 Risk Profile

Given there is no extraction of groundwater permitted, the vapour concentrations are the main risk driver for site occupants, and all soil vapour results were below the trigger levels presented in the 2020 EMP.

Concentrations of petroleum hydrocarbons (the primary chemicals of concern based on historical assessments) in groundwater upgradient of the Residential Audit Area are decreasing, and all results were below the adopted trigger levels.

While there were some isolated trigger level exceedances for chlorinated hydrocarbons in groundwater, the reported soil vapour results suggest that these have not impacted the risk profile associated with vapour intrusion under the Residential Audit Area, with all vapour results well below the adopted trigger levels.

Overall, the monitoring event has not identified a change in groundwater or soil vapour concentrations that would represent a change in the risk profile to the occupants of the Residential Audit Area.

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

Echo Risk Consulting has completed a monitoring event for portion of the Tonsley Development site. The works were completed as part of an ongoing monitoring program and in line with the 2020 Environmental Monitoring Plan (2020 EMP) prepared for the site. Ongoing monitoring is required as a condition of a Site Contamination Audit Report prepared for area of the site being used for residential proposes (Residential Audit Area).

The scope of work has included:

- Gauging and sampling of six groundwater monitoring wells. Seven groundwater monitoring wells are designated for sampling in the 2020 EMP, but one well could not be located and was presumed decommissioned or destroyed.
- Collection of soil vapour samples from 16 soil vapour points targeting multiple depths. Additional soil vapour points (total of 24) are designated for sampling in the 2020 EMP, but several could not be sampled as they could either not be located (presumed decommissioned or destroyed), were damaged or were observed to be affected by water ingress.
- Analysis of groundwater and soil vapour samples for the required analytes.
- Preparation of this report in line with the reporting requirements in the 2020 EMP, which includes details of the work completed and results, trend analysis, comparison of results against trigger levels and recommendations.

Groundwater Testing

The groundwater monitoring was completed on 8 May 2025 in general accordance with the 2020 EMP.

There were no exceedances above the adopted onsite trigger levels (applicable for offsite monitoring wells around the boundary of the Residential Audit Area) for any of the monitoring wells sampled during this monitoring event.

There were minor exceedances above the offsite trigger levels (associated with variations between sampling events) for isolated chlorinated hydrocarbons and an increasing trend assessed for 1,1-dichloroethene at two locations (MWS12_13 and MWS15_27). Based on the reported soil vapour results, the minor exceedances of trigger levels for the chlorinated hydrocarbons above does not appear to have impacted the risk profile associated with vapour intrusion under the Residential Audit Area.

The groundwater results indicate a stable or decreasing trend with respect to petroleum hydrocarbons, which are the primary chemicals of interest at the site.

Soil Vapour Testing

The groundwater monitoring was completed between 11 and 14 April 2025 in general accordance with the 2020 EMP. While there were several locations where samples could not be collected, the distribution of the vapour points sampled is considered appropriate to address the objectives of the 2020 EMP.

There were no exceedances of the adopted trigger levels for any of the analytes tested in soil vapour. In addition, a trend analysis indicated that, where able to be calculated, contaminant trends for the primary fuel related chemicals of interest are generally stable or decreasing.

9.2 Recommendations

A review of the 2020 EMP was due to be completed following the 2023 sampling event. Echo understands that while limited sampling was completed in 2023, there was no formal report completed and no review of the 2020 EMP. Furthermore, no sampling was completed in 2024.

Based on the reported results from the 2025 monitoring event and consideration of trends utilising data from historical sampling events, it may be appropriate to reduce monitoring requirements for the Residential Audit Area. This is based on several lines of evidence:

- The primary source area (underground fuel infrastructure) and associated soil impacts have been remediated.
- There appears to be an overall reduction in the concentrations of petroleum hydrocarbons (the primary chemicals of interest) across the monitoring area in both groundwater and soil vapour.
- While there were some minor trigger level exceedances for chlorinated hydrocarbons in offsite groundwater wells, the vapour concentrations across the monitoring area do not reflect an increase in the risk profile to the Residential Audit Area.

Echo recommends that the existing monitoring schedule be revisited and that in consultation with the appointed Site Contamination Auditor a reduced scope of monitoring be established. Broadly, Echo is of the opinion that monitoring requirements could be reduced as follows:

- A confirmatory sampling event to be completed in April 2026. The aim of the April 2026 sampling event would be to focus on the minor trigger level exceedances reported in the 2025 sampling, with a view of providing additional data that may allow complete cessation of monitoring.
- Limit the scope the confirmatory monitoring to the sampling of groundwater wells only, and selected vapour points upgradient of the Residential Audit Area. While the primary focus would be to further assess trends for chlorinated hydrocarbons (specifically 1,1-dichloroethene), the 2026 monitoring should also include other petroleum and chlorinated hydrocarbons (as per the 2020 EMP). This would provide further lines of evidence to support the complete cessation of monitoring.
- Instead of preparing a formal amended EMP, the proposed 2026 sampling approach (including monitoring points and analytical suites) will be documented under a separate cover, to be endorsed by the Auditor.
- All monitoring infrastructure should be retained until completion of the 2026 sampling event.

RESULTS SUMMARY TABLES – GROUNDWATER

		TRH / TPH											BTEXN						
		C6-C10	C6-C10 less BTEX (F1)	C10-C16	TRH-C10-C16 less Naphthalene (F2)	C16-C24	C24-C40	C6- C9	C10- C14	C15- C28	C29- C36	+C10- C36 (sum of total)	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Naphthalene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.02	0.02	0.05	0.05	0.1	0.1	20	50	100	100	100	1	1	1	2	1	3	10
Monitoring Well	Date sampled																		
RPD >50% (increase in concentration) - Offsite Wells																			
MWS12_01	23/10/2008	-	-	-	-	-	-	-	-	-	-	-	5160	8470	<100	4030	182	4212	-
MWS12_01	2/07/2009	-	-	-	-	-	-	-	-	-	-	-	3510	6870	<50	2450	88	2538	-
MWS12_01	15/01/2010	-	-	-	-	-	-	-	-	-	-	-	4000	<20	6610	1490	40	1530	-
MWS12_01	18/04/2011	-	0.05	0.15	-	0.53	-	-	-	-	-	-	6	<2	<2	<2	<2	<2	-
MWS12_01	18/09/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWS12_01A	26/08/2015	-	1.1	0.09	-	<0.1	-	-	-	-	-	-	730	350	28	180	21	200	-
MWS12_01A	18/05/2017	-	0.1	<0.05	<0.05	<0.1	-	-	-	-	-	-	45	<1	<1	<2	<1	<3	-
MWS12_01A	24/07/2019	-	0.06	<0.05	<0.05	<0.1	-	-	-	-	-	-	9	<1	<1	<2	<1	<3	-
MWS12_01A	23/10/2019	-	<0.02	0.05	<0.05	<0.1	-	-	-	-	-	-	1	<1	<1	<2	<1	<3	-
MWS12_01A	17/04/2020	-	0.06	<0.05	<0.01	<0.1	-	-	-	-	-	-	4	<1	<1	<2	<1	<3	-
MWS12_01A	22/04/2021	0.05	0.05	<0.05	<0.05	<0.1	<0.1	40	<50	<100	<100	<100	3	<1	<1	<2	<1	<3	<10
MWS12_01A	19/05/2022	0.03	0.03	0.05	<0.05	<0.1	<0.1	30	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS12_01A	8/05/2025	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	1	<1	<1	<1	<1	<3	<10
RPD MWS12_01A		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MWS12_13	28/06/2017	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS12_13	15/02/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS12_13	12/04/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	1	<1	<1	<2	<1	<3	-
MWS12_13	19/07/2018	-	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS12_13	24/10/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS12_13	2/04/2019	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS12_13	23/10/2019	-	<0.02	<0.05	<0.05	<0.1	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS12_13	16/04/2020	-	<0.2	<0.05	<0.01	<0.1	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS12_13	22/04/2021	0.06	0.06	<0.05	<0.05	<0.1	<0.1	50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS12_13	19/05/2022	0.02	0.02	0.34	0.34	0.2	<0.1	20	300	300	<100	600	<1	<1	<1	<2	<1	<3	<10
MWS12_13	8/05/2025	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<1	<1	<3	<10
RPD MWS12_13		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		Chlorinated Hydrocarbons																											
		1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1,2,3-trichloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromodorm	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	Hexachlorobutadiene	Trichloroethane	Tetrachloroethene	trans-1,2-dichloroethene	Vinyl chloride	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	2-Hexanone (MBK)	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Monitoring Well	Date sampled	1	1	1	1	0.01	1	1	0.01	1	1	1	1	1	1	1	5	5	5	0.01	1	0.01	0.02	1	0.05	1	1	1	5
RPD >50% (increase in concentration) - Offsite Wells																													
MWS12_01	23/10/2008	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-	-	<100	-	<1000	-	-	-	<100	<1000	-	<100		
MWS12_01	2/07/2009	-	-	-	<50	<50	-	-	-	-	-	-	-	-	-	-	-	<50	-	<50	-	<50	<50	<50	<1	1830	250		
MWS12_01	15/01/2010	-	-	-	<20	<20	-	-	-	-	-	-	-	-	-	-	-	<20	-	<20	-	<20	<20	<20	<1	1170	102		
MWS12_01	18/04/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<5	<5	<5	<5	<0.5	<5	<5		
MWS12_01	18/09/2014	-	-	-	<20	<20	-	-	-	-	-	-	-	-	-	-	-	<20	-	<20	-	<20	<20	<20	<20	-	-		
MWS12_01A	26/08/2015	-	-	-	1	14	-	-	-	-	-	-	-	-	-	-	-	<5	-	6.5	-	25	<1	<1	4.9	-	-		
MWS12_01A	18/05/2017	-	-	-	<1	8.2	-	-	-	-	-	<1	-	-	-	-	-	<5	-	8.7	-	32	<0.02	<1	4.3	<1	<1		
MWS12_01A	24/07/2019	-	-	-	<1	10	-	-	-	-	-	<1	-	-	-	-	-	<5	-	9.8	-	29	0.03	<1	<0.05	<1	<1		
MWS12_01A	23/10/2019	-	-	-	<1	12	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<5	-	15	-	41	<1	<1	5	<1	<1		
MWS12_01A	17/04/2020	-	<1	<1	<1	8	45	-	-	-	-	<1	<1	<1	-	-	-	<5	-	10	-	23	<1	<1	3	<1	<1		
MWS12_01A	22/04/2021	<1	<1	<1	<1	10	41	<1	8.6	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	10	<0.1	26	0.02	<1	4.8	<1	<1	-	
MWS12_01A	19/05/2022	<1	<1	<1	<1	8.0	26	<1	4.7	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	7.7	<5	15	0.04	<1	2.5	<1	<1	-	
MWS12_01A	8/05/2025	<1	<1	<1	<1	9.7	47	<1	5.2	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	6.3	<1	20	0.07	<1	2	<1	<1	<1	<5
RPD MWS12_01A		-	-	-	-	19	58	-	10	-	-	-	-	-	-	-	-	-	-	-20	-	29	55	-	-22	-	-	-	
MWS12_13	28/06/2017	<1	<1	<1	<1	34	79	<1	3.9	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	1.1	-	8.9	<0.02	<1	18	<1	<1	-	
MWS12_13	15/02/2018	<1	<1	<1	<1	12	47	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	3	<1	<1	3	<1	<1	-	
MWS12_13	12/04/2018	<1	<1	<1	<1	13	43	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	3	<1	<1	4	<1	<1	-	
MWS12_13	19/07/2018	<1	<1	<1	<1	13	49	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	3	<1	<1	7	<1	<1	-	
MWS12_13	24/10/2018	<1	<1	<1	<1	16	67	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	-	5	<1	<1	7	<1	<1	<1	
MWS12_13	2/04/2019	<1	<1	<1	<1	14	81	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	4	<1	<1	14	<1	<1	<1	
MWS12_13	23/10/2019	-	-	-	<1	17	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<5	<1	<1	-	5	<1	<1	<10	<1	<1		
MWS12_13	16/04/2020	-	<1	<1	<1	12	80	-	-	-	-	<1	<1	-	-	-	-	<5	-	<1	-	5	<1	<1	5	<1	<1		
MWS12_13	22/04/2021	<1	<1	<1	<1	20	85	<1	<0.01	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	2.5	<0.1	16	<0.02	<1	10	<1	<1	-	
MWS12_13	19/05/2022	<1	<1	<1	<1	17	55	<1	0.74	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	3.4	<5	12	0.04	<1	5.7	<1	<1		
MWS12_13	8/05/2025	<1	<1	<1	<1	17	120	<1	0.98	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	2.8	<1	14	0.06	<1	24	<1	<1	<1	<5
RPD MWS12_13		-	-	-	-	0	74	-	28	-	-	-	-	-	-	-	-	-	-	-19	-	15	40	-	123	-	-	-	

		TRH / TPH										BTEXN							
		C6-C10	C6-C10 less BTEX (P1)	C10-C16	TRH <C10-C16 less Naphthalene (P2)	C16-C24	C24-C40	C6-C9	C10-C14	C15-C28	C29-C36	<C10-C36 (Sum of total)	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	Naphthalene
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Monitoring Well	Date sampled	EQI	0.02	0.02	0.05	0.05	0.1	0.1	20	50	100	100	1	1	1	2	1	3	10
Groundwater Trigger Levels for "Onsite" Wells			6									5000							
MWS12_14	18/05/2017	0.03	<0.02	<0.05	<0.05	<0.1	<0.1	20	<50	<100	<100	<100	7	4	<1	3	<1	<3	<10
MWS12_14	15/02/2018	0.02	<0.02	<0.05	<0.05	<0.1	<0.1	20	<50	<100	<100	<100	7	<1	<1	<2	<1	<3	<10
MWS12_14	12/04/2018	0.03	0.03	<0.05	<0.05	<0.1	<0.1	30	<50	<100	<100	<100	3	<1	<1	<2	<1	<3	-
MWS12_14	18/07/2018	-	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	6	<1	<1	<2	<1	<3	<10
MWS12_14	24/10/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	2	<1	<1	<2	<1	<3	<10
MWS12_14	2/04/2019	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	3	<1	<1	<2	<1	<3	<11
MWS12_14	23/10/2019	-	<0.02	<0.05	<0.05	<0.1	-	-	-	-	-	-	11	<1	<1	<2	<1	<3	-
MWS12_14	16/04/2020	-	<0.02	<0.05	<0.01	<0.1	-	-	-	-	-	-	2	<1	<1	<2	<1	<3	-
MWS12_14	22/04/2021	0.05	0.05	<0.05	<0.05	<0.1	<0.1	40	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS12_14	19/05/2022	0.04	0.04	0.14	0.14	<0.1	0.2	50	130	100	<100	230	<1	<1	<1	<2	<1	<3	<10
MWS12_14	8/05/2025	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<1	<1	<3	<10
MWS15_27	17/05/2017	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_27	15/02/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_27	11/04/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-
MWS15_27	18/07/2018	-	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_27	22/10/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_27	3/04/2019	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<12
MWS15_27	22/10/2019	-	<0.02	<0.05	<0.05	<0.1	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS15_27	16/04/2020	-	<0.02	<0.05	<0.01	<0.1	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS15_27	27/04/2021	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_27	20/05/2022	<0.02	<0.1	0.15	0.15	<0.1	<0.1	<20	140	100	<100	240	<1	<1	<1	<2	<1	<3	<10
MWS15_27	8/05/2025	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<1	<1	<3	<10
MWS15_28	17/05/2017	0.03	0.03	<0.05	<0.05	<0.1	<0.1	30	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_28	14/02/2018	0.02	0.02	<0.05	<0.05	<0.1	<0.1	20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_28	11/04/2018	0.02	0.02	<0.05	<0.05	<0.1	<0.1	20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-
MWS15_28	18/07/2018	-	0.03	<0.05	<0.05	<0.1	<0.1	30	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_28	22/10/2018	0.03	0.03	<0.05	<0.05	<0.1	<0.1	30	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_28	3/04/2019	0.02	0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<13
MWS15_28	22/10/2019	-	<0.02	<0.05	<0.05	<0.1	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS15_28	21/11/2019	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS15_28	16/04/2020	-	0.04	<0.05	<0.01	<0.1	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS15_28	27/04/2021	0.04	0.04	<0.05	<0.05	<0.1	<0.1	40	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_28	19/05/2022	<0.02	<0.02	0.36	0.36	0.3	<0.1	<20	330	400	<100	730	<1	<1	<1	<2	<1	<3	<10
MWS15_28	8/05/2025	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<1	<1	<3	<10
MWS15_29	17/05/2017	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<1	<3	-	<10
MWS15_29	15/02/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_29	11/04/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-
MWS15_29	18/07/2018	-	<0.02	0.08	0.08	0.1	<0.1	<20	60	200	<100	260	<1	<1	<1	<2	<1	<3	<10
MWS15_29	22/10/2018	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<10
MWS15_29	3/04/2019	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	<14
MWS15_29	22/10/2019	-	<0.02	<0.05	<0.05	<0.1	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS15_29	16/04/2020	-	<0.02	<0.05	<0.01	<0.1	-	-	-	-	-	-	<1	<1	<1	<2	<1	<3	-
MWS15_29	27/04/2021	<0.02	<0.02	0.17	0.17	0.7	<0.1	<20	80	800	<100	880	<1	<1	<1	<2	<1	<3	<10
MWS15_29	19/05/2022	<0.02	<0.02	0.19	0.19	<0.1	<0.1	<20	210	100	<100	310	<1	<1	<1	<2	<1	<3	<10
MWS15_29	8/05/2025	<0.02	<0.02	<0.05	<0.05	<0.1	<0.1	<20	<50	<100	<100	<100	<1	<1	<1	<1	<1	<3	<10

		Chlorinated Hydrocarbons																											
		1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,3-trichloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoderm	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroderm	Chloromethane	cis-1,2-dichloroethene	Hexachlorobutadiene	Trichloroethane	Tetrachloroethane	trans-1,2-dichloroethene	Vinyl chloride	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	2-hexanone (MBq)	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
Monitoring Well	Date sampled	EQ1	1	1	1	0.01	1	1	0.01	1	1	1	1	1	1	1	5	5	5	0.01	1	0.01	0.02	1	0.05	1	1	5	
Groundwater Trigger Levels for "Onsite" Wells			1	1	1	42						1					5		6	20	18	1	1	7.6	2	1	5		
MWS12_14	18/05/2017	<1	<1	<1	<1	2.6	<1	<1	0.34	<1	<1	<1	<1	<1	<1	<1	<5	<1	0.23	-	0.01	<0.02	<1	<0.05	2	1	-		
MWS12_14	15/02/2018	<1	<1	<1	<1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	-		
MWS12_14	12/04/2018	<1	<1	<1	<1	4	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	-		
MWS12_14	18/07/2018	<1	<1	<1	<1	3	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	-		
MWS12_14	24/10/2018	<1	<1	<1	<1	3	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	-	<1	<1	<1	<1	<1	<1	<1		
MWS12_14	2/04/2019	<1	<1	<1	<1	3	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	<1		
MWS12_14	23/10/2019	-	-	-	<1	4	-	-	-	-	-	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	-		
MWS12_14	16/04/2020	-	<1	<1	<1	3	<1	-	-	-	-	<1	<1	<1	-	-	<5	-	<1	-	<1	<1	<1	<1	<1	<1	-		
MWS12_14	22/04/2021	<1	<1	<1	<1	4.3	<1	<1	2.2	<1	<1	<1	<1	<1	<1	<1	<5	<1	0.59	<0.1	0.04	<0.02	<1	<0.05	<1	<1	-		
MWS12_14	19/05/2022	<1	<1	<1	<1	4.2	<1	<1	2.2	<1	<1	<1	<1	<1	<1	<1	<5	<5	0.91	<5	0.02	<0.02	<1	<0.05	<1	<1	-		
MWS12_14	8/05/2025	<1	<1	<1	<1	2.2	<1	<1	0.56	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5	0.57	<1	<0.01	<0.02	<1	<0.05	<1	<1	<5	
MWS15_27	17/05/2017	<1	<1	<1	<1	0.36	<1	<1	0.05	<1	<1	<1	<1	<1	<1	<1	<5	<1	0.21	-	0.14	<0.02	<1	0.27	<1	<1	-		
MWS15_27	15/02/2018	<1	<1	<1	<1	1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	2	<0.1	2	<1	<1	<1	<1	<1	-		
MWS15_27	11/04/2018	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	1	<0.1	2	<1	<1	<1	<1	<1	-		
MWS15_27	18/07/2018	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	1	<0.1	1	<1	<1	<1	<1	<1	-		
MWS15_27	22/10/2018	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	-	<1	<1	<1	<1	<1	<1	<1		
MWS15_27	3/04/2019	<1	<1	<1	<1	1	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	2	<0.1	2	<1	<1	<1	<1	<1	<1		
MWS15_27	22/10/2019	-	-	-	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	-	<1	<1	<1	<1	<1	<1	-		
MWS15_27	16/04/2020	-	<1	<1	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<5	-	<1	-	<1	<1	<1	<1	<1	<1	-		
MWS15_27	27/04/2021	<1	<1	<1	<1	1.2	5	<1	0.34	<1	<1	<1	<1	<1	<1	<1	<5	<1	1.5	<0.1	1.4	<0.02	<1	0.24	<1	<1	-		
MWS15_27	20/05/2022	<1	<1	<1	<1	1.3	5	<1	<0.01	<1	<1	<1	<1	<1	<1	<1	<5	<5	1.6	<5	1.3	<0.02	<1	<0.05	<1	<1	-		
MWS15_27	8/05/2025	<1	<1	<1	<1	4.9	19	<1	0.64	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5	3.6	<1	2.2	<0.02	<1	0.96	<1	<1	<5	
MWS15_28	17/05/2017	<1	<1	<1	<1	15	42	<1	13	<1	<1	<1	<1	<1	<1	<1	<5	<1	6	-	18	0.03	<1	7.6	<1	<1	-		
MWS15_28	14/02/2018	<1	<1	<1	<1	11	31	<1	16	<1	<1	<1	<1	<1	<1	<1	<5	<1	6	<0.1	15	<1	<1	3	<1	<1	-		
MWS15_28	11/04/2018	<1	<1	<1	<1	10	28	<1	14	<1	<1	<1	<1	<1	<1	<1	<5	<1	6	<0.1	16	<1	<1	<1	<1	<1	-		
MWS15_28	18/07/2018	<1	<1	<1	<1	8	21	<1	14	<1	<1	<1	<1	<1	<1	<1	<5	<1	6	<0.1	15	<1	<1	<1	<1	<1	-		
MWS15_28	22/10/2018	<1	<1	<1	<1	7	22	<1	13	<1	<1	<1	<1	<1	<1	<1	<5	<1	6	-	14	<1	<1	2	<1	<1	<1		
MWS15_28	3/04/2019	<1	<1	<1	<1	7	30	<1	12	<1	<1	<1	<1	<1	<1	<1	<5	<1	6	<0.1	18	<1	<1	5	<1	<1	<1		
MWS15_28	22/10/2019	-	-	-	<1	12	-	-	-	-	<1	<1	<1	<1	<1	<1	<5	-	11	-	29	<1	<1	4	<1	<1	-		
MWS15_28	21/11/2019	-	-	-	<1	21	-	-	-	-	<1	-	-	-	-	-	<5	-	6	-	19	<1	<1	2	<1	<1	-		
MWS15_28	16/04/2020	-	<1	<1	<1	8	42	-	-	-	<1	<1	<1	<1	<1	<1	<5	-	8	-	21	<1	<1	3	<1	<1	-		
MWS15_28	27/04/2021	<1	<1	<1	<1	7.2	35	<1	12	<1	<1	<1	<1	<1	<1	<1	<5	<1	7.4	<0.1	16	0.02	<1	2.5	<1	<1	-		
MWS15_28	19/05/2022	<1	<1	<1	<1	4.0	19	<1	5.1	<1	<1	<1	<1	<1	<1	<1	<5	<5	4.3	<5	6.6	<0.02	<1	0.96	<1	<1	-		
MWS15_28	8/05/2025	<1	<1	<1	<1	14	14	<1	4.9	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5	3.4	<1	5.7	0.02	<1	1.8	<1	<1	<5	
MWS15_29	17/05/2017	<1	<1	<1	<1	0.04	<1	<1	<0.01	<1	-	<1	<1	<1	<1	<1	<5	<1	<0.01	-	<0.01	<0.02	<1	0.07	<1	<1	-		
MWS15_29	15/02/2018	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	-		
MWS15_29	11/04/2018	<1	<1	<1	<1	3	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	2	<1	5	<1	<1	<0.1	<1	<1	<1	<1	-		
MWS15_29	18/07/2018	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	-		
MWS15_29	22/10/2018	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	-	<1	<1	<1	<1	<1	<1	<1		
MWS15_29	3/04/2019	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	<1		
MWS15_29	22/10/2019	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<0.1	<1	<1	<1	<1	<1	<1	-		
MWS15_29	16/04/2020	-	<1	<1	<1	<1	<1	-	-	-	<1	<1	-	-	-	-	<5	-	<1	-	<1	<1	<1	<1	<1	<1	-		
MWS15_29	27/04/2021	<1	<1	<1	<1	<0.01	<1	<1	0.02	<1	<1	<1	<1	<1	<1	<1	<5	<1	<0.01	<0.1	0.04	<0.02	<1	<0.05	<1	<1	-		
MWS15_29	19/05/2022	<1	<1	<1	<1	<0.01	<1	<1	<0.01	<1	<1	<1	<1	<1	<1	<1	<5	<5	<0.01	<5	<0.01	<0.02	<1	<0.05	<1	<1	-		
MWS15_29	8/05/2025	<1	<1	<1	<1	<0.01	<1	<1	<0.01	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5	<0.01	<1	<0.01	<0.02	<1	<0.05	<1	<1	<5	

Field ID	Matrix Type	Date	MWS15_28	QW1	RPD (%)	MWS15_28	QW2	RPD (%)
			Groundwater	Groundwater		Groundwater	Groundwater	
			8/05/2025	8/05/2025		8/05/2025	8/05/2025	
	Unit	EQL						
TRH								
C6-C10 Fraction	mg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC
C6-C10 Fraction - BTEX (F1)	mg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC
>C10-C16 Fraction	mg/L	0.05	<0.05	<0.05	NC	<0.05	<0.1	NC
>C10-C16 Fraction - naphthalene (F2)	mg/L	0.05	<0.05	<0.05	NC	<0.05	<0.1	NC
>C16-C34 Fraction (F3)	mg/L	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC
>C34-C40 Fraction (F4)	mg/L	0.1	<0.1	<0.1	NC	<0.1	<0.1	NC
TPH								
C6-C9 Fraction	µg/L	20	<20	<20	NC	<20	<20	NC
C10-C14 Fraction	µg/L	50	<50	<50	NC	<50	<50	NC
C15-C28 Fraction	µg/L	100	<100	<100	NC	<100	<100	NC
C29-C36 Fraction	µg/L	100	<100	<100	NC	<100	<50	NC
C10-C36 Fraction (Sum)	µg/L	100	<100	<100	NC	<100	<50	NC
BTEX								
Benzene	µg/L	1	<1	<1	NC	<1	<1	NC
Toluene	µg/L	1	<1	<1	NC	<1	<2	NC
Ethylbenzene	µg/L	1	<1	<1	NC	<1	<2	NC
Xylene (m & p)	µg/L	2	<1	<1	NC	<1	<2	NC
Xylene (o)	µg/L	1	<1	<1	NC	<1	<2	NC
Xylene Total	µg/L	3	<3	<3	NC	<3	<2	NC
Naphthalene	µg/L	10	<10	<10	NC	<10	<5	NC
VOC								
1,1,1,2-tetrachloroethane	µg/L	1	<1	<1	NC	<1	-	-
1,1,1-trichloroethane	µg/L	1	<1	<1	NC	<1	<0.1	NC
1,1,2,2-tetrachloroethane	µg/L	1	<1	<1	NC	<1	-	-
1,1,2-trichloroethane	µg/L	1	<1	<1	NC	<1	-	-
1,1-dichloroethane	µg/L	0.01	14	3.8	115	14	2.7	135
1,1-dichloroethene	µg/L	1	14	15	7	14	11.4	20
1,2,3-trichloropropane	µg/L	1	<1	<1	NC	<1	-	-
1,2-dichloroethane	µg/L	0.01	4.9	4.8	2	4.9	3.2	42
1,2-dichloropropane	µg/L	1	<1	<1	NC	<1	<0.1	NC
1,3-dichloropropane	µg/L	1	<1	<1	NC	<1	-	-
Bromochloromethane	µg/L	1	<1	<1	NC	<1	<0.5	NC
Bromodichloromethane	µg/L	1	<1	<1	NC	<1	<0.1	NC
Bromoform	µg/L	1	<1	<1	NC	<1	<0.1	NC
Carbon tetrachloride	µg/L	1	<1	<1	NC	<1	<0.05	NC
Chlorodibromomethane	µg/L	1	<1	<1	NC	<1	-	-
Chloroethane	µg/L	5	<5	<5	NC	<5	<0.5	NC
Chloroform	µg/L	5	<5	<5	NC	<5	<0.1	NC
Chloromethane	µg/L	5	<5	<5	NC	<5	-	-
cis-1,2-dichloroethene	µg/L	0.01	3.4	3	13	3.4	2.6	27
Hexachlorobutadiene	µg/L	1	<1	<1	NC	<1	<0.04	NC
Trichloroethene	µg/L	0.01	5.7	4.7	19	5.7	5.56	2
Tetrachloroethene	µg/L	0.02	0.02	<0.02	NC	0.02	<0.05	NC
trans-1,2-dichloroethene	µg/L	1	<1	<1	NC	<1	<0.1	NC
Vinyl chloride	µg/L	0.05	1.8	0.88	69	1.8	1	57
1,2,4-trimethylbenzene	µg/L	1	<1	<1	NC	<1	<0.05	NC
1,3,5-trimethylbenzene	µg/L	1	<1	<1	NC	<1	<0.05	NC
2-hexanone (MBK)	µg/L	5	<5	<5	NC	<5	-	-

* NC = No Comparison as one or both results below detection limits

RESULTS SUMMARY TABLES – SOIL VAPOUR

echo

		TRH		BTEXN						Chlorinated Hydrocarbons																		
		C6-C10 less BTEX (F1)	TRH >C10-C16 less Naphthalene (F2)																									
		µg/m3	ug/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	
Soil Vapour Point		Date sampled																										
Trigger Level Offsite - RPD >50% (increase in concentration)																												
VP32_3.0	12/05/2017	700,000	<20,000	<800	<1100	<940	1700	<1100	<1300	<1400	<1800	<1400	<990	<1700	<1200	<990	<2700	<1300	<1700	<990	<640	<1200	<1200	<1200	<620	<900	<1000	
VP32_3.0	9/02/2018	96,000	680	<6	<9	-	<17	<9	-	<11	<14	<11	<8	<13	<10	<8	<21	<11	<13	<8	<5	<10	<10	<10	<50	<17	<8	
VP32_3.0	9/04/2018	73,000	1400	2	8	-	30	<2.2	-	<2.7	<3.4	<2.7	<2	<3.4	<2.4	<2	<5.3	<1.6	<3.4	<2	<0.8	7	3	3	60	<1.8	<2	
VP32_3.0	27/07/2018	<20,000	<40,000	<100	<220	<190	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	<120	<180	<150	
VP32_3.0	23/10/2018	5400	<150	59	<6	72	13	<6	<27	<7	<9	<7	<5	<9	62	<5	<55	<7	<9	<5	<3	<6	<6	<6	<126	<18	<21	
VP32_3.0	24/04/2019	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	<120	<180	<200	
VP32_3.0	24/10/2019	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200	
VP32_3.0	14/04/2020	<20,000	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	<120	<180	<200	
VP32_3.0	28/04/2021	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	<120	<180	<200	
VP32_3.0	17/05/2022	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20.0	<530	<5.4	<340	<200	<5.1	<240	<240	<240	<120	<180	<200	
VP32_3.0	April 2025 (water ingress, not sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RPD VP32_3.0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VP41_3.0	26/05/2017	160,000	42,000	300	3400	<90	1500	320	<130	<140	<170	<140	<100	<170	<120	<100	<270	<130	<170	<100	<60	450	3700	3000	<60	<90	<100	
VP41_3.0	9/02/2018	23,000	950	10	240	-	150	3	-	<2.7	<3.4	<2.7	<2	<3.4	<2.4	<2	<5.3	<2.7	<3.4	<2	<1.3	25	37	47	10	<1.8	<2	
VP41_3.0	9/04/2018	210,000	13,000	250	9600	-	13,000	180	-	<140	<170	<140	<100	<170	<120	<100	<270	<80	<170	<100	<40	4500	1500	570	<600	<90	<100	
VP41_3.0 (Replacement)	24/10/2019	251,000	65,800	<100	625	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<12.8	<240	<240	<240	-	<180	<200	
	VP41_3.0	14/04/2020	527,000	196,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<25	<340	<200	<12.8	<240	<240	<240	<120	<180	<200
	VP41_3.0	28/04/2021	340,000	116,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<25	<340	<200	<12.8	<240	<240	<240	<120	<180	<200
VP41_3.0	16/05/2022	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20.0	<530	<5.4	<340	<200	<5.1	<240	<240	<240	<120	<180	<200	
VP41_3.0	13/04/2025	40,000	14,000	26	< 6	< 21	16	< 6	< 29	< 8	< 10	< 8	< 6	< 10	< 7	< 6	< 60	< 8	< 10	< 6	< 7	19	9	< 7	< 140	< 20	< 23	
RPD VP41_3.0		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
VP41_6.0	9/02/2018	520,000	31,000	220	1100	-	580	<18	-	<23	<29	<23	24	<28	<20	<17	<44	<22	<28	<17	<11	380	120	130	<100	<15	<17	
VP41_6.0	9/04/2018	6,900,000	490,000	270,000	3,300,000	-	5,500,000	88,000	-	<6800	<8600	<6800	<5000	<8400	<6100	<5000	<13,000	<4000	<8500	<5000	<1900	410,000	150,000	140,000	<31,000	<4500	<5100	
VP41_6.0	27/07/2018	564,000	204,000	240	<220	<190	<430	<220	-	<270	<340	<270	<200	<340	<240	<40	<530	<50	<340	<200	<25.5	<240	<240	<240	<120	<180	<150	
VP41_6.0	23/10/2018	250,000	76,000	140	38	<7.5	48	<6	<29	<7	<9	<7	<5	<9	<7	<5	<58	<7	<9	<5	<3	12	9.6	25	<134	<20	<22	
VP41_6.0	24/04/2019	91,600	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<40	<530	<50	<340	<200	<25.5	<240	<240	<240	<120	<180	<200	
VP41_6.0	24/10/2019	122,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<12.8	<240	<240	<240	-	<180	<200	
VP41_6.0	14/04/2020	197,000	40,900	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<12.5	<340	<200	<12.8	<240	<240	<240	<120	<180	<200	
VP41_6.0	28/04/2021	133,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<12.5	<340	<200	<6.4	<240	<240	<240	<120	<180	<200	
VP41_6.0	16/05/2022	158,000	86,500	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20.0	<530	<5.4	<340	<200	<5.1	<240	<240	<240	<120	<180	<200	
VP41_6.0	13/04/2025	120,000	44,000	< 5	23	< 22	16	< 7	< 32	< 8	< 10	< 8	< 6	< 10	< 7	< 6	< 64	< 8	< 10	< 6	< 8	19	< 8	< 8	< 150	< 22	< 25	
RPD VP41_6.0		-27	-65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										

		TRH		BTEXN						Chlorinated Hydrocarbons																	
		C6-C10 less BTEX (F1)	TRH >C10-C16 less Naphthalene (F2)																								
		µg/m3	ug/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	
Soil Vapour Point	Date sampled																										
Trigger Level Offsite - RPD >50% (increase in concentration)																											
Soil Vapour Trigger Levels - Onsite		9,900,000		256,000	4,640,000		41,630,000	41,630,000		11,200	14,400	11,200	7920	13,600	9600	7200	21,600	10,400	13,600	7920	5120	1,184,000	5,120,000	1,600,000	208,000	25,600	208,000
VP45_3.7	24/10/2019	<20,000	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	44	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP45_3.7	15/04/2020	<20,000	<40000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	43.6	<530	<10	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP45_3.7	Aprill 2021 no sample	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP45_3.7	16/05/2022	<20.0	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20.0	<530	<5.4	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP45_3.7	14/04/2025	<150	580	< 5	< 7	83	21	< 7	< 32	< 8	< 10	< 8	< 6	< 10	< 7	< 6	< 64	< 8	< 10	< 6	< 8	< 8	< 8	< 8	< 150	< 22	< 25
VP45A_2.3	29/06/2021	26,300	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP45A_2.3	14/04/2025	<135	<135	33	< 6	40	< 12	< 6	< 28	< 7	< 9	< 7	< 5	< 9	< 6	< 5	< 58	< 7	< 9	< 5	< 7	< 7	< 7	< 7	1400	< 19	< 22
VP46_3.7	15/04/2020	48,900	145,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP46A_2.3	29/06/2021	38,600	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP46A_2.3	14/04/2025	<135	<135	< 4	< 6	< 20	< 12	< 6	< 28	< 7	< 9	< 7	< 5	< 9	< 6	< 5	< 58	51	< 9	< 5	< 7	< 7	< 7	< 7	< 135	< 19	< 22
VP47_3.7	April 2020 (Water Ingress / Blocked - Not Sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP47A_2.3	June 2021 (Water Ingress - Not Sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP47A_2.3	April 2025 (water ingress, not sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP48_3.7	Oct 2019 (Water Ingress - Not Sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP48_3.7	April 2020 (Water Ingress - Not Sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP48_3.7	April 2021 (Water Ingress - Not Sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP48_3.7	April 2025 (water ingress, not sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP49_3.7	24/10/2019	65,300	<40,000	<100	<220	-	594	276	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	14	<240	<240	<240	-	<180	<200
VP49_3.7	15/04/2020	70,800	<40000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<25	<340	<200	7	288	240	<240	<120	<180	<200
VP49_3.7	28/04/2021	85,200	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<12.5	<340	<200	8.4	311	<240	<240	<120	<180	<200
VP49_3.7	16/05/2022	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20.0	<530	<5.4	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP49_3.7	14/04/2025	17,000	390	23	< 6	35	18	< 6	< 29	< 8	< 10	< 8	13	< 10	< 7	< 6	< 60	< 8	< 10	< 6	< 7	14	< 7	< 7	< 140	< 20	< 23
VP50_3.7	24/10/2019	<20,000	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP50_3.7	15/04/2020	<20,000	<40000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP50_3.7	28/04/2021	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP50_3.7	16/05/2022	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20.0	<530	<5.4	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP50_3.7	14/04/2025	<140	360	29	39	220	150	46	< 29	< 8	< 10	< 8	< 6	< 10	< 7	< 6	< 60	< 8	< 10	< 6	< 7	< 7	< 7	< 7	< 140	< 20	< 23
VP51_3.7	4/02/2020	<20,000	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP51_3.7	15/04/2020	<20,000	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP51_3.7	28/04/2021	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP51_3.7	16/05/2022	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20.0	<530	<5.4	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP51_3.7	14/04/2025	19,000	1700	35	< 7	< 26	< 15	< 7	< 36	< 9	< 12	< 9	< 7	< 12	< 8	< 7	< 72	< 9	< 12	< 7	< 8	< 8	< 8	< 8	< 170	< 24	< 28
VP52_3.7	4/02/2020	<20,000	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP52_3.7	15/04/2020	<20,000	<40000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	5.9	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP52_3.7	28/04/2021	<20,000	<40,000	<100	<220	<190	<430	<220	<100	<270	<340	<270	<200	<340	<240	<20	<530	7	<340	<200	<5.1	<240	<240	<240	<120	<180	<200
VP52_3.7	April 2025 (water ingress, not sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP53_3.7	4/02/2020	<20,000	<40,000	<100	<220	-	<430	<220	-	<270	<340	<270	<200	<340	<240	<20	<530	<5	<340	<200	<5.1	<240	<240	<240	-	<180	<200
VP53_3.7	April 2020 (Water Ingress / Blocked - Not Sampled)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP53_3.7	April 2021 no sample	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Field ID Matrix Type Date		VP12_3.8			QV1			VP12_2.5			QV2			VP45A			QV3			VP42_4.5			QV4			VP50_3.7			QV5			VP49_3.7			QV6		
		soil vapour	soil vapour		soil vapour	soil vapour		soil vapour	soil vapour		soil vapour	soil vapour		soil vapour	soil vapour		soil vapour	soil vapour		soil vapour	soil vapour		soil vapour	soil vapour		soil vapour	soil vapour		soil vapour	soil vapour							
Date		13/04/2025	13/04/2025	RPD (%)	13/04/2025	13/04/2025	RPD (%)	13/04/2025	13/04/2025	RPD (%)	14/04/2025	14/04/2025	RPD (%)	14/04/2025	14/04/2025	RPD (%)	14/04/2025	14/04/2025	RPD (%)	14/04/2025	14/04/2025	RPD (%)	14/04/2025	14/04/2025	RPD (%)	14/04/2025	14/04/2025	RPD (%)	14/04/2025	14/04/2025	RPD (%)						
	Unit																																				
TRH																																					
C6-C10 less BTEX (F1)	µg/m3	58000	59000	2				23000	20700	11				<135	< 135	NC				8700	<20000	NC				<140	< 140	NC				17000	<20000	NC			
TRH >C10-C16 less Naphthalene (F2)	µg/m3	<300	< 300	NC				310	<40000	NC				<135	1400	165				1600	<40000	NC				360	< 140	88				390	<40000	NC			
BTEX																																					
Benzene	µg/m3	< 10	< 10	NC				9.5	<100	NC				33	< 4	NC				< 5	<100	NC				29	< 4	NC				23	<100	NC			
Ethylbenzene	µg/m3	< 13	< 13	NC				< 6	<220	NC				< 6	< 6	NC				< 7	<220	NC				39	13	NC				< 6	<220	NC			
Toluene	µg/m3	< 45	< 45	NC				37	<190	NC				40	< 20	NC				< 24	<190	NC				220	< 21	NC				35	<190	NC			
Xylene (m & p)	µg/m3	< 26	< 26	NC				13	<430	NC				< 12	< 12	NC				< 14	<430	NC				150	17	NC				18	<430	NC			
Xylene (o)	µg/m3	< 13	< 13	NC				< 6	<220	NC				< 6	< 6	NC				< 7	<220	NC				46	< 6	NC				< 6	<220	NC			
Naphthalene	µg/m3	< 63	< 63	NC				< 30	<100	NC				< 28	< 28	NC				< 34	<100	NC				< 29	< 29	NC				< 29	<100	NC			
VOC																																					
1,1,1-trichloroethane	µg/m3	< 16	< 16	NC				< 8	<270	NC				< 7	< 7	NC				< 9	<270	NC				< 8	< 8	NC				< 8	<270	NC			
1,1,2,2-tetrachloroethane	µg/m3	< 20	< 20	NC				< 10	<340	NC				< 9	< 9	NC				< 11	<340	NC				< 10	< 10	NC				< 10	<340	NC			
1,1,2-trichloroethane	µg/m3	< 16	< 16	NC				< 8	<270	NC				< 7	< 7	NC				< 9	<270	NC				< 8	< 8	NC				< 8	<270	NC			
1,1-dichloroethene	µg/m3	< 12	< 12	NC				< 6	<200	NC				< 5	< 5	NC				< 6	<200	NC				< 6	< 6	NC				13	<200	NC			
Bromodichloromethane	µg/m3	< 20	< 20	NC				< 10	<340	NC				< 9	< 9	NC				< 11	<340	NC				< 10	< 10	NC				< 10	<340	NC			
Chloroform	µg/m3	< 14	< 14	NC				< 7	<240	NC				< 6	< 6	NC				< 8	<240	NC				< 7	< 7	NC				< 7	<240	NC			
cis-1,2-dichloroethene	µg/m3	< 12	< 12	NC				< 6	<20	NC				< 5	< 5	NC				< 6	<20	NC				< 6	< 6	NC				< 6	<20	NC			
Hexachlorobutadiene	µg/m3	< 128	< 128	NC				< 62	<530	NC				< 58	< 58	NC				< 68	<530	NC				< 60	< 60	NC				< 60	<530	NC			
Trichloroethene	µg/m3	< 16	< 16	NC				< 8	<5.4	NC				< 7	< 7	NC				< 9	<5.4	NC				< 8	< 8	NC				< 8	<5.4	NC			
Tetrachloroethene	µg/m3	< 20	< 20	NC				< 10	<340	NC				< 9	< 9	NC				< 11	<340	NC				< 10	< 10	NC				< 10	<340	NC			
trans-1,2-dichloroethene	µg/m3	< 12	< 12	NC				< 6	<200	NC				< 5	< 5	NC				< 6	<200	NC				< 6	< 6	NC				< 6	<200	NC			
Vinyl chloride	µg/m3	< 15	< 15	NC				< 7	<5.1	NC				< 7	< 7	NC				< 8	<5.1	NC				< 7	< 7	NC				< 7	<5.1	NC			
1,2,4-trimethylbenzene	µg/m3	< 15	< 15	NC				< 7	<240	NC				< 7	< 7	NC				< 8	<240	NC				< 7	< 7	NC				14	<240	NC			
1,3,5-trimethylbenzene	µg/m3	< 15	< 15	NC				< 7	<240	NC				< 7	< 7	NC				< 8	<240	NC				< 7	< 7	NC				< 7	<240	NC			
1-methyl-4 ethyl benzene	µg/m3	< 15	< 15	NC				< 7	-	-				< 7	< 7	NC				< 8	-	-				< 7	< 7	NC				< 7	-	-			
2-Propanol	µg/m3	< 300	740	85				< 145	<120	NC				1400	560	86				< 160	<120	NC				< 140	< 140	NC				< 140	<120	NC			
1,4-Dioxane	µg/m3	< 43	< 43	NC				< 21	<180	NC				< 19	< 19	NC				< 23	<180	NC				< 20	< 20	NC				< 20	<180	NC			
2-hexanone (MBK)	µg/m3	< 49	< 49	NC				< 24	<200	NC				< 22	< 22	NC				< 26	<200	NC				< 23	< 23	NC				< 23	<200	NC			

* NC = No Comparison as one or both results below detection limits

**APPENDIX A GROUNDWATER SAMPLING RECORDS &
CALIBRATION CERTIFICATES**

Groundwater Gauging



Client:	Renewal SA
Location:	Tonsley
Project:	Residential Monitoring

Date: 8/5/20
Gauged by: AD/vw

Gauging Equipment/Method:[illegible]

Observations / Comments:

Groundwater Sampling Record

Client: Renewal SA
Location: Tonsley
Project: Residential Monitoring

 WELL ID:
 MWS12-01A

Date: 8/05/2025

Sampled by: A. J. W.

Well Details	Sampling Equipment & Methodology (circle applicable)
Total Depth: 15.3m	Method: <u>low-flow</u> 4-well volume purged dry other
Screened interval:	Pump type: <u>micropurge</u> peristaltic footvalve bailer
Case diameter: 50mm	Intake depth: 21.4m
Casing type: PVC	Observations: (damage/water ingress potential/ vegetation etc)
Depth to Product (mbTOC) —	
Depth to Water (mbTOC) 6.578	

Maximum pre-sampling variation ¹ (3 consecutive)		<0.1m	±0.1	±0.2°C	±5%	±10mV	±10%	¹ per 3 mins for low flow, per 0.5 well volume for well volume method.
Time	Litres purged (cumulative)	Water Level (m bTOC)	pH	Temp °C	EC (µS/cm)	ORP (mV)	DO (mg/L)	Notes: (odour, sheen, colour)
1:09	1.5	7.15	6.74	21.1	4596	-43.4	2.22	
1:12	3.0	7.17	6.73	21.1	4663	-28.5	0.55	
1:15	4.2	7.17	6.77	21.1	4790	-20.3	0.57	
1:18	5.6	7.17	6.79	21.1	4840	-11.3	0.41	
1:21	6.9	7.17	6.80	21.1	4853	-5.2	0.39	
1:24	8.3	7.17	6.80	21.1	4861	-4.1	0.38	
1:27	9.7	7.17	6.81	21.1	4868	-3.8	0.36	

General Observations/comments: - odours, sheens, colour, etc

Samples Collected:

Container	Preservative (analyte)	No.	Duplicate & Blank IDs
Plastic 60mL	HNO ₃ (metals)**		
Plastic 500mL	Nil (inorganics)	1	
Glass amber 100-500mL	Nil (SVOC - eg TRH/OCP/PAH)	1	
Glass vial 40mL	HCl (VOC - eg <C10 TRH, BTEX)	4	
Plastic 60mL	H ₂ SO ₄ (nutrients)		
Plastic 60mL	NaOH (Cn, CrVI**)		

** Samples to be analysed for dissolved metals must be filtered (45micron) prior to filling container

PAGE of

Groundwater Sampling Record

Client:	Renewal SA
Location:	Tonsley
Project:	Residential Monitoring

WELL ID:

MWS12-13

Date: 8/05/2025

Sampled by: AS/WW

Well Details	Sampling Equipment & Methodology (circle applicable)
Total Depth: 15.8m	Method: low-flow 4-well volume purged dry other
Screened interval:	Pump type: micropurge peristaltic footvalve bailer
Case diameter: 50mm	Intake depth: ~14.3m
Casing type: PVC	Observations: (damage/water ingress potential/ vegetation etc)
Depth to Product (mbTOC) -	
Depth to Water (mbTOC) 7.658m	

[illegible]

General Observations/comments: - odours, sheens, colour, etc

- no edam/shoes

- light brown - med density

dropped water
then slowed
flow.

Samples Collected:

Container	Preservative (analyte)	No.	Duplicate & Blank IDs
Plastic 60mL	HNO ₃ (metals)**		
Plastic 500mL	Nil (inorganics)	X1	
Glass amber 100-500mL	Nil (SVOC - eg TRH/OCP/PAH)	X1	
Glass vial 40mL	HCl (VOC - eg <C10 TRH, BTEX)	X4	
Plastic 60mL	H ₂ SO ₄ (nutrients)		
Plastic 60mL	NaOH (Cn, CrVI)**		

**** Samples to be analysed for dissolved metals must be filtered (45micron) prior to filling container**

PAGE of

Groundwater Sampling Record

Client: Renewal SA
Location: Tonsley
Project: Residential Monitoring

WELL ID:

MWS12-14

Date: 8/05/2025

Sampled by: AD/NW

Well Details	Sampling Equipment & Methodology (circle applicable)
Total Depth: 15.7m	Method: low-flow 4-well volume purged dry other
Screened interval:	Pump type: micropurge peristaltic footvalve bailer
Case diameter: 50mm	Intake depth: 14.2m
Casing type: p/c	Observations: (damage/water ingress potential/ vegetation etc)
Depth to Product (mbTOC) ~	
Depth to Water (mbTOC) 7.969m	

Maximum pre-sampling variation ¹ (3 consecutive)		<0.1m	±0.1	±0.2°C	±5%	±10mV	±10%	¹ per 3 mins for low flow. per 0.5 well volume for well volume method.
Time	Litres purged (cumulative)	Water Level (m bTOC)	pH	Temp °C	EC (µS/cm)	ORP (mV)	DO (mg/L)	Notes: (odour, sheen, colour)
11:36	2.5	8.58	6.30	21.3	5398	-0.7	0.34	
11:39	3.1	8.58	6.31	21.4	5770	0.4	0.21	
11:42	3.9	8.57	6.32	21.5	5991	0.4	0.11	
11:45	4.6	8.57	6.33	21.7	6246	0.0	0.05	
11:48	5.3	8.57	6.33	21.6	6373	-0.4	0.00	
11:51	6.0	8.57	6.33	21.6	6363	-0.6	0.02	

General Observations/comments: - odours, sheens, colour, etc

Samples Collected:

Container	Preservative (analyte)	No.	Duplicate & Blank IDs
Plastic 60mL	HNO ₃ (metals)**		
Plastic 500mL	Nil (inorganics)	1	
Glass amber 100-500mL	Nil (SVOC - eg TRH/OCP/PAH)	1	
Glass vial 40mL	HCl (VOC - eg <C10 TRH, BTEX)	4	
Plastic 60mL	H ₂ SO ₄ (nutrients)		
Plastic 60mL	NaOH (Cn, CrVI)**		

** Samples to be analysed for dissolved metals must be filtered (45micron) prior to filling container

PAGE of

Groundwater Sampling Record

Client: Renewal SA
Location: Tonsley
Project: Residential Monitoring

 WELL ID:
 MW515-27

Date: 8/05/2025

Sampled by: AD/vw

Well Details	Sampling Equipment & Methodology (circle applicable)
Total Depth: 16.0	Method: <u>low-flow</u> 4-well volume purged dry other
Screened interval:	Pump type: <u>micropurge</u> peristaltic footvalve bailer
Case diameter: 50mm	Intake depth: 14.5m
Casing type: pvc	Observations: (damage/water ingress potential/ vegetation etc)
Depth to Product (mbTOC)	
Depth to Water (mbTOC) 6.745	

Maximum pre-sampling variation ¹ (3 consecutive)		<0.1m	±0.1	±0.2°C	±5%	±10mV	±10%	¹ per 3 mins for low flow. per 0.5 well volume for well volume method.
Time	Litres purged (cumulative)	Water Level (m bTOC)	pH	Temp °C	EC (µS/cm)	ORP (mV)	DO (mg/L)	Notes: (odour, sheen, colour)
1:52	2.2	7.27	6.44	20.9	14409	93.7	0.37	
1:55	2.8	7.29	6.44	21.0	14386	94.6	0.16	
1:58	3.1	7.29	6.45	21.1	14337	94.7	0.11	
2:01	3.4	7.29	6.45	21.1	14311	96.5	0.08	
2:04	3.7	7.29	6.45	21.1	14315	96.8	0.06	
2:07	4.0	7.29	6.44	21.1	14326	97.0	0.05	

General Observations/comments: - odours, sheens, colour, etc

Samples Collected:

Container	Preservative (analyte)	No.	Duplicate & Blank IDs
Plastic 60mL	HNO ₃ (metals)**		
Plastic 500mL	Nil (inorganics)	1	
Glass amber 100-500mL	Nil (SVOC - eg TRH/OCP/PAH)	1	
Glass vial 40mL	HCl (VOC - eg <C10 TRH, BTEX)	4	
Plastic 60mL	H ₂ SO ₄ (nutrients)		
Plastic 60mL	NaOH (Cu, CrVI)**		

** Samples to be analysed for dissolved metals must be filtered (45micron) prior to filling container

PAGE of

Groundwater Sampling Record

Client: Renewal SA
Location: Tonsley
Project: Residential Monitoring

WELL ID:

MWJIS-28

Date: 8/05/2025

Sampled by: AD/NW

Well Details	Sampling Equipment & Methodology (circle applicable)
Total Depth: 14.9	Method: <u>low-flow</u> 4-well volume purged dry other
Screened interval:	Pump type: <u>micropurge</u> peristaltic footvalve bailer
Case diameter: 50.4mm	Intake depth: ~13.5m
Casing type: PVC	Observations: (damage/water ingress potential/ vegetation etc) <u>shutted cap (non-lockable)</u> <u>some dirt around/cleaned</u>
Depth to Product (mbTOC) -	
Depth to Water (mbTOC) 6.565	

Maximum pre-sampling variation ¹ (3 consecutive)		<0.1m	±0.1	±0.2°C	±5%	±10mV	±10%	* per 3 mins for low flow. per 0.5 well volume for well volume method.
Time	Litres purged (cumulative)	Water Level (m bTOC)	pH	Temp °C	EC (µS/cm)	ORP (mV)	DO (mg/L)	Notes: (odour, sheen, colour)
10:30	2L	6.87	6.74	20.0	5070	59.8	0.13	
10:34	2.5L	6.76	6.71	20.0	5833	2.7	0.07	
10:38	3.0L	6.76	6.71	20.0	6001	-1.1	-0.03	
10:42	3.5L	6.76	6.71	20.1	5999	-0.8	-0.05	
10:45	4.0L	6.76	6.72	20.1	5981	-1.7	-0.07	
10:48	4.5L	6.76	6.71	20.0	5982	-1.8	-0.09	
10:51	5.0L	6.76	6.71	20.0	5973	-2.3	-0.08	

General Observations/comments: - odours, sheens, colour, etc

- Dark Brown-grey colour (med-high turbidity) (4-5cpm)
- possible slight hydrogen sulfide odour

Samples Collected:

Container	Preservative (analyte)	No.	Duplicate & Blank IDs
Plastic 60mL	HNO ₃ (metals)**		
Plastic 500mL	Nil (inorganics)	X	X X
Glass amber 100-500mL	Nil (SVOC - eg TRH/OCP/PAH)	X	X X
Glass vial 40mL	HCl (VOC - eg <C10 TRH, BTEX)	X4	X4 X4
Plastic 60mL	H ₂ SO ₄ (nutrients)		
Plastic 60mL	NaOH (Cu, CrVI)**		

** Samples to be analysed for dissolved metals must be filtered (45micron) prior to filling container

PAGE 1 of 1

Groundwater Sampling Record

Client:	Renewal SA
Location:	Tonsley
Project:	Residential Monitoring

WELL ID: MW315-29
8/05/2025
d by: ADMW

Well Details	Sampling Equipment & Methodology (circle applicable)
Total Depth: 12.15m	Method: <u>low-flow</u> 4-well volume purged dry other
Screened interval:	Pump type: <u>micropurge</u> peristaltic footvalve bailer
Case diameter: 50mm	Intake depth: <u>✓ 10.7m</u>
Casing type: PVC	Observations: (damage/water ingress potential/ vegetation etc) well cap ok / some dirt near surface.
Depth to Product (mbTOC) —	
Depth to Water (mbTOC) 5.851m	

Maximum pre-sampling variation ¹ (3 consecutive)		<0.1m	±0.1	±0.2°C	±5%	±10mV	±10%	¹ per 3 mins for low flow, per 0.5 well volume for well volume method.
Time	Litres purged (cumulative)	Water Level (m bTOC)	pH	Temp °C	EC (μS/cm)	ORP (mV)	DO (mg/L)	Notes: (odour, sheen, colour)
09:30	5L	7.70	5.64	20.3	4060	156.7	-0.06	
09:40	5.5L	7.91	5.65	20.0	3880	158.8	0.08	
09:45	6L	8.12	5.69	19.7	4080	161.0	0.21	
09:51	6.2L	8.12	5.71	19.5	4158	162.9	0.48	
09:55	6.4L	8.14	5.72	19.4	4301	166.3	0.55	
09:58	6.6L	8.14	5.73	19.3	4322	174.8	0.77	
10:01	6.8L	8.14	5.74	19.3	4320	144.1	0.76	
10:04	7.0L	8.14	5.74	19.3	4317	144.3	0.77	

SAMPLED

General Observations:

General Observations/comments: - odours, sheens, colour, etc

- No odour/sweat
- light brown - low-moisture tubility

3:00 pm (2 sec. 100 ft)
3:00 pm (10 sec. 100 ft)

Samples Collected:

Container	Preservative (analyte)	No.	Duplicate & Blank IDs
Plastic 60mL	HNO ₃ (metals)**		
Plastic 500mL	Nil (inorganics)	X	
Glass amber 100-500mL	Nil (SVOC - eg TRH/OCP/PAH)	X	
Glass vial 40mL	HCl (VOC - eg <C10 TRH, BTEX)	X4	
Plastic 60mL	H ₂ SO ₄ (nutrients)		
Plastic 60mL	NaOH (Cn, CrVI**)		

**** Samples to be analysed for dissolved metals must be filtered (45micron) prior to filling container**

PAGE 1 of 1

EQUIPMENT CERTIFICATION REPORT

PGN9003842-9003846 – OIL/WATER INTERFACE METER

Plant Number: 235241 Serial Number: 268102

Probe Length: 60m

ITEM	TEST	PASS/ACCEPTABLE	COMMENTS
Battery	Compartment / Capacity	☒	9v Spare included
Probe	Clean / Operation	☒	
Earth Lead	Check if equipped	☒	
Tape Check	Cleaned / Checked for cuts	☒	
Function test	At surface level	☒	Oil + H ₂ O

Checked By: ECB Date: 5/5/25 Signed: [Signature]

Accessories List:

Interface Meter	Tape Guide	Decon 90 Solution
Brush	Spare 9v Battery	Transport Box



Make your job EASY!

135 135 | kennards.com.au

EQUIPMENT CERTIFICATION REPORT

PGN9003871 WATER QUALITY METER-MULTIFUNCTION (YSI PRO PLUS)

Plant Number: 25A100850 Serial Number: 1088643

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 7.00 / pH 4.00	7.00 pH	4.00 pH	4 pH: BN 42591 7 pH: BN 43125	☒
Conductivity	12.88 mS/cm @25°C	12.88 mS/cm		LN: 399855	☒
Dissolved Oxygen	Sodium Sulphite / Air	0% in Sodium Sulphite	100% in Air	BN: 12389	☒
ORP	240mV @25°C	240 mV		A: LN 428645 B: LN 428646	☒

Battery Status <u>100</u> %	Spare Batt Included ☐	Temperature <u>19.0</u> °C
Electrodes Cleaned and Checked ☒		

Note: Calibration solution traceability information is available upon request.

Checked By: EC Date: 5/5/25 Signed: [Signature]

Accessories List:

User's Manual	pH Sensor	Conductivity/ Temp Sensor
Dissolved Oxygen Sensor	Redox (ORP) Sensor	Flow Cell
User Guide	Stainless Steel Restrictor	Spare Batteries
Calibration Cup		



Make your job *EASIER*

135 135 | kennards.com.au

APPENDIX B

NATA LABORATORY TEST CERTIFICATES - GROUNDWATER

Echo Risk Consulting
84 North Terrace
Kent Town
SA 5067



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Andrew Durand**

Report **1218193-W**
 Project name **Residential Monitoring**
 Project ID **EC0193**
 Received Date **May 09, 2025**

Client Sample ID			MWS12_01A	MWS12_13	MWS12_14	MWS15_27
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-My0028169	M25-My0028170	M25-My0028171	M25-My0028172
Date Sampled			May 08, 2025	May 08, 2025	May 08, 2025	May 08, 2025
Test/Reference	LOR	Unit				
2-Hexanone (MBK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2) ^{*N01}	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Volatile Organics (selected analytes by SIM)						
1.1-Dichloroethane (SIM)	0.00001	mg/L	0.0097	0.017	0.0022	0.0049
1.1-Dichloroethene	0.001	mg/L	0.047	0.12	< 0.001	0.019
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dibromoethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichloroethane (SIM)	0.00001	mg/L	0.0052	0.00098	0.00056	0.00064
1.2-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.4-Dichlorobenzene (SIM)	0.00001	mg/L	< 0.00001	0.00007	< 0.00001	< 0.00001
2-Butanone (MEK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Propanone (Acetone)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Chlorotoluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005

Client Sample ID			MWS12_01A	MWS12_13	MWS12_14	MWS15_27
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-My0028169	M25-My0028170	M25-My0028171	M25-My0028172
Date Sampled			May 08, 2025	May 08, 2025	May 08, 2025	May 08, 2025
Test/Reference	LOR	Unit				
Volatile Organics (selected analytes by SIM)						
Allyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzene	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001
Bromobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromodichloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromoform	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromomethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Carbon disulfide	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chlorobenzene (SIM)	0.00001	mg/L	< 0.00001	0.00042	< 0.00001	0.00001
Chloroethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Chloroform	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
cis-1,2-Dichloroethene (SIM)	0.00001	mg/L	0.0063	0.0028	0.00057	0.0036
cis-1,3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibromomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dichlorodifluoromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Iodomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methylene chloride (SIM)	0.00002	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Styrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Tetrachloroethene (SIM)	0.00002	mg/L	0.00007	0.00006	< 0.00002	< 0.00002
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
trans-1,2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
trans-1,3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trichloroethene (SIM)	0.00001	mg/L	0.020	0.014	< 0.00001	0.0022
Trichlorofluoromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl chloride (SIM)	0.00005	mg/L	0.0020	0.024	< 0.00005	0.00096
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Toluene-d8 (surr.)	1	%	103	127	133	148
4-Bromofluorobenzene (surr.)	1	%	84	108	146	149
Vic EPA IWRG 621 Other chlorinated hydrocarbons (Total)*	0.005	mg/L	0.079	0.14	< 0.005	0.025
Vic EPA IWRG 621 Chlorinated hydrocarbons (Total)*	0.005	mg/L	0.08057	0.16233	< 0.005	0.02641
Total MAH*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Volatile Organics						
Hexachlorobutadiene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	MWS15_28 Water M25- My0028173 May 08, 2025	MWS15_29 Water M25- My0028174 May 08, 2025	QW1 Water M25- My0028175 May 08, 2025	TB1 Water M25- My0028176 May 08, 2025
2-Hexanone (MBK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2) ^{*N01}	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Volatile Organics (selected analytes by SIM)						
1.1-Dichloroethane (SIM)	0.00001	mg/L	0.014	< 0.00001	0.0038	-
1.1-Dichloroethene	0.001	mg/L	0.014	< 0.001	0.015	-
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.2-Dibromoethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.2-Dichloroethane (SIM)	0.00001	mg/L	0.0049	< 0.00001	0.0048	-
1.2-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.3-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.4-Dichlorobenzene (SIM)	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
2-Butanone (MEK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
2-Propanone (Acetone)	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
4-Chlorotoluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Allyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Bromobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Bromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Bromodichloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Bromoform	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Bromomethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Carbon disulfide	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Carbon Tetrachloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Chlorobenzene (SIM)	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Chloroethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Chloroform	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Chloromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
cis-1.2-Dichloroethene (SIM)	0.00001	mg/L	0.0034	< 0.00001	0.0030	-

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	MWS15_28 Water M25- My0028173 May 08, 2025	MWS15_29 Water M25- My0028174 May 08, 2025	QW1 Water M25- My0028175 May 08, 2025	TB1 Water M25- My0028176 May 08, 2025
Volatile Organics (selected analytes by SIM)						
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dibromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dibromomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dichlorodifluoromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Iodomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Methylene chloride (SIM)	0.00002	mg/L	< 0.00002	< 0.00002	< 0.00002	-
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Styrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Tetrachloroethene (SIM)	0.00002	mg/L	0.00002	< 0.00002	< 0.00002	-
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Trichloroethene (SIM)	0.00001	mg/L	0.0057	< 0.00001	0.0047	-
Trichlorofluoromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Vinyl chloride (SIM)	0.00005	mg/L	0.0018	< 0.00005	0.00088	-
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
Toluene-d8 (surr.)	1	%	127	110	92	-
4-Bromofluorobenzene (surr.)	1	%	100	110	110	-
Vic EPA IWRG 621 Other chlorinated hydrocarbons (Total)*	0.005	mg/L	0.028	< 0.005	0.028	-
Vic EPA IWRG 621 Chlorinated hydrocarbons (Total)*	0.005	mg/L	0.02982	< 0.005	0.02838	-
Total MAH*	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
Volatile Organics						
Hexachlorobutadiene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
1.1-Dichloroethane	0.001	mg/L	-	-	-	< 0.001
1.1-Dichloroethene	0.001	mg/L	-	-	-	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	-	-	-	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	-	-	-	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	-	-	-	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	-	-	-	< 0.001
1.2-Dibromoethane	0.001	mg/L	-	-	-	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	-	-	-	< 0.001
1.2-Dichloroethane	0.001	mg/L	-	-	-	< 0.001
1.2-Dichloropropane	0.001	mg/L	-	-	-	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	-	-	-	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	-	-	-	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	-	-	-	< 0.001
1.3-Dichloropropane	0.001	mg/L	-	-	-	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	-	-	-	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	-	-	-	< 0.001
2-Butanone (MEK)	0.005	mg/L	-	-	-	< 0.005
2-Propanone (Acetone)	0.005	mg/L	-	-	-	< 0.005
4-Chlorotoluene	0.001	mg/L	-	-	-	< 0.001
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	-	-	-	< 0.005
Allyl chloride	0.001	mg/L	-	-	-	< 0.001
Benzene	0.001	mg/L	-	-	-	< 0.001

Client Sample ID			MWS15_28	MWS15_29	QW1	TB1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25-My0028173	M25-My0028174	M25-My0028175	M25-My0028176
Date Sampled			May 08, 2025	May 08, 2025	May 08, 2025	May 08, 2025
Test/Reference	LOR	Unit				
Volatile Organics						
Bromobenzene	0.001	mg/L	-	-	-	< 0.001
Bromochloromethane	0.001	mg/L	-	-	-	< 0.001
Bromodichloromethane	0.001	mg/L	-	-	-	< 0.001
Bromoform	0.001	mg/L	-	-	-	< 0.001
Bromomethane	0.005	mg/L	-	-	-	< 0.005
Carbon disulfide	0.001	mg/L	-	-	-	< 0.001
Carbon Tetrachloride	0.001	mg/L	-	-	-	< 0.001
Chlorobenzene	0.001	mg/L	-	-	-	< 0.001
Chloroethane	0.005	mg/L	-	-	-	< 0.005
Chloroform	0.005	mg/L	-	-	-	< 0.005
Chloromethane	0.005	mg/L	-	-	-	< 0.005
cis-1.2-Dichloroethene	0.001	mg/L	-	-	-	< 0.001
cis-1.3-Dichloropropene	0.001	mg/L	-	-	-	< 0.001
Dibromochloromethane	0.001	mg/L	-	-	-	< 0.001
Dibromomethane	0.001	mg/L	-	-	-	< 0.001
Dichlorodifluoromethane	0.005	mg/L	-	-	-	< 0.005
Ethylbenzene	0.001	mg/L	-	-	-	< 0.001
Iodomethane	0.001	mg/L	-	-	-	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	-	-	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	-	-	< 0.002
Methylene Chloride	0.005	mg/L	-	-	-	< 0.005
o-Xylene	0.001	mg/L	-	-	-	< 0.001
Styrene	0.001	mg/L	-	-	-	< 0.001
Tetrachloroethene	0.001	mg/L	-	-	-	< 0.001
Toluene	0.001	mg/L	-	-	-	< 0.001
trans-1.2-Dichloroethene	0.001	mg/L	-	-	-	< 0.001
trans-1.3-Dichloropropene	0.001	mg/L	-	-	-	< 0.001
Trichloroethene	0.001	mg/L	-	-	-	< 0.001
Trichlorofluoromethane	0.005	mg/L	-	-	-	< 0.005
Vinyl chloride	0.005	mg/L	-	-	-	< 0.005
Xylenes - Total*	0.003	mg/L	-	-	-	< 0.003
Total MAH*	0.003	mg/L	-	-	-	< 0.003
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	-	-	-	< 0.005
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	-	-	-	< 0.005
4-Bromofluorobenzene (surr.)	1	%	-	-	-	136
Toluene-d8 (surr.)	1	%	-	-	-	124
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{NO2}	0.01	mg/L	< 0.01	< 0.01	< 0.01	-

Client Sample ID			RB1
Sample Matrix			Water
Eurofins Sample No.			M25-My0028177
Date Sampled			May 08, 2025
Test/Reference	LOR	Unit	
Volatile Organics			
1.1-Dichloroethane	0.001	mg/L	< 0.001
1.1-Dichloroethene	0.001	mg/L	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001
1.2-Dibromoethane	0.001	mg/L	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001
1.2-Dichloroethane	0.001	mg/L	< 0.001
1.2-Dichloropropane	0.001	mg/L	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001
1.3-Dichloropropane	0.001	mg/L	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	< 0.001
2-Butanone (MEK)	0.005	mg/L	< 0.005
2-Propanone (Acetone)	0.005	mg/L	< 0.005
4-Chlorotoluene	0.001	mg/L	< 0.001
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	< 0.005
Allyl chloride	0.001	mg/L	< 0.001
Benzene	0.001	mg/L	< 0.001
Bromobenzene	0.001	mg/L	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001
Bromodichloromethane	0.001	mg/L	< 0.001
Bromoform	0.001	mg/L	< 0.001
Bromomethane	0.005	mg/L	< 0.005
Carbon disulfide	0.001	mg/L	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001
Chlorobenzene	0.001	mg/L	< 0.001
Chloroethane	0.005	mg/L	< 0.005
Chloroform	0.005	mg/L	< 0.005
Chloromethane	0.005	mg/L	< 0.005
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001
Dibromochloromethane	0.001	mg/L	< 0.001
Dibromomethane	0.001	mg/L	< 0.001
Dichlorodifluoromethane	0.005	mg/L	< 0.005
Ethylbenzene	0.001	mg/L	< 0.001
Iodomethane	0.001	mg/L	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
Methylene Chloride	0.005	mg/L	< 0.005
o-Xylene	0.001	mg/L	< 0.001
Styrene	0.001	mg/L	< 0.001
Tetrachloroethene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001

Client Sample ID			RB1
Sample Matrix			Water
Eurofins Sample No.			M25-My0028177
Date Sampled			May 08, 2025
Test/Reference	LOR	Unit	
Volatile Organics			
Trichloroethene	0.001	mg/L	< 0.001
Trichlorofluoromethane	0.005	mg/L	< 0.005
Vinyl chloride	0.005	mg/L	< 0.005
Xylenes - Total*	0.003	mg/L	< 0.003
Total MAH*	0.003	mg/L	< 0.003
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	< 0.005
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	< 0.005
4-Bromofluorobenzene (surr.)	1	%	149
Toluene-d8 (surr.)	1	%	136

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
2-Hexanone (MBK)	Melbourne	May 13, 2025	14 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Volatile Organics (selected analytes by SIM)	Melbourne	May 13, 2025	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and Aqueous (SIM) (USEPA 8260)			
Volatile Organics	Melbourne	May 13, 2025	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices (USEPA 8260)			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	May 13, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 13, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	May 13, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			



web: www.eurofins.com.au

email: EnviroSales@eurofinsanz.com

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
+61 3 8564 5000
NATA# 1261
Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
+61 3 8564 5000
NATA# 1261
Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
+61 2 9900 8400
NATA# 1261
Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
+61 2 6113 8091
NATA# 1261
Site# 25466

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
+61 7 3902 4600
NATA# 1261
Site# 20794 & 2780

Newcastle
1/2 Frost Drive
Mayfield West
NSW 2304
+61 2 4968 8448
NATA# 1261
Site# 25079

Perth
46-48 Banksia Road
Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Auckland
35 O'Rorke Road
Penrose
Auckland 1061
+64 9 526 4551
IANZ# 1327

Auckland (Focus)
Unit C1/4 Pacific Rise
Mount Wellington
Auckland 1061
+64 9 525 0568
IANZ# 1308

Christchurch
43 Detroit Drive
Rolleston
Christchurch 7675
+64 3 343 5201
IANZ# 1290

Tauranga
1277 Cameron Road
Gate Pa
Tauranga 3112
+64 9 525 0568
IANZ# 1402

Company Name: Echo Risk Consulting
Address: 84 North Terrace
Kent Town
SA 5067

Project Name: Residential Monitoring
Project ID: EC0193

Order No.: EC0193
Report #: 1218193
Phone: 0414 496 402
Fax:

Received: May 9, 2025 5:42 PM
Due: May 19, 2025
Priority: 5 Day
Contact Name: Andrew Durand

Eurofins Analytical Services Manager : Karl Bulow

Sample Detail

2-Hexanone (MBK)

Hexachlorobutadiene

Volatile Organics (selected analytes by SIM)

Volatile Organics

Total Recoverable Hydrocarbons

Melbourne Laboratory - NATA # 1261 Site # 1254

External Laboratory

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	MWS12_01A	May 08, 2025		Water	M25-My0028169	X	X	X		X
2	MWS12_13	May 08, 2025		Water	M25-My0028170	X	X	X		X
3	MWS12_14	May 08, 2025		Water	M25-My0028171	X	X	X		X
4	MWS15_27	May 08, 2025		Water	M25-My0028172	X	X	X		X
5	MWS15_28	May 08, 2025		Water	M25-My0028173	X	X	X		X
6	MWS15_29	May 08, 2025		Water	M25-My0028174	X	X	X		X
7	QW1	May 08, 2025		Water	M25-My0028175	X	X	X		X
8	TB1	May 08, 2025		Water	M25-My0028176				X	
9	RB1	May 08, 2025		Water	M25-My0028177				X	

Test Counts

7 7 7 2 7

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
2-Hexanone (MBK)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
Volatile Organics (selected analytes by SIM)							
1.1-Dichloroethane (SIM)	mg/L	< 0.00001			0.00001	Pass	
1.1-Dichloroethene	mg/L	< 0.001			0.001	Pass	
1.1.1-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.1.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dibromoethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.2-Dichloroethane (SIM)	mg/L	< 0.00001			0.00001	Pass	
1.2-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.3-Trichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.4-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.3.5-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.4-Dichlorobenzene (SIM)	mg/L	< 0.00001			0.00001	Pass	
2-Butanone (MEK)	mg/L	< 0.005			0.005	Pass	
2-Propanone (Acetone)	mg/L	< 0.005			0.005	Pass	
4-Chlorotoluene	mg/L	< 0.001			0.001	Pass	
4-Methyl-2-pentanone (MIBK)	mg/L	< 0.005			0.005	Pass	
Allyl chloride	mg/L	< 0.001			0.001	Pass	
Benzene	mg/L	< 0.001			0.001	Pass	
Bromobenzene	mg/L	< 0.001			0.001	Pass	
Bromochloromethane	mg/L	< 0.001			0.001	Pass	
Bromodichloromethane	mg/L	< 0.001			0.001	Pass	
Bromoform	mg/L	< 0.001			0.001	Pass	
Bromomethane	mg/L	< 0.005			0.005	Pass	
Carbon disulfide	mg/L	< 0.001			0.001	Pass	
Carbon Tetrachloride	mg/L	< 0.001			0.001	Pass	
Chlorobenzene (SIM)	mg/L	< 0.00001			0.00001	Pass	
Chloroethane	mg/L	< 0.005			0.005	Pass	
Chloroform	mg/L	< 0.005			0.005	Pass	
Chloromethane	mg/L	< 0.005			0.005	Pass	
cis-1.2-Dichloroethene (SIM)	mg/L	< 0.00001			0.00001	Pass	
cis-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Dibromochloromethane	mg/L	< 0.001			0.001	Pass	
Dibromomethane	mg/L	< 0.001			0.001	Pass	
Dichlorodifluoromethane	mg/L	< 0.005			0.005	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
Iodomethane	mg/L	< 0.001			0.001	Pass	
Isopropyl benzene (Cumene)	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
Methylene chloride (SIM)	mg/L	< 0.00002			0.00002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Styrene	mg/L	< 0.001			0.001	Pass	
Tetrachloroethene (SIM)	mg/L	< 0.00002			0.00002	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
trans-1,2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
trans-1,3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Trichloroethene (SIM)	mg/L	< 0.00001			0.00001	Pass	
Trichlorofluoromethane	mg/L	< 0.005			0.005	Pass	
Vinyl chloride (SIM)	mg/L	< 0.00005			0.00005	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Volatile Organics							
Hexachlorobutadiene	mg/L	< 0.001			0.001	Pass	
1,1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1,2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1,4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
cis-1,2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
Methylene Chloride	mg/L	< 0.005			0.005	Pass	
Tetrachloroethene	mg/L	< 0.001			0.001	Pass	
Trichloroethene	mg/L	< 0.001			0.001	Pass	
Vinyl chloride	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Volatile Organics (selected analytes by SIM)							
1,1-Dichloroethane (SIM)	mg/L	< 0.00001			0.00001	Pass	
1,2-Dichloroethane (SIM)	mg/L	< 0.00001			0.00001	Pass	
1,4-Dichlorobenzene (SIM)	mg/L	< 0.00001			0.00001	Pass	
Chlorobenzene (SIM)	mg/L	< 0.00001			0.00001	Pass	
cis-1,2-Dichloroethene (SIM)	mg/L	< 0.00001			0.00001	Pass	
Methylene chloride (SIM)	mg/L	< 0.00002			0.00002	Pass	
Tetrachloroethene (SIM)	mg/L	< 0.00002			0.00002	Pass	
Trichloroethene (SIM)	mg/L	< 0.00001			0.00001	Pass	
Vinyl chloride (SIM)	mg/L	< 0.00005			0.00005	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Volatile Organics							
1,1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1,2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1,4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
cis-1,2-Dichloroethene	mg/L	< 0.001			0.001	Pass	

Test		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methylene Chloride		mg/L	< 0.005			0.005	Pass	
Tetrachloroethene		mg/L	< 0.001			0.001	Pass	
Trichloroethene		mg/L	< 0.001			0.001	Pass	
Vinyl chloride		mg/L	< 0.005			0.005	Pass	
LCS - % Recovery								
Total Recoverable Hydrocarbons								
TRH C6-C9		%	115			70-130	Pass	
TRH C6-C10		%	122			70-130	Pass	
LCS - % Recovery								
Volatile Organics (selected analytes by SIM)								
1.1-Dichloroethene		%	104			70-130	Pass	
1.2-Dichlorobenzene		%	114			70-130	Pass	
Benzene		%	118			70-130	Pass	
Ethylbenzene		%	118			70-130	Pass	
m&p-Xylenes		%	102			70-130	Pass	
Toluene		%	120			70-130	Pass	
Xylenes - Total*		%	100			70-130	Pass	
LCS - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions								
Naphthalene		%	92			70-130	Pass	
LCS - % Recovery								
Total Recoverable Hydrocarbons								
TRH C10-C14		%	75			70-130	Pass	
TRH >C10-C16		%	74			70-130	Pass	
LCS - % Recovery								
Total Recoverable Hydrocarbons								
TRH C10-C14		%	78			70-130	Pass	
TRH >C10-C16		%	73			70-130	Pass	
LCS - % Recovery								
Volatile Organics								
1.2-Dichloroethane		%	124			70-130	Pass	
Trichloroethene		%	114			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Total Recoverable Hydrocarbons				Result 1				
TRH C6-C9	M25-My0050935	NCP	%	110		70-130	Pass	
TRH C6-C10	M25-My0050935	NCP	%	110		70-130	Pass	
Spike - % Recovery								
Volatile Organics (selected analytes by SIM)				Result 1				
1.1-Dichloroethene	M25-My0050935	NCP	%	95		70-130	Pass	
1.2-Dichlorobenzene	M25-My0050935	NCP	%	111		70-130	Pass	
Benzene	M25-My0050935	NCP	%	77		70-130	Pass	
Ethylbenzene	M25-My0050935	NCP	%	90		70-130	Pass	
m&p-Xylenes	M25-My0050935	NCP	%	82		70-130	Pass	
o-Xylene	M25-My0050935	NCP	%	80		70-130	Pass	
Toluene	M25-My0050935	NCP	%	88		70-130	Pass	
Xylenes - Total*	M25-My0050935	NCP	%	81		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
Naphthalene	M25-My0050935	NCP	%	72		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons				Result 1				
TRH C10-C14	M25-My0028172	CP	%	72		70-130	Pass	
TRH >C10-C16	M25-My0028172	CP	%	71		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
2-Hexanone (MBK)	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-My0028169	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	M25-My0028169	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Volatile Organics (selected analytes by SIM)				Result 1	Result 2	RPD			
1.1-Dichloroethane (SIM)	M25-My0028169	CP	mg/L	0.0097	0.0092	5.0	30%	Pass	
1.1-Dichloroethene	M25-My0028169	CP	mg/L	0.047	0.048	1.0	30%	Pass	
1.1.1-Trichloroethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2-Trichloroethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dibromoethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichlorobenzene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloroethane (SIM)	M25-My0028169	CP	mg/L	0.0052	0.0064	21	30%	Pass	
1.2-Dichloropropane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.3-Trichloropropane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.4-Trimethylbenzene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichlorobenzene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichloropropane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3.5-Trimethylbenzene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.4-Dichlorobenzene (SIM)	M25-My0028169	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
2-Butanone (MEK)	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Propanone (Acetone)	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Chlorotoluene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Allyl chloride	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzene	M25-My0028169	CP	mg/L	0.001	0.001	27	30%	Pass	
Bromobenzene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromochloromethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromodichloromethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromoform	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromomethane	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Carbon disulfide	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Carbon Tetrachloride	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chlorobenzene (SIM)	M25-My0028169	CP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chloroethane	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chloroform	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chloromethane	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
cis-1.2-Dichloroethene (SIM)	M25-My0028169	CP	mg/L	0.0063	0.0063	1.0	30%	Pass	
cis-1.3-Dichloropropene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibromochloromethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibromomethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dichlorodifluoromethane	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Ethylbenzene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Iodomethane	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Isopropyl benzene (Cumene)	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-My0028169	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methylene chloride (SIM)	M25-My0028169	CP	mg/L	< 0.00002	< 0.00002	<1	30%	Pass	
o-Xylene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Styrene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate								
Volatile Organics (selected analytes by SIM)				Result 1	Result 2	RPD		
Tetrachloroethene (SIM)	M25-My0028169	CP	mg/L	0.00007	0.00007	8.0	30%	Pass
Toluene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1,2-Dichloroethene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1,3-Dichloropropene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Trichlorofluoromethane	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Vinyl chloride (SIM)	M25-My0028169	CP	mg/L	0.0020	0.0019	<1	30%	Pass
Xylenes - Total*	M25-My0028169	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
Hexachlorobutadiene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,1-Dichloroethane	M25-My0028169	CP	mg/L	0.010	0.009	5.0	30%	Pass
1,2-Dichloroethane	M25-My0028169	CP	mg/L	0.005	0.006	21	30%	Pass
1,4-Dichlorobenzene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chlorobenzene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
cis-1,2-Dichloroethene	M25-My0028169	CP	mg/L	0.006	0.006	1.0	30%	Pass
Methylene Chloride	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Tetrachloroethene	M25-My0028169	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Vinyl chloride	M25-My0028169	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	M25-My0028169	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C10-C14	M25-My0028171	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass
TRH C15-C28	M25-My0028171	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
TRH C29-C36	M25-My0028171	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
TRH >C10-C16	M25-My0028171	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass
TRH >C16-C34	M25-My0028171	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
TRH >C34-C40	M25-My0028171	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C6-C10	M25-My0045231	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Duplicate								
Volatile Organics (selected analytes by SIM)				Result 1	Result 2	RPD		
Benzene	M25-My0045231	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Ethylbenzene	M25-My0045231	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
m&p-Xylenes	M25-My0045231	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
o-Xylene	M25-My0045231	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Toluene	M25-My0045231	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Xylenes - Total*	M25-My0045231	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	M25-My0045231	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Karl Bulow	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Harry Bacalis	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Mele Singh	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Client:	Renewal SA
Location:	Tonsley
Project:	Residential Monitoring
Date:	8/5/2025

Sampled by:	AD/NW
Contact:	0402 762 065
Purchase Order:	EC0193
Turnaround:	\$Standard

Results to be emailed to: andrew.durand@echorisk.com.au & nick.waniarcha@echorisk.com.au

[illegible]

#1218193

Testing advice - Echo Ref. EC0193

From Andrew Durand <Andrew.Durand@echorisk.com.au>

Date Fri 9/5/25 5:42 PM

To Karl Bulow <Karl.Bulow@eurofinsanz.com>

Cc SH_AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofinsanz.com>

 2 attachments (1 MB)

EC0193 - COC GW 8 May 25 (Eurofins).pdf; EC0193 - COC GW 8 May 25 (ALS).pdf;

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hi Karl,

Please find attached testing advice for samples dropped off to Adelaide dispatch yesterday.

These are the water samples we discussed yesterday with the couple of extra analytes – hopefully this is clear on the COC. I've included the job specific quote provided by Rhonda last year.

I've also attached a COC for the samples to be forwarded to ALS.

Any queries, please contact me.

Kind regards,

Andrew Durand
Principal Environmental Engineer
m 0402 762 065

echo
Risk Consulting

PO Box 261
Daw Park, 5041
South Australia

■ echorisk.com.au
■ abn 38 668 496 295

Client:	Renewal SA
Location:	Tonsley
Project:	Residential Monitoring
Date:	8/5/2025

Sampled by:	AD/NW
Contact:	0402 762 065
Purchase Order:	EC0193
Turnaround:	Standard

[illegible]

Relinquished by: AD	Date/Time: 8/5/25 -3pm
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:

Notes to Lab:



Environment Testing

PROJECT INFORMATION

Date & Time Received: 8/5/25 - 2:30pm

Company: ECHO

Contact Details: ANDREW DURAND
0402 762 065

Project Name/site: TONSLER

Project Number: ECO193

Sample IDs: MW...

Sampling Date/s: 8/5/25

COC:

Attached ☐

E-mailed ☒ to WR

Not received ☐

Courier ☐

Temperature:

Attempt to chill: Y / N

on Ice

Custody Seal: _____

Number of Eskies:

4.1
0.0
4.12

Last modified on: 30 January 2025	Approved on: 30 January 2025	Version: QS1039_R3
Last modified by: N. Richardson	Approved by: M. Makarios	Page 1 of 1
Editorial Committee: N. Richardson, V. Heredia, T. Lakeland, M. Makarios, F. Sanjaya		Next required review date: 30 January 2029

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise Mount Wellington Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road Gate Pa Tauranga 3112 +64 9 525 0568 IANZ# 1402

Sample Receipt Advice

Company name: Echo Risk Consulting
Contact name: Andrew Durand
Project name: Residential Monitoring
Project ID: EC0193
Turnaround time: 5 Day
Date/Time received: May 9, 2025 5:42 PM
Eurofins reference: 1218193

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✓ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Karl Bulow on phone : or by email: Karl.Bulow@eurofinsanz.com

Results will be delivered electronically via email to Andrew Durand - andrew.durand@echorisk.com.au.

Note: A copy of these results will also be delivered to the general Echo Risk Consulting email address.



CERTIFICATE OF ANALYSIS

Work Order : **EM2508122**
Client : **ECHO RISK CONSULTING**
Contact : Andrew Durand
Address : 84 North Terrace
Kent Town 5067
Telephone : ----
Project : RESIDENTIAL MONITORING
Order number : EC0193
C-O-C number : ----
Sampler : AD/NW
Site : TONSLEY
Quote number : EN/222
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 7
Laboratory : Environmental Division Melbourne
Contact : Customer Services EM
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +61-3-8549 9600
Date Samples Received : 12-May-2025 11:19
Date Analysis Commenced : 14-May-2025
Issue Date : 19-May-2025 13:01



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP125: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP125: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP125: Where reported, Sum of Trichlorobenzenes is the sum of the reported concentrations of 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and 1,3,5-Trichlorobenzene at or above the LOR.
- EP125: Where reported, Sum of BTEX is the sum of the reported concentrations of Benzene, Toluene, Ethylbenzene, m&p-Xylene and o-Xylene at or above the LOR.
- EP071: ALS requires 100ml of sample to analyse water samples for standard, semi-volatile, organic parameters. Where larger volume bottles have been submitted 100ml of sample has been subsampled. Solvent rinsing of the sample bottle, which is part of ALS's normal procedure, cannot be conducted prior to extraction in these instances.



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				QW2	----	----	----	----
Sampling date / time				08-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2508122-001	-----	-----	-----	-----
				Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ Total Xylenes	----	2	µg/L	<2	----	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP125A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	0.05	µg/L	<0.05	----	----	----	----
Toluene	108-88-3	0.5	µg/L	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.05	µg/L	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				QW2	----	----	----	----
Sampling date / time				08-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2508122-001	-----	-----	-----	-----
				Result	----	----	----	----
EP125A: Monocyclic Aromatic Hydrocarbons - Continued								
meta- & para-Xylene	108-38-3 106-42-3	0.10	µg/L	<0.10	----	----	----	----
Styrene	100-42-5	0.05	µg/L	<0.05	----	----	----	----
ortho-Xylene	95-47-6	0.05	µg/L	<0.05	----	----	----	----
1,3,5-Trimethylbenzene	108-67-8	0.05	µg/L	<0.05	----	----	----	----
1,2,4-Trimethylbenzene	95-63-6	0.05	µg/L	<0.05	----	----	----	----
Sum of Xylenes	1330-20-7	0.05	µg/L	<0.05	----	----	----	----
Sum of BTEX	----	0.05	µg/L	<0.05	----	----	----	----
EP125D: Fumigants								
1,2-Dichloropropane	78-87-5	0.1	µg/L	<0.1	----	----	----	----
trans-1,3-Dichloropropylene	10061-02-6	0.1	µg/L	<0.1	----	----	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.1	µg/L	<0.1	----	----	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.1	µg/L	<0.1	----	----	----	----
EP125E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	0.5	µg/L	<0.5	----	----	----	----
Vinyl chloride	75-01-4	0.3	µg/L	1.0	----	----	----	----
Bromomethane	74-83-9	0.5	µg/L	<0.5	----	----	----	----
Chloroethane	75-00-3	0.5	µg/L	<0.5	----	----	----	----
Trichlorofluoromethane	75-69-4	0.5	µg/L	<0.5	----	----	----	----
1,1-Dichloroethene	75-35-4	0.1	µg/L	11.4	----	----	----	----
Dichloromethane	75-09-2	1.0	µg/L	<1.0	----	----	----	----
trans-1,2-Dichloroethene	156-60-5	0.1	µg/L	<0.1	----	----	----	----
1,1-Dichloroethane	75-34-3	0.1	µg/L	2.7	----	----	----	----
cis-1,2-Dichloroethene	156-59-2	0.1	µg/L	2.6	----	----	----	----
Bromochloromethane	74-97-5	0.5	µg/L	<0.5	----	----	----	----
1,2-Dichloroethane	107-06-2	0.1	µg/L	3.2	----	----	----	----
1,1,1-Trichloroethane	71-55-6	0.1	µg/L	<0.1	----	----	----	----
Carbon Tetrachloride	56-23-5	0.05	µg/L	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QW2	----	----	----	----
				Sampling date / time	08-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2508122-001	-----	-----	-----	-----	-----
				Result	----	----	----	----	----
EP125E: Halogenated Aliphatic Compounds - Continued									
Trichloroethene	79-01-6	0.05	µg/L	5.56	----	----	----	----	----
Tetrachloroethene	127-18-4	0.05	µg/L	<0.05	----	----	----	----	----
Hexachlorobutadiene	87-68-3	0.04	µg/L	<0.04	----	----	----	----	----
1,2-Dichloroethene (sum cis & trans)	----	0.10	µg/L	2.60	----	----	----	----	----
1,2-Dibromo-3-chloropropane	96-12-8	0.10	µg/L	<0.10	----	----	----	----	----
EP125F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.10	µg/L	<0.10	----	----	----	----	----
Bromobenzene	108-86-1	0.10	µg/L	<0.10	----	----	----	----	----
Benzylchloride	100-44-7	0.2	µg/L	<0.2	----	----	----	----	----
1,3-Dichlorobenzene	541-73-1	0.10	µg/L	<0.10	----	----	----	----	----
1,4-Dichlorobenzene	106-46-7	0.10	µg/L	<0.10	----	----	----	----	----
1,2-Dichlorobenzene	95-50-1	0.10	µg/L	<0.10	----	----	----	----	----
2-Chlorotoluene	95-49-8	0.1	µg/L	<0.1	----	----	----	----	----
4-Chlorotoluene	106-43-4	0.1	µg/L	<0.1	----	----	----	----	----
1,2,4-Trichlorobenzene	120-82-1	0.1	µg/L	<0.1	----	----	----	----	----
1,2,3-Trichlorobenzene	87-61-6	0.1	µg/L	<0.1	----	----	----	----	----
^ Trichlorobenzenes (Sum)	----	0.1	µg/L	<0.1	----	----	----	----	----
EP125G: Trihalomethanes									
Chloroform	67-66-3	0.10	µg/L	<0.10	----	----	----	----	----
Bromodichloromethane	75-27-4	0.10	µg/L	<0.10	----	----	----	----	----
Dibromochloromethane	124-48-1	0.10	µg/L	<0.10	----	----	----	----	----
Bromoform	75-25-2	0.10	µg/L	<0.10	----	----	----	----	----
^ Total Trihalomethanes	----	0.10	µg/L	<0.10	----	----	----	----	----
EP125H: Naphthalene									
Naphthalene	91-20-3	0.05	µg/L	<0.05	----	----	----	----	----
EP125L: Methyl t-butyl ether									
Methyl tert-butyl ether (MTBE)	1634-04-4	0.1	µg/L	<0.1	----	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QW2	----	----	----	----
				Sampling date / time	08-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2508122-001	-----	-----	-----	-----	-----
				Result	----	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%	101	----	----	----	----	----
Toluene-D8	2037-26-5	2	%	110	----	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%	110	----	----	----	----	----
EP125S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%	113	----	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	99.4	----	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	96.0	----	----	----	----	----

Page : 7 of 7
Work Order : EM2508122
Client : ECHO RISK CONSULTING
Project : RESIDENTIAL MONITORING



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129
EP125S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	130
Toluene-D8	2037-26-5	68	128
4-Bromofluorobenzene	460-00-4	71	120



QUALITY CONTROL REPORT

Work Order	: EM2508122	Page	: 1 of 8
Client	: ECHO RISK CONSULTING	Laboratory	: Environmental Division Melbourne
Contact	: Andrew Durand	Contact	: Customer Services EM
Address	: 84 North Terrace Kent Town 5067	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61-3-8549 9600
Project	: RESIDENTIAL MONITORING	Date Samples Received	: 12-May-2025
Order number	: EC0193	Date Analysis Commenced	: 14-May-2025
C-O-C number	: ----	Issue Date	: 19-May-2025
Sampler	: AD/NW		
Site	: TONSLEY		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot

CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

RPD = Relative Percentage Difference

= Indicates failed QC

* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6572342)									
EM2508118-057	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6576563)									
EM2508121-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	50	50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6572342)									
EM2508118-057	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6576563)									
EM2508121-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	70	70	0.0	No Limit
EP080: BTEXN (QC Lot: 6576563)									
EM2508159-001	Anonymous	EP080: Benzene	71-43-2	1 (100)*	µg/L	1530	1450	5.2	0% - 50%
		EP080: Toluene	108-88-3	2	µg/L	8	7	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	150	143	5.0	0% - 20%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	18	17	6.2	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	3	3	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	8	8	0.0	No Limit
EM2508121-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 6576563) - continued									
EM2508121-001	Anonymous	EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	26	25	0.0	0% - 50%
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.0	No Limit
		106-42-3							
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP125A: Monocyclic Aromatic Hydrocarbons (QC Lot: 6573062)									
EB2515463-001	Anonymous	EP125: Benzene	71-43-2	0.05	µg/L	0.43	0.43	0.0	No Limit
		EP125: Ethylbenzene	100-41-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP125: meta- & para-Xylene	108-38-3	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		106-42-3							
		EP125: Styrene	100-42-5	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP125: ortho-Xylene	95-47-6	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP125: 1,3,5-Trimethylbenzene	108-67-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP125: 1,2,4-Trimethylbenzene	95-63-6	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP125: Sum of Xylenes	1330-20-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP125: Sum of BTEX	----	0.05	µg/L	0.43	0.43	0.0	No Limit
		EP125: Toluene	108-88-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
EP125D: Fumigants (QC Lot: 6573062)									
EB2515463-001	Anonymous	EP125: 1,2-Dichloropropane	78-87-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: cis-1,3-Dichloropropylene	10061-01-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: trans-1,3-Dichloropropylene	10061-02-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: 1,2-Dibromoethane (EDB)	106-93-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP125E: Halogenated Aliphatic Compounds (QC Lot: 6573062)									
EB2515463-001	Anonymous	EP125: Hexachlorobutadiene	87-68-3	0.04	µg/L	<0.04	<0.04	0.0	No Limit
		EP125: Carbon Tetrachloride	56-23-5	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP125: Trichloroethene	79-01-6	0.05 (0.50)*	µg/L	154	156	1.9	0% - 20%
		EP125: Tetrachloroethene	127-18-4	0.05 (5.00)*	µg/L	6050	5470	10.2	0% - 20%
		EP125: 1,1-Dichloroethene	75-35-4	0.1	µg/L	4.6	4.6	0.0	0% - 20%
		EP125: trans-1,2-Dichloroethene	156-60-5	0.1	µg/L	0.5	0.5	0.0	No Limit
		EP125: 1,1-Dichloroethane	75-34-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: cis-1,2-Dichloroethene	156-59-2	0.1 (1.0)*	µg/L	18.7	18.4	1.3	0% - 50%
		EP125: 1,2-Dichloroethane	107-06-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: 1,1,1-Trichloroethane	71-55-6	0.1	µg/L	0.2	0.2	0.0	No Limit
		EP125: 1,2-Dichloroethene (sum cis & trans)	----	0.1 (0.50)*	µg/L	19.2	18.9	1.6	0% - 20%
		EP125: 1,2-Dibromo-3-chloropropane	96-12-8	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: Vinyl chloride	75-01-4	0.3	µg/L	4.3	3.8	13.6	0% - 50%
		EP125: Dichlorodifluoromethane	75-71-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP125E: Halogenated Aliphatic Compounds (QC Lot: 6573062) - continued									
EB2515463-001	Anonymous	EP125: Bromomethane	74-83-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP125: Chloroethane	75-00-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP125: Trichlorofluoromethane	75-69-4	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP125: Bromochloromethane	74-97-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP125: Dichloromethane	75-09-2	1	µg/L	<1.0	<1.0	0.0	No Limit
EP125F: Halogenated Aromatic Compounds (QC Lot: 6573062)									
EB2515463-001	Anonymous	EP125: Chlorobenzene	108-90-7	0.1	µg/L	0.37	0.38	0.0	No Limit
		EP125: Bromobenzene	108-86-1	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: 1,3-Dichlorobenzene	541-73-1	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: 1,4-Dichlorobenzene	106-46-7	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: 1,2-Dichlorobenzene	95-50-1	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: 2-Chlorotoluene	95-49-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: 4-Chlorotoluene	106-43-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: 1,2,4-Trichlorobenzene	120-82-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: 1,2,3-Trichlorobenzene	87-61-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: Trichlorobenzenes (Sum)	----	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP125: Benzylchloride	100-44-7	0.2	µg/L	<0.2	<0.2	0.0	No Limit
EP125G: Trihalomethanes (QC Lot: 6573062)									
EB2515463-001	Anonymous	EP125: Chloroform	67-66-3	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: Bromodichloromethane	75-27-4	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: Dibromochloromethane	124-48-1	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: Bromoform	75-25-2	0.1	µg/L	<0.10	<0.10	0.0	No Limit
		EP125: Total Trihalomethanes	----	0.1	µg/L	<0.10	<0.10	0.0	No Limit
EP125H: Naphthalene (QC Lot: 6573062)									
EB2515463-001	Anonymous	EP125: Naphthalene	91-20-3	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP125L: Methyl t-butyl ether (QC Lot: 6573062)									
EB2515463-001	Anonymous	EP125: Methyl tert-butyl ether (MTBE)	1634-04-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6572342)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4421 µg/L	75.6	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	15219 µg/L	84.8	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7904 µg/L	85.5	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6576563)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	109	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6572342)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6085 µg/L	84.1	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	20300 µg/L	82.7	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1456 µg/L	89.1	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6576563)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	106	66.2	132
EP080: BTEXN (QCLot: 6576563)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	110	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	110	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	113	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	112	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	113	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	95.8	68.3	131
EP125A: Monocyclic Aromatic Hydrocarbons (QCLot: 6573062)								
EP125: Benzene	71-43-2	0.05	µg/L	<0.05	1 µg/L	113	88.0	114
EP125: Toluene	108-88-3	0.5	µg/L	<0.5	1 µg/L	100	82.0	118
EP125: Ethylbenzene	100-41-4	0.05	µg/L	<0.05	1 µg/L	108	79.0	121
EP125: meta- & para-Xylene	108-38-3 106-42-3	0.05	µg/L	<0.05	2 µg/L	108	79.0	119
EP125: Styrene	100-42-5	0.05	µg/L	<0.05	1 µg/L	111	82.0	116
EP125: ortho-Xylene	95-47-6	0.05	µg/L	<0.05	1 µg/L	109	82.0	116
EP125: 1.3.5-Trimethylbenzene	108-67-8	0.05	µg/L	<0.05	1 µg/L	110	78.0	120
EP125: 1.2.4-Trimethylbenzene	95-63-6	0.05	µg/L	<0.05	1 µg/L	109	77.0	119
EP125: Sum of Xylenes	1330-20-7	0.05	µg/L	<0.05	----	----	----	----
EP125: Sum of BTEX	----	0.05	µg/L	<0.05	----	----	----	----



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP125D: Fumigants (QCLot: 6573062)								
EP125: 1,2-Dichloropropane	78-87-5	0.1	µg/L	<0.1	1 µg/L	113	84.0	120
EP125: cis-1,3-Dichloropropylene	10061-01-5	0.1	µg/L	<0.1	1 µg/L	114	82.0	120
EP125: trans-1,3-Dichloropropylene	10061-02-6	0.1	µg/L	<0.1	1 µg/L	112	77.0	125
EP125: 1,2-Dibromoethane (EDB)	106-93-4	0.1	µg/L	<0.1	1 µg/L	115	78.0	128
EP125E: Halogenated Aliphatic Compounds (QCLot: 6573062)								
EP125: Dichlorodifluoromethane	75-71-8	0.5	µg/L	<0.5	10 µg/L	112	71.0	133
EP125: Vinyl chloride	75-01-4	0.3	µg/L	<0.3	10 µg/L	105	75.0	129
EP125: Bromomethane	74-83-9	0.5	µg/L	<0.5	10 µg/L	109	56.0	136
EP125: Chloroethane	75-00-3	0.5	µg/L	<0.5	10 µg/L	111	68.0	134
EP125: Trichlorofluoromethane	75-69-4	0.5	µg/L	<0.5	10 µg/L	110	77.0	129
EP125: 1,1-Dichloroethene	75-35-4	0.1	µg/L	<0.1	1 µg/L	110	81.0	123
EP125: Dichloromethane	75-09-2	1	µg/L	<1.0	1 µg/L	114	70.0	130
EP125: trans-1,2-Dichloroethene	156-60-5	0.1	µg/L	<0.1	1 µg/L	111	85.0	119
EP125: 1,1-Dichloroethane	75-34-3	0.1	µg/L	<0.1	1 µg/L	111	84.0	122
EP125: cis-1,2-Dichloroethene	156-59-2	0.1	µg/L	<0.1	1 µg/L	114	85.0	119
EP125: Bromochloromethane	74-97-5	0.5	µg/L	<0.5	1 µg/L	116	78.0	132
EP125: 1,2-Dichloroethane	107-06-2	0.1	µg/L	<0.1	1 µg/L	121	76.0	132
EP125: 1,1,1-Trichloroethane	71-55-6	0.1	µg/L	<0.1	1 µg/L	110	82.0	122
EP125: Carbon Tetrachloride	56-23-5	0.05	µg/L	<0.05	1 µg/L	108	79.0	125
EP125: Trichloroethene	79-01-6	0.05	µg/L	<0.05	1 µg/L	112	79.0	125
EP125: Tetrachloroethene	127-18-4	0.05	µg/L	<0.05	1 µg/L	118	75.0	131
EP125: Hexachlorobutadiene	87-68-3	0.04	µg/L	<0.04	1 µg/L	95.1	63.0	137
EP125: 1,2-Dichloroethene (sum cis & trans)	----	0.1	µg/L	<0.10	----	----	----	----
EP125: 1,2-Dibromo-3-chloropropane	96-12-8	0.1	µg/L	<0.10	1 µg/L	127	76.0	132
EP125F: Halogenated Aromatic Compounds (QCLot: 6573062)								
EP125: Chlorobenzene	108-90-7	0.1	µg/L	<0.10	1 µg/L	110	87.0	113
EP125: Bromobenzene	108-86-1	0.1	µg/L	<0.10	1 µg/L	113	80.0	118
EP125: Benzylchloride	100-44-7	0.2	µg/L	<0.2	1 µg/L	119	62.0	124
EP125: 1,3-Dichlorobenzene	541-73-1	0.1	µg/L	<0.10	1 µg/L	107	84.0	114
EP125: 1,4-Dichlorobenzene	106-46-7	0.1	µg/L	<0.10	1 µg/L	109	83.0	113
EP125: 1,2-Dichlorobenzene	95-50-1	0.1	µg/L	<0.10	1 µg/L	111	90.0	112
EP125: 2-Chlorotoluene	95-49-8	0.1	µg/L	<0.1	1 µg/L	107	82.0	116
EP125: 4-Chlorotoluene	106-43-4	0.1	µg/L	<0.1	1 µg/L	106	80.0	116
EP125: 1,2,4-Trichlorobenzene	120-82-1	0.1	µg/L	<0.1	1 µg/L	109	83.0	117



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP125F: Halogenated Aromatic Compounds (QCLot: 6573062) - continued								
EP125: 1,2,3-Trichlorobenzene	87-61-6	0.1	µg/L	<0.1	1 µg/L	102	82.0	118
EP125: Trichlorobenzenes (Sum)	----	0.1	µg/L	<0.1	----	----	----	----
EP125G: Trihalomethanes (QCLot: 6573062)								
EP125: Chloroform	67-66-3	0.1	µg/L	<0.10	1 µg/L	113	83.0	125
EP125: Bromodichloromethane	75-27-4	0.1	µg/L	<0.10	1 µg/L	117	80.0	128
EP125: Dibromochloromethane	124-48-1	0.1	µg/L	<0.10	1 µg/L	116	78.0	130
EP125: Bromoform	75-25-2	0.1	µg/L	<0.10	1 µg/L	116	74.0	132
EP125: Total Trihalomethanes	----	0.1	µg/L	<0.10	----	----	----	----
EP125H: Naphthalene (QCLot: 6573062)								
EP125: Naphthalene	91-20-3	0.05	µg/L	<0.05	1 µg/L	108	89.0	113
EP125L: Methyl t-butyl ether (QCLot: 6573062)								
EP125: Methyl tert-butyl ether (MTBE)	1634-04-4	0.1	µg/L	<0.1	1 µg/L	117	81.0	123

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6572342)							
EM2508118-058	Anonymous	EP071: C10 - C14 Fraction	----	4421 µg/L	76.4	48.0	126
		EP071: C15 - C28 Fraction	----	15219 µg/L	79.1	51.7	132
		EP071: C29 - C36 Fraction	----	7904 µg/L	79.2	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6576563)							
EM2508070-001	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	108	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6572342)							
EM2508118-058	Anonymous	EP071: >C10 - C16 Fraction	----	6085 µg/L	82.0	48.0	128
		EP071: >C16 - C34 Fraction	----	20300 µg/L	76.8	50.4	130
		EP071: >C34 - C40 Fraction	----	1456 µg/L	82.3	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6576563)							
EM2508070-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	103	34.0	122
EP080: BTEXN (QCLot: 6576563)							
EM2508070-001	Anonymous	EP080: Benzene	71-43-2	20 µg/L	116	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	113	60.4	132



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP125A: Monocyclic Aromatic Hydrocarbons (QCLot: 6573062)							
EB2515463-002	Anonymous	EP125: Benzene	71-43-2	10 µg/L	85.0	71.0	133
		EP125: Toluene	108-88-3	10 µg/L	73.1	70.0	128
EP125E: Halogenated Aliphatic Compounds (QCLot: 6573062)							
EB2515463-002	Anonymous	EP125: 1,1-Dichloroethene	75-35-4	10 µg/L	84.2	54.0	130
		EP125: Trichloroethene	79-01-6	10 µg/L	# Not Determined	57.0	100
EP125F: Halogenated Aromatic Compounds (QCLot: 6573062)							
EB2515463-002	Anonymous	EP125: Chlorobenzene	108-90-7	10 µg/L	75.3	75.0	129



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EM2508122	Page	: 1 of 5
Client	: ECHO RISK CONSULTING	Laboratory	: Environmental Division Melbourne
Contact	: Andrew Durand	Telephone	: +61-3-8549 9600
Project	: RESIDENTIAL MONITORING	Date Samples Received	: 12-May-2025
Site	: TONSLEY	Issue Date	: 19-May-2025
Sampler	: AD/NW	No. of samples received	: 1
Order number	: EC0193	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, where applicable to the methodology, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP125E: Halogenated Aliphatic Compounds	EB2515463--002	Anonymous	Trichloroethene	79-01-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
TRH - Semivolatile Fraction	EP071	1	13	7.69	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) QW2	08-May-2025	14-May-2025	15-May-2025	✔	16-May-2025	23-Jun-2025	✔
Clear glass VOC vial - HCl (EP080) QW2	08-May-2025	15-May-2025	22-May-2025	✔	15-May-2025	22-May-2025	✔
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) QW2	08-May-2025	14-May-2025	15-May-2025	✔	16-May-2025	23-Jun-2025	✔
Clear glass VOC vial - HCl (EP080) QW2	08-May-2025	15-May-2025	22-May-2025	✔	15-May-2025	22-May-2025	✔
EP080: BTEXN							
Clear glass VOC vial - HCl (EP080) QW2	08-May-2025	15-May-2025	22-May-2025	✔	15-May-2025	22-May-2025	✔
EP125A: Monocyclic Aromatic Hydrocarbons							
Clear glass VOC vial - HCl (EP125) QW2	08-May-2025	----	----	----	15-May-2025	22-May-2025	✔



Matrix: **WATER** Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP125D: Fumigants							
Clear glass VOC vial - HCl (EP125) QW2	08-May-2025	----	----	----	15-May-2025	22-May-2025	✓
EP125E: Halogenated Aliphatic Compounds							
Clear glass VOC vial - HCl (EP125) QW2	08-May-2025	----	----	----	15-May-2025	22-May-2025	✓
EP125F: Halogenated Aromatic Compounds							
Clear glass VOC vial - HCl (EP125) QW2	08-May-2025	----	----	----	15-May-2025	22-May-2025	✓
EP125G: Trihalomethanes							
Clear glass VOC vial - HCl (EP125) QW2	08-May-2025	----	----	----	15-May-2025	22-May-2025	✓
EP125H: Naphthalene							
Clear glass VOC vial - HCl (EP125) QW2	08-May-2025	----	----	----	15-May-2025	22-May-2025	✓
EP125L: Methyl t-butyl ether							
Clear glass VOC vial - HCl (EP125) QW2	08-May-2025	----	----	----	15-May-2025	22-May-2025	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
TRH - Semivolatile Fraction	EP071	1	13	7.69	10.00	✖	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	11	18.18	10.00	✔	NEPM 2013 B3 & ALS QC Standard
VOC by HS GCMS in SIM Mode	EP125	1	7	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
TRH - Semivolatile Fraction	EP071	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
VOC by HS GCMS in SIM Mode	EP125	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
TRH - Semivolatile Fraction	EP071	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
VOC by HS GCMS in SIM Mode	EP125	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
TRH - Semivolatile Fraction	EP071	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
VOC by HS GCMS in SIM Mode	EP125	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
VOC by HS GCMS in SIM Mode	EP125	WATER	In house: A sample is saturated with sodium chloride and achieving thermodynamic equilibrium between the water and gas phase in a closed thermostatted vessel. A reproducible headspace gas is extracted from the vial and injected into a gas chromatograph and the analyte of interest is separated by means of gas/liquid partition chromatography and quantified using automated static headspace GCMS in SIM mode.
Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

ECHO Risk C



EM2508122

Work Order History

EUROPEAN

Environmental Division

12/05/25 - 11:49
ALS
RICHARD BAGEZ

[illegible]

Results to be emailed to: andrew.walsh@puahp.mcgill.ca & nancy.walsh@puahp.mcgill.ca

Client:	Renewal SA
Location:	Tonsley
Project:	Residential Monitoring
Date:	8/5/2025

Sampled by:	AD/NW
Contact:	0402 762 065
Purchase Order:	EC0393
Turnaround:	Standard

Chain of Custody

Echo Risk Consulting

22
ALS
AK



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2508122**

Client	: ECHO RISK CONSULTING	Laboratory	: Environmental Division Melbourne
Contact	: Andrew Durand	Contact	: Customer Services EM
Address	: 84 North Terrace Kent Town 5067	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: andrew.durand@echorisk.com.au	E-mail	: ALSEnviro.Melbourne@alsglobal.com
Telephone	: ----	Telephone	: +61-3-8549 9600
Facsimile	: ----	Facsimile	: +61-3-8549 9626
Project	: RESIDENTIAL MONITORING	Page	: 1 of 2
Order number	: EC0193	Quote number	: EM2023ECHRIS0001 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: TONSLEY		
Sampler	: AD/NW		

Dates

Date Samples Received	: 12-May-2025 11:19	Issue Date	: 13-May-2025
Client Requested Due Date	: 19-May-2025	Scheduled Reporting Date	: 19-May-2025

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 3	Temperature	: 9.4°C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP125 MELB VOCs by HS GCMS in SIM Mode	WATER - TPH TRH (C6-C40)
EM2508122-001	08-May-2025 00:00	QW2	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

Andrew Durand

- *AU Certificate of Analysis - NATA (COA)	Email	andrew.durand@echorisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	andrew.durand@echorisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	andrew.durand@echorisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	andrew.durand@echorisk.com.au
- Chain of Custody (CoC) (COC)	Email	andrew.durand@echorisk.com.au
- EDI Format - XTab (XTAB)	Email	andrew.durand@echorisk.com.au

Nick Waniarcha

- *AU Certificate of Analysis - NATA (COA)	Email	nick.waniarcha@echorisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	nick.waniarcha@echorisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	nick.waniarcha@echorisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	nick.waniarcha@echorisk.com.au
- A4 - AU Tax Invoice (INV)	Email	nick.waniarcha@echorisk.com.au
- Chain of Custody (CoC) (COC)	Email	nick.waniarcha@echorisk.com.au
- EDI Format - XTab (XTAB)	Email	nick.waniarcha@echorisk.com.au

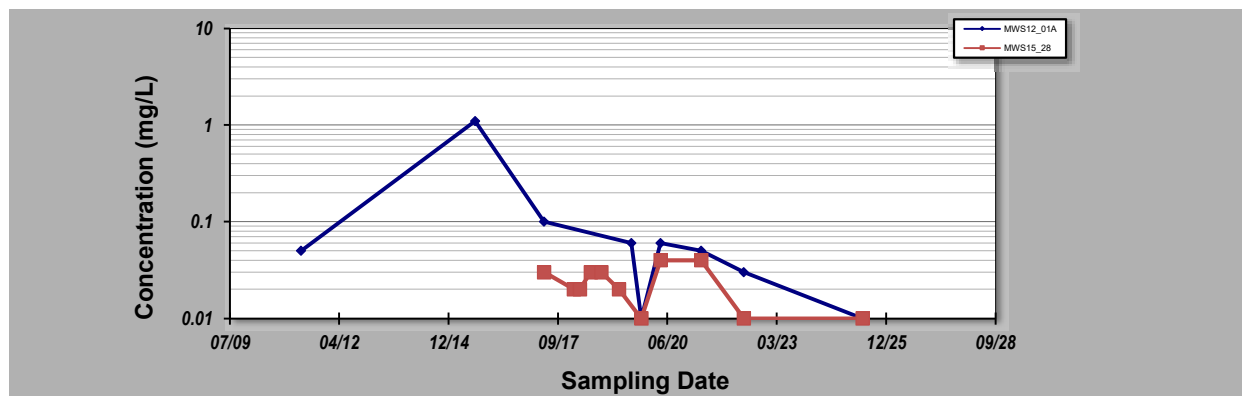
APPENDIX C MANN-KENDALL STATISTICAL ANALYSIS – GROUNDWATER

GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **C6-C10 less BTEX (F1)**
Conducted By: **AD** Concentration Units: **mg/L**

Sampling Point ID: **MWS12_01A** **MWS15_28**

Sampling Event	Sampling Date	C6-C10 LESS BTEX (F1) CONCENTRATION (mg/L)					
1	18-Apr-11	0.05					
2	26-Aug-15	1.1					
3	18-May-17	0.1	0.03				
4	14-Feb-18		0.02				
5	11-Apr-18		0.02				
6	18-Jul-18		0.03				
7	22-Oct-18		0.03				
8	3-Apr-19		0.02				
9	24-Jul-19	0.06					
10	23-Oct-19	0.01	0.01				
11	17-Apr-20	0.06	0.04				
12	23-Apr-21	0.05	0.04				
13	19-May-22	0.03	0.01				
14	8-May-25	0.01	0.01				
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		2.16	0.47				
Mann-Kendall Statistic (S):		-19	-9				
Confidence Factor:		97.0%	72.9%				
Concentration Trend:		Decreasing	Stable				



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

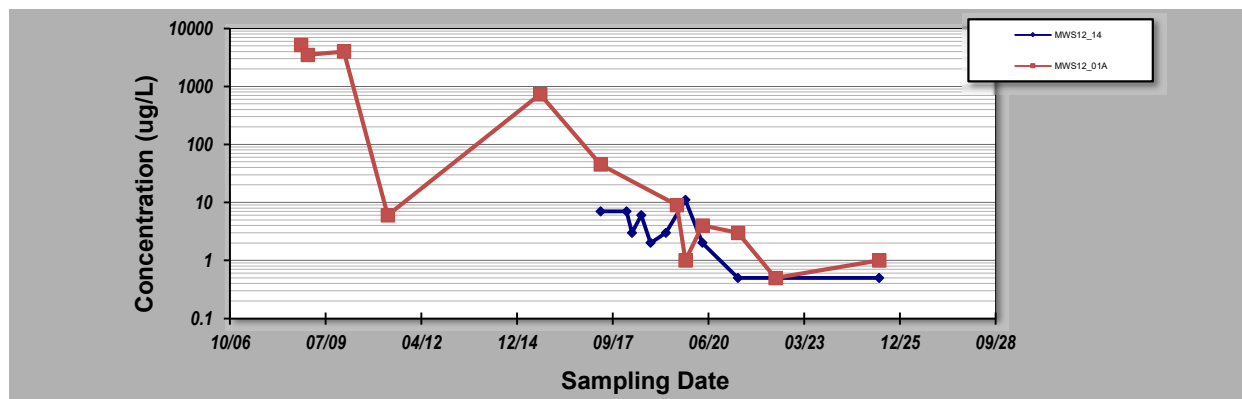
GSi Environmental Inc., www.gsi-net.com

GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **Benzene**
Conducted By: **AD** Concentration Units: **ug/L**

Sampling Point ID: **MWS12_14** **MWS12_01A**

Sampling Event	Sampling Date	BENZENE CONCENTRATION (ug/L)					
1	23-Oct-08		5160				
2	2-Jan-09		3510				
3	15-Jan-10		4000				
4	18-Apr-11		6				
5	18-Sep-14						
6	26-Aug-15		730				
7	18-May-17	7	45				
8	15-Feb-18	7					
9	12-Apr-18	3					
10	19-Jul-18	6					
11	24-Oct-18	2					
12	2-Apr-19	3					
13	24-Jul-19		9				
14	23-Oct-19	11	1				
15	17-Apr-20	2	4				
16	23-Apr-21	0.5	3				
17	19-May-22	0.5	0.5				
18	8-May-25	0.5	1				
19							
20							
Coefficient of Variation:		0.89	1.71				
Mann-Kendall Statistic (S):		-33	-51				
Confidence Factor:		99.5%	>99.9%				
Concentration Trend:		Decreasing	Decreasing				



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $>95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSi Environmental Inc., www.gsi-net.com

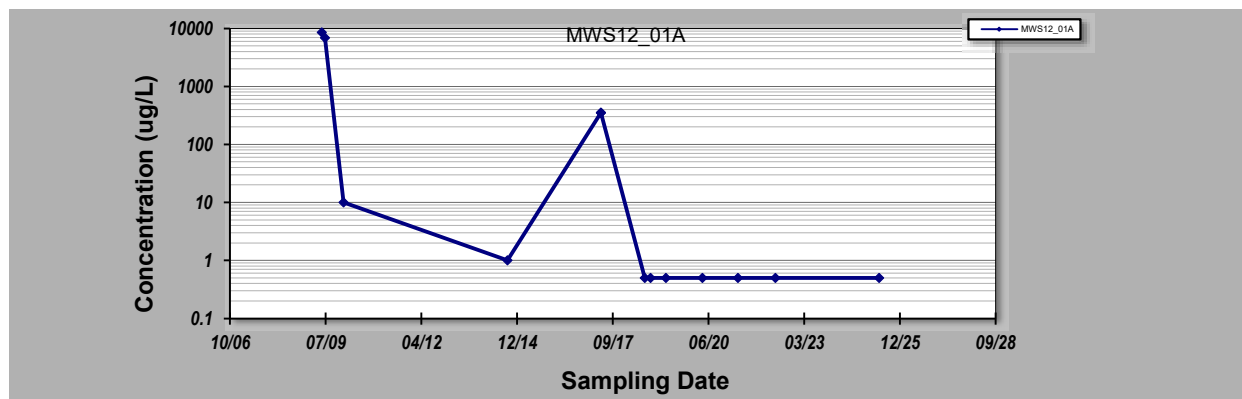
GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **Ethylbenzene**
Conducted By: **AD** Concentration Units: **ug/L**

Sampling Point ID: **MWS12_01A**

Sampling Event	Sampling Date	ETHYLBENZENE CONCENTRATION (ug/L)					
1	27-May-09	8470					
2	1-Jul-09	6870					
3	11-Jan-10	10					
4	18-Sep-14	1					
5	23-May-17	350					
6	23-May-17	350					
7	23-Aug-18	0.5					
8	25-Oct-18	0.5					
9	2-Apr-19	0.5					
10	17-Apr-20	0.5					
11	23-Apr-21	0.5					
12	19-May-22	0.5					
13	8-May-25	0.5					
14							
15							
16							
17							
18							
19							
20							

Coefficient of Variation: **2.33**
Mann-Kendall Statistic (S): **-48**
Confidence Factor: **99.9%**
Concentration Trend: **Decreasing**



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

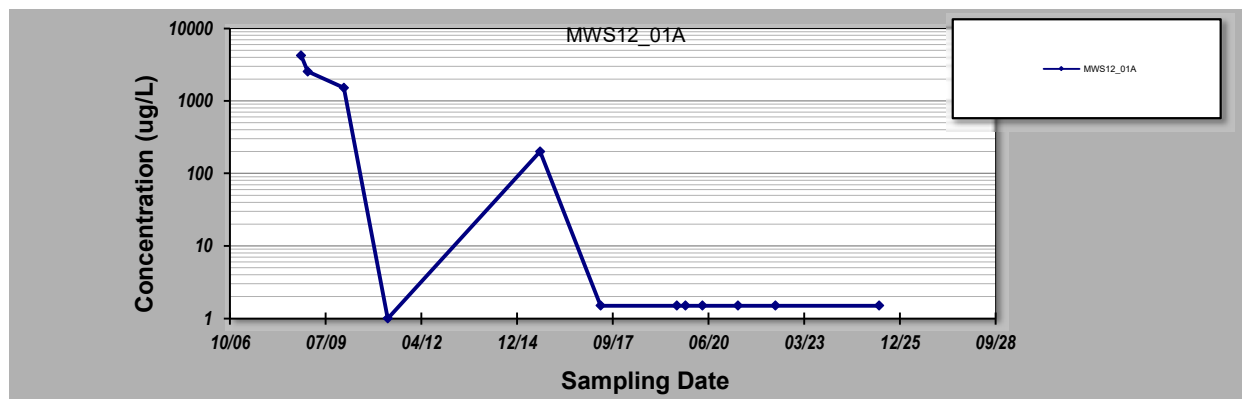
GSI Environmental Inc., www.gsi-net.com

GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **Xylenes**
Conducted By: **AD** Concentration Units: **ug/L**

Sampling Point ID: **MWS12_01A**

Sampling Event	Sampling Date	XYLENES CONCENTRATION (ug/L)					
1	23-Oct-08	4212					
2	2-Jan-09	2538					
3	15-Jan-10	1520					
4	18-Apr-11	1					
5	18-Sep-14						
6	26-Aug-15	200					
7	18-May-17	1.5					
8	24-Jul-19	1.5					
9	23-Oct-19	1.5					
10	17-Apr-20	1.5					
11	23-Apr-21	1.5					
12	19-May-22	1.5					
13	8-May-25	1.5					
14							
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		1.93					
Mann-Kendall Statistic (S):		-29					
Confidence Factor:		97.4%					
Concentration Trend:		Decreasing					



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

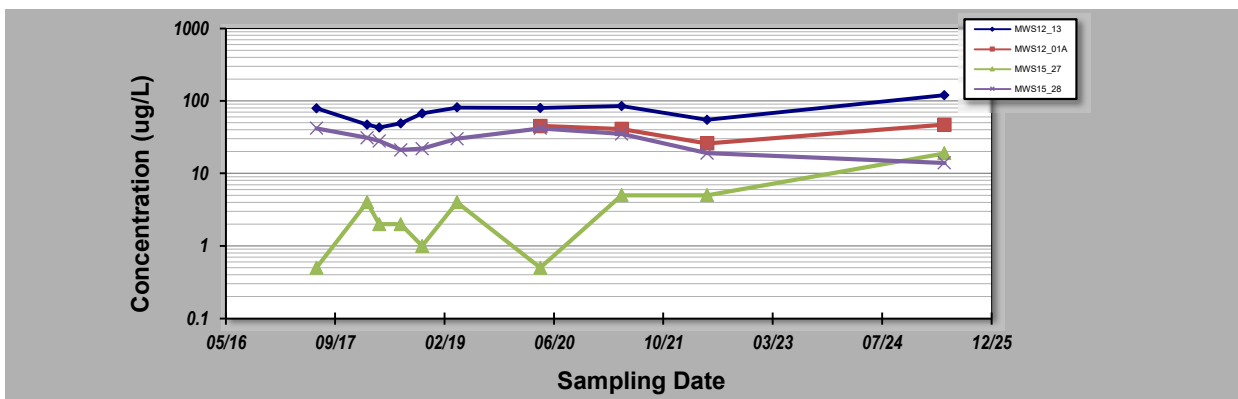
DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSi Environmental Inc., www.gsi-net.com

GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **1,1-Dichloroethene**
Conducted By: **AD** Concentration Units: **ug/L**

Sampling Point ID:		MWS12_13	MWS12_01A	MWS15_27	MWS15_28			
Sampling Event	Sampling Date	1,1-DICHLOROETHENE CONCENTRATION (ug/L)						
1	28-Jun-17	79		0.5	42			
2	15-Feb-18	47		4	31			
3	12-Apr-18	43		2	28			
4	19-Jul-18	49		2	21			
5	24-Oct-18	67		1	22			
6	2-Apr-19	81		4	30			
7	17-Apr-20	80	45	0.5	42			
8	23-Apr-21	85	41	5	35			
9	19-May-22	55	26	5	19			
10	8-May-25	120	47	19	14			
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.33	0.24	1.27	0.33			
Mann-Kendall Statistic (S):		23	0	21	-16			
Confidence Factor:		97.7%	37.5%	96.4%	90.7%			
Concentration Trend:		Increasing	Stable	Increasing	Prob. Decreasing			



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSi Environmental Inc., www.gsi-net.com

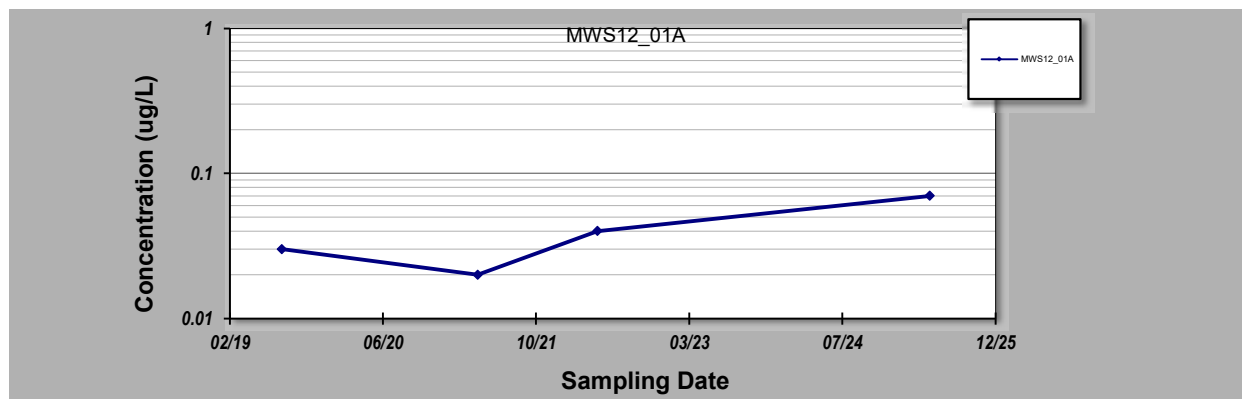
GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **Tetrachloroethene**
Conducted By: **AD** Concentration Units: **ug/L**

Sampling Point ID: **MWS12_01A**

Sampling Event	Sampling Date	TETRACHLOROETHENE CONCENTRATION (ug/L)					
1	24-Jul-19	0.03					
2	23-Apr-21	0.02					
3	19-May-22	0.04					
4	8-May-25	0.07					
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Coefficient of Variation: **0.54**
Mann-Kendall Statistic (S): **4**
Confidence Factor: **83.3%**
Concentration Trend: **No Trend**



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSI Environmental Inc., www.gsi-net.com

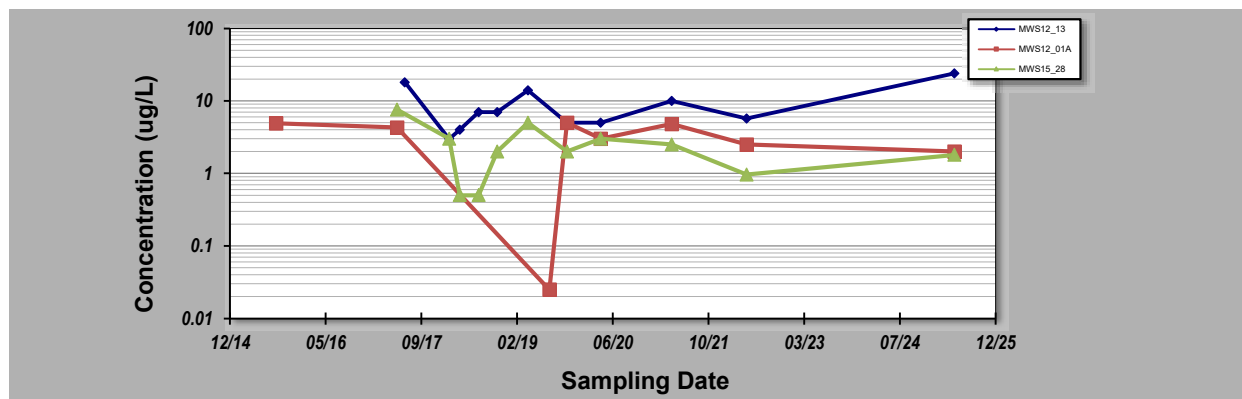
GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **Vinyl Chloride**
Conducted By: **AD** Concentration Units: **ug/L**

Sampling Point ID: **MWS12_13** **MWS12_01A** **MWS15_28**

Sampling Event	Sampling Date	VINYL CHLORIDE CONCENTRATION (ug/L)					
1	26-Aug-15		4.9				
2	18-May-17		4.3	7.6			
3	28-Jun-17	18					
4	15-Feb-18	3		3			
5	12-Apr-18	4		0.5			
6	19-Jul-18	7		0.5			
7	24-Oct-18	7		2			
8	2-Apr-19	14		5			
9	24-Jul-19		0.025				
10	23-Oct-19	5	5	2			
11	17-Apr-20	5	3	3			
12	23-Apr-21	10	4.8	2.5			
13	19-May-22	5.7	2.5	0.96			
14	8-May-25	24	2	1.8			
15							
16							
17							
18							
19							
20							

Coefficient of Variation:	0.71	0.53	0.80				
Mann-Kendall Statistic (S):	13	-10	-10				
Confidence Factor:	82.1%	86.2%	75.3%				
Concentration Trend:	No Trend	Stable	Stable				



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSi Environmental Inc., www.gsi-net.com

**APPENDIX D SOIL VAPOUR SAMPLING RECORDS &
CALIBRATION CERTIFICATES**

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP12_2.5
Date:	11-13/4/25
Sampled by:	AD

Vapour Point Details	
Depth (m bgl):	2.5
Borehole diameter (cm):	12.5
Sand thickness (cm):	50
Tubing (3/16" ID):	0.47625
Tubing length (cm):	270
Bore Volume (mL):	2,526

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	160027
Restrictor No.:	000360
Canister Volume	1L
Flow:	12ml/min
Initial Pressure:	-29.5
Final Pressure:	-7.0
Time on:	09:55
Time off:	10:59
Run time:	64 min

Shut-in Test	
Initial pressure:	-29.5
Final pressure (5min):	-29.5
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97%
Background (ppm):	0
Should conc. (ppm):	90%
Vapour point conc. (ppm):	<1%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0ppm	13.2ppm	16.2ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.0	0	0	1020mb
Soil Gas (during purging - stabilised):	0	9.6	6.8	0	0	
Soil Gas (following sampling):	0	8.6	7.5	0	0	
Ambient Air (post sampling):	0	0.1	21.0	0	0	1019mb

note: see

82.6%
83.6%

Weather conditions (e.g. cloudy, sunny, windy etc)

Sunny / light breeze.

Observations / comments

Duplicate details: QV2	
Canister No:	748
Restrictor No.:	260
Canister Volume:	1L
Flow:	12ml/min
Run in parallel	YES / NO
Initial Pressure:	-30.5
Final Pressure:	-8
Time on:	09:55
Time off:	11:33
Run time:	98 min

primary turned off / secondary left
at valve to run.

ECHO RISK CONSULTING
Soil Vapour Sampling Record



Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP12_3.8
Date:	11-13/4/25
Sampled by:	A.D.

Vapour Point Details	
Depth (m bgl):	3.8
Borehole diameter (cm):	12.5
Sand thickness (cm):	50
Tubing (3/16" ID):	0.47625
Tubing length (cm):	400
Bore Volume (mL):	2,549

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	160159
Restrictor No.:	000276
Canister Volume	1L
Flow:	12ml/min
Initial Pressure:	-28
Final Pressure:	-7
Time on:	10:07
Time off:	12:01
Run time:	114 min

Shut-in Test	
Initial pressure:	-28
Final pressure (5min):	-28
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Should conc. (ppm):	86%
Vapour point conc. (ppm):	21%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	14.4 ppm	17.3 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.0	0	0	1020 mb
Soil Gas (during purging - stabilised):	0	12.3	4.3	0	0	
Soil Gas (following sampling):	0	10.8	5.3	0	2	
Ambient Air (post sampling):	0	0.1	20.9	0	0	1019

Weather conditions (e.g. cloudy, sunny, windy etc)

Sunny / light breeze

Observations / comments

Duplicate details: QV1	
Canister No:	160212
Restrictor No.:	000276
Canister Volume:	1L
Flow:	12ml/min
Run in parallel	YES / NO
Initial Pressure:	-28
Final Pressure:	-7
Time on:	10:07
Time off:	12:01
Run time:	114 min

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Vapour point ID:
VP12_6.0
Date: 11-13/4/25
Sampled by: A.D.

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	6.0
Borehole diameter (cm):	8
Sand thickness (cm):	40
Tubing (3/16" ID):	0.47625
Tubing length (cm):	620
Bore Volume (mL):	939

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	160249
Restrictor No.:	000488
Canister Volume	1L
Flow:	12ml/min
Initial Pressure:	-28
Final Pressure:	-7
Time on:	10:13
Time off:	11:48
Run time:	95min

Shut-in Test	
Initial pressure:	-28
Final pressure (5min):	-28
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Should conc. (ppm):	86%
Vapour point conc. (ppm):	<1%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	119.7 ppm	124.5 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.0	0	0	1019 mb
Soil Gas (during purging - stabilised):	4.3	10.8	0.1	4	1	
Soil Gas (following sampling):	3.8	10.0	0.2	4	1	
Ambient Air (post sampling):	0	0.1	20.9	0	0	1019 mb

(2.4 km)
84.8%
85.9%

Weather conditions (e.g. cloudy, sunny, windy etc)
Sunny

Observations / comments	Duplicate details:
	Canister No:
	Restrictor No.:
	Canister Volume:
	Flow:
	Run in parallel YES/ NO
	Initial Pressure:
	Final Pressure:
	Time on:
	Time off:
	Run time:

ECHO RISK CONSULTING
Soil Vapour Sampling Record

echo
 Risk Consulting

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP27_3.0 * VP27-4.5
Date:	11-13/4/23
Sampled by:	A.D.

Vapour Point Details	
Depth (m bgl):	3.0
Borehole diameter (cm):	8
Sand thickness (cm):	70
Tubing (3/16" ID):	0.47625
Tubing length (cm):	330
Bore Volume (mL):	1,490

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	160029
Restrictor No.:	000287
Canister Volume	16
Flow:	12mL/min
Initial Pressure:	-30
Final Pressure:	-7

Shut-in Test	
Initial pressure:	-30
Final pressure (5min):	-30
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Should conc. (ppm):	79%
Vapour point conc. (ppm):	41%

PID (background)	PID (pre-sampling)	PID (post-sampling)
0ppm	2.8ppm	1.2ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units						
Ambient Air (prior to sampling):	0	0.1	20.9	0	0	1019
Soil Gas (during purging - stabilised):	0	0.3	20.9	0	0	
Soil Gas (following sampling):	0	0.2	20.4	0	0	
Ambient Air (post sampling):	0	0.1	21.0	0	0	1019

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

- water draws up tube with vacuum pump
 - attempted VP27-4.5' interval (VP27-1.5' water)

Duplicate details:

Canister No:	Initial Pressure:
Restrictor No.:	Final Pressure:
Canister Volume:	Time on:
Flow:	Time off:
Run in parallel YES/ NO	Run time:

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP27_6.0
Date:	11-13/4/20
Sampled by:	AD

Vapour Point Details	
Depth (m bgl):	6.0
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	620
Bore Volume (mL):	1,341

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	140121
Restrictor No.:	000393
Canister Volume	7L
Flow:	12mL/min
Initial Pressure:	-32
Final Pressure:	-7
Time on:	10:54
Time off:	12:13
Run time:	69min

Shut-in Test	
Initial pressure:	-32
Final pressure (5min):	-32
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Should conc. (ppm):	88%
Vapour point conc. (ppm):	<1%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	66.3 ppm	59.6 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.0	0	0	1019
Soil Gas (during purging - stabilised):	5.8	9.3	7.2	0	0	
Soil Gas (following sampling):	4.6	8.3	11.1	0	1	
Ambient Air (post sampling):	0	0.1	20.9	0	0	1019

*skilled
xskilled

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments	Duplicate details:
	Canister No:
	Restrictor No.:
	Canister Volume:
	Flow:
	Run in parallel YES/ NO
	Initial Pressure:
	Final Pressure:
	Time on:
	Time off:
	Run time:

ECHO RISK CONSULTING
Soil Vapour Sampling Record



Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP31_3.0
Date:	11-13/4/23
Sampled by:	AD

Vapour Point Details	
Depth (m bgl):	3.1
Borehole diameter (cm):	10
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	320
Bore Volume (mL):	1,966

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	160173
Restrictor No.:	000357
Canister Volume	1L
Flow:	12mL/min
Initial Pressure:	-30.5
Final Pressure:	-6.5
Time on:	13:29
Time off:	14:42
Run time:	73min

Shut-in Test	
Initial pressure:	-30.5
Final pressure (5min):	-30.5
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Shoud conc. (ppm):	85%
Vapour point conc. (ppm):	<1%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	3.2	0.9 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units						1018mb
Ambient Air (prior to sampling):	0	0.1	21.1	0	0	
Soil Gas (during purging - stabilised):	0	7.8	4.7	0	3	
Soil Gas (following sampling):	0	7.8	4.8	0	2	
Ambient Air (post sampling):	0	0.1	21.0	0	0	1018mb

6.1
87.5%

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments	Duplicate details:	
	Canister No:	Initial Pressure:
	Restrictor No.:	Final Pressure:
	Canister Volume:	Time on:
	Flow:	Time off:
	Run in parallel YES/ NO	Run time:

$$+2 - 45 = 1.2 \text{ ppm}$$

$$+2 - 60 = 1.3 \text{ ppm}$$

ECHO RISK CONSULTING

Soil Vapour Sampling Record

echo
Risk Consulting

Vapour point ID:
VP41_3.0
Date: 11-13/4/20
Sampled by: AD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.2
Borehole diameter (cm):	8
Sand thickness (cm):	50
Tubing (3/16" ID):	0.47625
Tubing length (cm):	330
Bore Volume (mL):	1,089

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	140213
Restrictor No.:	000379
Canister Volume	1L
Flow:	12mL/min
Initial Pressure:	-32
Final Pressure:	-7.5
Time on:	13:12
Time off:	14:37
Run time:	85 min

Shut-in Test	
Initial pressure:	-32
Final pressure (5min):	-32
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97%
Background (ppm):	0
Shoud conc. (ppm):	84%
Vapour point conc. (ppm):	41%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0	8.1 ppm	7.8 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units						
Ambient Air (prior to sampling):	0	0.1	21.0	0	0	1020
Soil Gas (during purging - stabilised):	0	19.8	1.2	0	1	
Soil Gas (following sampling):	0	20.2	0.5	0	2	
Ambient Air (post sampling):	0	0.1	20.9	0	0	1018

6.1
7872

Weather conditions (e.g. cloudy, sunny, windy etc)
sunny / warm

Observations / comments	
Duplicate details:	
Canister No:	
Initial Pressure:	
Restrictor No.:	
Final Pressure:	
Canister Volume:	
Time on:	
Flow:	
Time off:	
Run in parallel YES/ NO	
Run time:	

ECHO RISK CONSULTING

Soil Vapour Sampling Record

echo
Risk Consulting

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP41_6.0
Date:	11-13/4/20
Sampled by:	AD

Vapour Point Details	
Depth (m bgl):	6.2
Borehole diameter (cm):	8
Sand thickness (cm):	70
Tubing (3/16" ID):	0.47625
Tubing length (cm):	630
Bore Volume (mL):	1,544

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	120058
Restrictor No.:	000494
Canister Volume	16
Flow:	12mL/min
Initial Pressure:	-29
Final Pressure:	-7
Time on:	13:04
Time off:	14:20
Run time:	76 min.

Shut-in Test	
Initial pressure:	-29
Final pressure (5min):	-29
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

some condensation

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Should conc. (ppm):	91%
Vapour point conc. (ppm):	<1%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0ppm	22-3ppm	21-4ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units	%	%	%	ppm	ppm	(10.13)
Ambient Air (prior to sampling):	0	0.1	20.9	0	0	
Soil Gas (during purging - stabilised):	0.2	14.2	0.1	1	1	
Soil Gas (following sampling):	0.3	13.8	0.3	1	2	
Ambient Air (post sampling):	0	0.1	20.9	1	0	1017

85.5%

Weather conditions (e.g. cloudy, sunny, windy etc)

sunny / warm.

Observations / comments	Duplicate details:
	Canister No:
	Restrictor No.:
	Canister Volume:
	Flow:
	Run in parallel YES/ NO
	Initial Pressure:
	Final Pressure:
	Time on:
	Time off:
	Run time:

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Vapour point ID:

VP42_4.5

Date: 11-13/4/25

Sampled by: AD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details

Depth (m bgl):	4.7
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	490
Bore Volume (mL):	1,318

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details

Canister No:	140247	Time on:	12:52
Restrictor No.:	000424	Time off:	15:03
Canister Volume	1L	Run time:	131 min
Flow:	12ml/min		
Initial Pressure:	-31.5		
Final Pressure:	-10.5		

Shut-in Test

Initial pressure:	-31.5
Final pressure (5min):	-31.5
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test

He. Mixture (%):	97	Background (ppm):	0
Shoud conc. (ppm):	87%	Pass	
Vapour point conc. (ppm):	11%	YES / NO	

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	1.8 ppm	0 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units						1020 mb
Ambient Air (prior to sampling):	0	0.1	20.9	0	0	
Soil Gas (during purging - stabilised):	0	10.7	46	0	1	
Soil Gas (following sampling):	0	7.8	9.4	0	2	
Ambient Air (post sampling):	0	0.1	20.8	0	0	1018.

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

downhole pressure (-7 inHg)
- both duplicates still drawing
but slowly.

Duplicate details:

Canister No:	1411	Initial Pressure:	-31
Restrictor No.:	154	Final Pressure:	-12
Canister Volume:	1L	Time on:	12:52
Flow:	12ml/min	Time off:	15:07
Run in parallel	YES / NO	Run time:	135 min

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP42_6.0
Date:	11-03/4/20
Sampled by:	AD

Vapour Point Details	
Depth (m bgl):	6.2
Borehole diameter (cm):	8
Sand thickness (cm):	70
Tubing (3/16" ID):	0.47625
Tubing length (cm):	630
Bore Volume (mL):	1,544

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	140180
Restrictor No.:	000450
Canister Volume	1L
Flow:	12mL/min
Initial Pressure:	-30
Final Pressure:	-7

Time on: 12:57
Time off: 14:04
Run time: 67min

Shut-in Test	
Initial pressure:	-30
Final pressure (5min):	-30
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Should conc. (ppm):	91%
Vapour point conc. (ppm):	41%

Background (ppm): 0
Pass: YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0ppm	0.9ppm	1.1ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	20.9	0	0	1020 mb
Soil Gas (during purging - stabilised):	0	14.1	1.8	0	1	
Soil Gas (following sampling):	0	13.2	2.0	0	2	
Ambient Air (post sampling):	0	0.1	21.0	0	0	1017

(10:00am)
6.1
34.12

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments	Duplicate details:	
	Canister No:	Initial Pressure:
	Restrictor No.:	Final Pressure:
	Canister Volume:	Time on:
	Flow:	Time off:
	Run in parallel YES/ NO	Run time:

ECHO RISK CONSULTING
Soil Vapour Sampling Record

on Digital Drive

echo
Risk Consulting

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP45_3.7
Date:	<i>11-14/4/25</i>
Sampled by:	<i>AD</i>

Vapour Point Details	
Depth (m bgl):	3.9
Borehole diameter (cm):	8
Sand thickness (cm):	50
Tubing (3/16" ID):	0.47625
Tubing length (cm):	400
Bore Volume (mL):	1,101

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	<i>160011</i>
Restrictor No.:	<i>000292</i>
Canister Volume	<i>1L</i>
Flow:	<i>12ml/min</i>
Initial Pressure:	<i>-28</i>
Final Pressure:	<i>-7</i>

Time on: *10:00*
 Time off: *11:05*
 Run time: *65 min*

Shut-in Test	
Initial pressure:	<i>-28</i>
Final pressure (5min):	<i>-28</i>
Pass:	<i>YES / NO</i>

Vacuum test passed:	<i>YES / NO</i>
Moisture observed in tube:	<i>YES / NO</i>

Helium Leak Test	
He. Mixture (%):	<i>97</i>
Background (ppm):	<i>0</i>
Should conc. (ppm):	<i>84%</i>
Vapour point conc. (ppm):	<i><1%</i>
Pass	<i>YES / NO</i>

PID (background)	PID (pre-sampling)	PID (post-sampling)
<i>0 ppm</i>	<i>0 ppm</i>	<i>0 ppm</i>

	CH4	CO2	O2	H2S	CO	Barometric pressure
	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	<i>0</i>	<i>0.1</i>	<i>21.1</i>	<i>0</i>	<i>0</i>	<i>1019 mb</i>
Soil Gas (during purging - stabilised):	<i>0</i>	<i>16.5</i>	<i>19.7</i>	<i>0</i>	<i>0</i>	
Soil Gas (following sampling):	<i>0</i>	<i>15.7</i>	<i>19.7</i>	<i>0</i>	<i>0</i>	
Ambient Air (post sampling):						<i>1019 mb</i>

*Sample
mask
not
45A*

*73-7% kcal
73.5*

Weather conditions (e.g. cloudy, sunny, windy etc)
<i>sunny / light cloud cover.</i>

Observations / comments	Duplicate details:	
	Canister No:	Initial Pressure:
	Restrictor No.:	Final Pressure:
	Canister Volume:	Time on:
	Flow:	Time off:
	Run in parallel	Run time:
	YES/ NO	

ECHO RISK CONSULTING
Soil Vapour Sampling Record



Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP45A_2.3
Date:	11-14/4/23
Sampled by:	AD

Vapour Point Details	
Depth (m bgl):	2.3
Borehole diameter (cm):	5
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	250
Bore Volume (mL):	541

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	120188
Restrictor No.:	000156
Canister Volume	1L
Flow:	12mL/min
Initial Pressure:	-30.5
Final Pressure:	-7.5
Time on:	09:42
Time off:	11:58
Run time:	146 min

Shut-in Test	
Initial pressure:	-30.5
Final pressure (5min):	-30.5
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Should conc. (ppm):	89%
Vapour point conc. (ppm):	<1%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	0 ppm	0.8 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.1	0	0	1019
Soil Gas (during purging - stabilised):	0	11.4	8.0	0	0	
Soil Gas (following sampling):	0	10.5	7.9	0	1	
Ambient Air (post sampling):	0	0.1	21.0	0	0	1019

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

Duplicate details:	QV3
Canister No:	120226
Restrictor No.:	000156
Canister Volume:	1L
Flow:	12mL/min
Run in parallel	YES / NO
Initial Pressure:	-30.5
Final Pressure:	-7.5
Time on:	09:42
Time off:	11:58
Run time:	146 min

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Vapour point ID:

VP46A_2.3

Date: 11-14/4/25

Sampled by: AD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	2.5
Borehole diameter (cm):	5
Sand thickness (cm):	100
Tubing (3/16" ID):	0.47625
Tubing length (cm):	270
Bore Volume (mL):	858

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	120217
Restrictor No.:	000398
Canister Volume	1L
Flow:	12ml/min
Initial Pressure:	-30
Final Pressure:	-7
Time on:	09:47
Time off:	11:01
Run time:	74min

Shut-in Test	
Initial pressure:	-30
Final pressure (5min):	-30
Pass:	(YES) / NO

Vacuum test passed:	(YES) / NO
Moisture observed in tube:	YES / (NO)

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Should conc. (ppm):	90%
Vapour point conc. (ppm):	41%
Pass	(YES) / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	0 ppm	0 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.1	0	0	1019
Soil Gas (during purging - stabilised):	0	3.3	6.2	0	0	
Soil Gas (following sampling):	0	3.0	5.9	0	0	
Ambient Air (post sampling):	0	0.1	21.0	0	0	1019

bul
90.58
90.1%

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

Duplicate details:

Canister No:	Initial Pressure:
Restrictor No.:	Final Pressure:
Canister Volume:	Time on:
Flow:	Time off:
Run in parallel YES/ NO	Run time:

ECHO RISK CONSULTING
Soil Vapour Sampling Record



Vapour point ID:
VP49_3.7
Date: 11-14/4/20
Sampled by: ASD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.9
Borehole diameter (cm):	8
Sand thickness (cm):	50
Tubing (3/16" ID):	0.47625
Tubing length (cm):	410
Bore Volume (mL):	1,103

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	120045
Restrictor No.:	00096
Canister Volume	12
Flow:	12ml/min
Initial Pressure:	-30
Final Pressure:	-7
Time on:	10:14
Time off:	11:44
Run time:	90min

(12:11)

Shut-in Test	
Initial pressure:	-30
Final pressure (5min):	-30
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Shoud conc. (ppm):	92%
Pass	
Vapour point conc. (ppm):	41%
YES / NO	

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	4.0 ppm	7.7 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.0	0	0	1019.
Soil Gas (during purging - stabilised):	0	0.0	0.2	0	0	
Soil Gas (following sampling):	0.1	9.7	0.3	0	0	
Ambient Air (post sampling):	0	0.1	21.1	0	0	1019

bal
87.9%

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments	Duplicate details:
	Canister No: 14223
	Restrictor No.: 105
	Canister Volume: 12
	Flow: 12ml/min
	Run in parallel YES / NO
	Initial Pressure: -31
	Final Pressure: -7
	Time on: 10:14
	Time off: 12:10
	Run time: 115min

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Vapour point ID:

VP50_3.7

Date: 11-14/4/25

Sampled by: AD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.9
Borehole diameter (cm):	8
Sand thickness (cm):	50
Tubing (3/16" ID):	0.47625
Tubing length (cm):	410
Bore Volume (mL):	1,103

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	120096
Restrictor No.:	000129
Canister Volume	12
Flow:	12mL/min
Initial Pressure:	-30
Final Pressure:	-7
Time on:	10:53
Time off:	13:01
Run time:	128min

Shut-in Test	
Initial pressure:	-30
Final pressure (5min):	-30
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Should conc. (ppm):	84%
Vapour point conc. (ppm):	41%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	0.1 ppm	0.0 ppm

	CH4	CO2	O2	H2S	CO	Barometric pressure
units	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.1	0	0	1019
Soil Gas (during purging - stabilised):	0	7.7	10.5	0	1	
Soil Gas (following sampling):	0	7.6	10.0	0	1	
Ambient Air (post sampling):	0	0.1	21.0	0	0	1019

hel.
82-5%

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

Duplicate details: S.V.S	
Canister No:	120118
Restrictor No.:	000129
Canister Volume:	12
Flow:	12mL/min
Run in parallel	YES / NO
Initial Pressure:	-30
Final Pressure:	-7
Time on:	10:53
Time off:	13:01
Run time:	128min

ECHO RISK CONSULTING
Soil Vapour Sampling Record



Vapour point ID:
VP51_3.7
Date: 11-14/4/20
Sampled by: AD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.8
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	400
Bore Volume (mL):	1,302

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	760149
Restrictor No.:	000317
Canister Volume	1L
Flow:	12mL/min
Initial Pressure:	-30
Final Pressure:	-10
Time on:	11:55
Time off:	13:29
Run time:	99 min

Shut-in Test	
Initial pressure:	-30
Final pressure (5min):	-30
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	97
Background (ppm):	0
Shoud conc. (ppm):	90%
Vapour point conc. (ppm):	4%
Pass	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	1.2 ppm	0 ppm (?)

	CH4	CO2	O2	H2S	CO	Barometric pressure
	%	%	%	ppm	ppm	
Ambient Air (prior to sampling):	0	0.1	21.0	0	0	1019 mb
Soil Gas (during purging - stabilised):	0	5.1	21.1	0	1	
Soil Gas (following sampling):	0	12.2	10.5	0	1	
Ambient Air (post sampling):	0	0.1	21.1	0	0	1019 mb

*
- stabilised
- stabilised

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

Downy - slightly towards
vacuum.
end of
sampling

Duplicate details:

Canister No:	Initial Pressure:
Restrictor No.:	Final Pressure:
Canister Volume:	Time on:
Flow:	Time off:
Run in parallel YES/ NO	Run time:

ECHO RISK CONSULTING

Soil Vapour Sampling Record

echo
Risk Consulting

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour point ID:	VP30_3.0
Date:	11/4/25
Sampled by:	AD

Vapour Point Details	
Depth (m bgl):	3.1
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	320
Bore Volume (mL):	1,288

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	Time on:
Restrictor No.:	Time off:
Canister Volume	Run time:
Flow:	
Initial Pressure:	
Final Pressure:	

NOT SAMPLED

Shut-in Test	
Initial pressure:	
Final pressure (5min):	
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

* 13/4 water drawn up units

Helium Leak Test	
He. Mixture (%):	Background (ppm):
Should conc. (ppm):	Pass
Vapour point conc. (ppm):	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)

	CH4	CO2	O2	H2S	CO	Barometric pressure
Ambient Air (prior to sampling):						
Soil Gas (during purging - stabilised):						
Soil Gas (following sampling):						
Ambient Air (post sampling):						

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

Duplicate details:	
Canister No:	Initial Pressure:
Restrictor No.:	Final Pressure:
Canister Volume:	Time on:
Flow:	Time off:
Run in parallel YES/ NO	Run time:

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Vapour point ID:
VP32_3.0
Date: 11/4/25
Sampled by: AD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.1
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	320
Bore Volume (mL):	1,288

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	Time on:
Restrictor No.:	Time off:
Canister Volume	Run time:
Flow:	
Initial Pressure:	
Final Pressure:	

NOT SAMPLED

Shut-in Test	
Initial pressure:	
Final pressure (5min):	
Pass:	YES / NO

Helium Leak Test	
He. Mixture (%):	Background (ppm):
Shoud conc. (ppm):	Pass
Vapour point conc. (ppm):	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)
0 ppm	0 ppm	

water drawn up 2nd time (13/4)

	CH4	CO2	O2	H2S	CO	Barometric pressure
Ambient Air (prior to sampling):						
Soil Gas (during purging - stabilised):						
Soil Gas (following sampling):						
Ambient Air (post sampling):						

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments	Duplicate details:
	Canister No:
	Restrictor No.:
	Canister Volume:
	Flow:
	Run in parallel YES/ NO
	Initial Pressure:
	Final Pressure:
	Time on:
	Time off:
	Run time:

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Vapour point ID:

VP46_3.7

Date:

Sampled by:

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.8
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	400
Bore Volume (mL):	1,302

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	Time on:
Restrictor No.:	Time off:
Canister Volume	Run time:
Flow:	
Initial Pressure:	
Final Pressure:	

Shut-in Test	
Initial pressure:	
Final pressure (5min):	
Pass:	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test	
He. Mixture (%):	Background (ppm):
Shoud conc. (ppm):	Pass
Vapour point conc. (ppm):	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)

	CH4	CO2	O2	H2S	CO	Barometric pressure
units						
Ambient Air (prior to sampling):						
Soil Gas (during purging - stabilised):						
Soil Gas (following sampling):						
Ambient Air (post sampling):						

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

NOT ACCESSED

Duplicate details:

Canister No:	Initial Pressure:
Restrictor No.:	Final Pressure:
Canister Volume:	Time on:
Flow:	Time off:
Run in parallel YES/ NO	Run time:

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Vapour point ID:

VP47_3.7

Date:

Sampled by:

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details

Depth (m bgl):	3.8
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	400
Bore Volume (mL):	1,302

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details

Canister No:	Time on:
Restrictor No.:	Time off:
Canister Volume	Run time:
Flow:	
Initial Pressure:	
Final Pressure:	

NOT SAMPLED

Shut-in Test

Initial pressure:	
Final pressure (5min):	
Pass:	YES / NO

Helium Leak Test

He. Mixture (%):	Background (ppm):
Shoud conc. (ppm):	Pass
Vapour point conc. (ppm):	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)

units

	CH4	CO2	O2	H2S	CO	Barometric pressure
Ambient Air (prior to sampling):						
Soil Gas (during purging - stabilised):						
Soil Gas (following sampling):						
Ambient Air (post sampling):						

Weather conditions (e.g. cloudy, sunny, windy etc)

Observations / comments

- water in yating
- water drawn up tube
14/4

NOT ACCESSED

Duplicate details:

Canister No:	Initial Pressure:
Restrictor No.:	Final Pressure:
Canister Volume:	Time on:
Flow:	Time off:
Run in parallel YES/ NO	Run time:

ECHO RISK CONSULTING

Soil Vapour Sampling Record



Vapour point ID:
VP47A_2.3
Date: 11/4/25
Sampled by: AD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	2.5
Borehole diameter (cm):	5
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	270
Bore Volume (mL):	544

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	Time on:
Restrictor No.:	Time off:
Canister Volume	Run time:
Flow:	
Initial Pressure:	
Final Pressure:	

NOT SAMPLED

Shut-in Test	
Initial pressure:	
Final pressure (5min):	
Pass:	YES / NO

Helium Leak Test	
He. Mixture (%):	Background (ppm):
Shoud conc. (ppm):	Pass
Vapour point conc. (ppm):	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

11/4

PID (background)	PID (pre-sampling)	PID (post-sampling)

	CH4	CO2	O2	H2S	CO	Barometric pressure
units						
Ambient Air (prior to sampling):						
Soil Gas (during purging - stabilised):						
Soil Gas (following sampling):						
Ambient Air (post sampling):						

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments	Duplicate details:	
<i>water drawn up tube with vacuum pump 14/4 as well.</i>	Canister No:	
	Initial Pressure:	
	Restrictor No.:	
	Final Pressure:	
	Canister Volume:	
	Time on:	
Flow:	Time off:	
Run in parallel	YES/ NO	Run time:

ECHO RISK CONSULTING
Soil Vapour Sampling Record



Vapour point ID:
VP48_3.7
Date: 11/4
Sampled by: ASD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.9
Borehole diameter (cm):	8
Sand thickness (cm):	40
Tubing (3/16" ID):	0.47625
Tubing length (cm):	410
Bore Volume (mL):	902

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	Time on:
Restrictor No.:	Time off:
Canister Volume	Run time:
Flow:	
Initial Pressure:	
Final Pressure:	

No Sampled

Shut-in Test	
Initial pressure:	
Final pressure (5min):	
Pass:	YES / NO

Helium Leak Test	
He. Mixture (%):	Background (ppm):
Shoud conc. (ppm):	Pass
Vapour point conc. (ppm):	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)

	CH4	CO2	O2	H2S	CO	Barometric pressure
units						
Ambient Air (prior to sampling):						
Soil Gas (during purging - stabilised):						
Soil Gas (following sampling):						
Ambient Air (post sampling):						

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments	Duplicate details:
- water in gate - water draws up tube with vacuum pump (14/4)	Canister No:
	Initial Pressure:
	Restrictor No.:
	Final Pressure:
	Canister Volume:
	Time on:
Flow:	Time off:
Run in parallel YES/ NO	Run time:

ECHO RISK CONSULTING
Soil Vapour Sampling Record



Vapour point ID:
VP52_3.7
Date: <u>11/4</u>
Sampled by: <u>AD</u>

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.8
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	400
Bore Volume (mL):	1,302

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	Time on:
Restrictor No.:	Time off:
Canister Volume	Run time:
Flow:	
Initial Pressure:	
Final Pressure:	

NOT SAMPLED

Shut-in Test	
Initial pressure:	
Final pressure (5min):	
Pass:	YES / NO
Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

Helium Leak Test		
He. Mixture (%):	Background (ppm):	
Shoud conc. (ppm):	Pass	
Vapour point conc. (ppm):	YES / NO	
PID (background)	PID (pre-sampling)	PID (post-sampling)

	CH4	CO2	O2	H2S	CO	Barometric pressure
Ambient Air (prior to sampling):						
Soil Gas (during purging - stabilised):						
Soil Gas (following sampling):						
Ambient Air (post sampling):						

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments <i>Vacuum - > 25 psi</i>	Duplicate details:	
	Canister No:	Initial Pressure:
	Restrictor No.:	Final Pressure:
	Canister Volume:	Time on:
	Flow:	Time off:
	Run in parallel	YES/ NO
	Run time:	

ECHO RISK CONSULTING
Soil Vapour Sampling Record



Vapour point ID:
VP53_3.7
Date: 11/4
Sampled by: AD

Client:	Renewal SA
Location:	Residential Monitoring, Tonsley
Project:	EC0193

Vapour Point Details	
Depth (m bgl):	3.8
Borehole diameter (cm):	8
Sand thickness (cm):	60
Tubing (3/16" ID):	0.47625
Tubing length (cm):	400
Bore Volume (mL):	1,302

Bore volume = implant volume (25mL) + volume of tubing + volume of sand pack (assumed porosity of 0.4).

Summa Canister Details	
Canister No:	Time on:
Restrictor No.:	Time off:
Canister Volume	Run time:
Flow:	
Initial Pressure:	
Final Pressure:	

Handwritten: Not Sampled

Shut-in Test	
Initial pressure:	
Final pressure (5min):	
Pass:	YES / NO

Helium Leak Test	
He. Mixture (%):	Background (ppm):
Should conc. (ppm):	Pass
Vapour point conc. (ppm):	YES / NO

Vacuum test passed:	YES / NO
Moisture observed in tube:	YES / NO

PID (background)	PID (pre-sampling)	PID (post-sampling)

	CH4	CO2	O2	H2S	CO	Barometric pressure
units						
Ambient Air (prior to sampling):						
Soil Gas (during purging - stabilised):						
Soil Gas (following sampling):						
Ambient Air (post sampling):						

Weather conditions (e.g. cloudy, sunny, windy etc)
--

Observations / comments	Duplicate details:
<i>Vacuum > 25psi</i>	Canister No:
	Restrictor No.:
	Canister Volume:
	Flow:
	Run in parallel YES/ NO
	Initial Pressure:
	Final Pressure:
	Time on:
	Time off:
	Run time:

EQUIPMENT CERTIFICATION REPORT

PGN9003827 GAS DETECTOR – MINIRAE PHOTOIONISATION DETECTOR

Plant Number: 234963 Serial Number: 592-914209

SENSOR	CALIBRATION GAS	CONC.	TRACEABILITY	RESULT	PASS
PID	ISOBUTYLENE	100 ppm	Lot # <u>293435</u>	<u>100.2 ppm</u>	☒
PID	FRESH AIR	ZERO	NA	<u>0.0 ppm</u>	☒

Data Cleared ☒

Battery Charged ☒	6V Batt Pack Included ☒	Alkaline Batt x4 Included ☒
Temperature <u>25</u> °C	Inlet Filter Checked & x1 ☒ x2 ☐ . Supplied	

Note: Calibration traceability information is available upon request.

Always use filter/moisture trap (as provided). Please clean/decontaminate instrument and accessories before returning. A minimum 'Cleaning Fee' \$55.00 (Inc GST) may apply if instrument is returned contaminated.

Checked By: Connor Livi Date: 10 / 4 / 25 Signed: 

Accessories List:

User's Manual	Charger / Comms Adaptor	Wall Charger
2x Spare Air Filters	1x Spare Rechargeable Battery	Carry Transit Case



Make your job EASY!

135 135 | kennards.com.au

EQUIPMENT CERTIFICATION REPORT

PGN9003823 GAS ANALYSER – LANDFILL

GA5000 / GEM5000

Plant Number: 234894 Serial Number: G500158

SENSOR	CONCENTRATION	INSTRUMENT READING	TRACEABILITY	PASS
O2/Zero	Fresh air	20.9%	N/A	☒
CH4	60%	<u>N/A</u> %	Lot # <u>N/A</u>	☒
CO2	40%	<u>N/A</u> %	Lot # <u>N/A</u>	☒
O2	15%	<u>15</u> %	Lot # <u>300972</u>	☒
CO	60ppm	<u>60</u> ppm	Lot # <u>300972</u>	☒
H2S	20ppm	<u>20</u> ppm	Lot # <u>300972</u>	☒

} Awaiting new cal. gas bottle - previous cal. included.

Data Cleared ☒

Battery Status <u>Full</u> (%)	Temperature <u>27</u> °C
Electrical Test & Tag (AS/NZS 3760)	Inlet Filter Cleaned/Replaced

Note: Calibration traceability information is available upon request.

Checked By: Connor Livi Date: 10/4/25 Signed: [Signature]

Accessories List:

User's Manual & USB	1x Gas Inlet Hoses	1X Gas Inlet Hose With Filter
1x Gas Inlet Hose & Clip Fitting	2x Spare Inlet Filters	1x Flow Through Desiccant
1x Wall Charger	Carry Pouch With Neck Strap	1x USB Comms Cable
Carry Transit Case	Calibration Certificate	



Make your job EASY!

135 135 | kennards.com.au

ECHO

KENNARDS

HIRE

EQUIPMENT CERTIFICATION REPORT

PGN9003823 GAS ANALYSER - LANDFILL

GA5000 / GEM5000

Plant Number: 234894 Serial Number: 4500158

SENSOR	CONCENTRATION	INSTRUMENT READING	TRACEABILITY	PASS
O2/Zero	Fresh air	20.9%	N/A	☒
CH4	60%	60.0 %	Lot # 302-4-2360110	☒
CO2	40%	40.0 %	Lot #	☒
O2	15%	15 %	Lot # 300972	☒
CO	60ppm	60 ppm	Lot # "	☒
H2S	20ppm	20 ppm	Lot # "	☒

Data Cleared ☒

Battery Status <u>100</u> (%)	Temperature <u>22.5</u> °C
Electrical Test & Tag (AS/NZS 3760)	Inlet Filter Cleaned/Replaced

Note: Calibration traceability information is available upon request.

Checked By: EC Date: 12/3/25 Signed: [Signature]

Accessories List:

User's Manual & USB	1x Gas Inlet Hoses	1X Gas Inlet Hose With Filter
1x Gas Inlet Hose & Clip Fitting	2x Spare Inlet Filters	1x Flow Through Desiccant
1x Wall Charger	Carry Pouch With Neck Strap	1x USB Comms Cable
Carry Transit Case	Calibration Certificate	

Makes your job EASY!

135 135 | kennards.com.au

Due Feb 9th 2026.

SPX DIELECTRIC

MULTIGAS DETECTOR ATP-735 rev E Certificate of Calibration

Name: Canner Livissiaros
Company: Radiodetection Australia PTY LTD
Customer No.: 05-157100
Phone No.: +6108 8113 6900

MGD P/N: 83219

Date: February 9, 2024

SN#: 414311

Software Rev. 1.13

New: Repair: X

Work order#: 637423

SRA#: H 40829

Calibration conditions		Acceptable Range
Temperature	<u>72</u>	68-80 F
Humidity	<u>25</u>	<85%
Pump Vol.	<u>1.15 L/min</u>	.90 -1.20 l/min
Calibration point	<u>X = Complete</u>	
0%	<u>X</u>	Set point
2%	<u>X</u>	Set point
50%	<u>X</u>	Set point
100%	<u>X</u>	Set point
25 ppm (final check)	<u>X</u>	25 - 75 ppm
Attachment functionality	<u>X</u>	
Other	<u> </u>	

Note: All test equipment used in manufacturing and repair is calibrated and traceable.
Unless otherwise noted, the accuracy ratios are equal to or greater than 4:1.
Calibration Procedure used: MGD-2002 Helium Detector Calibration Procedure.

The 2% through 100% tests are performed with pre mixed (grade 5) helium with the remainder being nitrogen. Using a direct Siphon test method.

The 25ppm is performed as a final check as helium permeates a latex membrane.

The unit's upper reading limit is set at 100% a brief display of +100% is acceptable for a short duration (<10 sec) allowing for sensor stabilization.

Calibration performed by: *Due*

RADIODETECTION
26 TOWER ROAD
RAYMOND, MAINE 04071
USA

TEL: (207) 655 (8525)
TOLL FREE (877) 247 (3357)
FAX: (207) 655 (8535)

rd sales us@spr.com

www.radiodetection.com

APPENDIX E RAINFALL DATA (APRIL 2025)

Adelaide Airport, South Australia
April 2025 Daily Weather Observations

Observations are made about 1 km east of the coast.



Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C					km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Tu	14.2	25.5	0	14.0	10.8	ESE	44	00:22	18.5	49	3	WSW	9	1016.6	24.1	44	1	SW	24	1012.1
2	We	11.8	25.0	0	5.8	10.4	SSW	52	15:14	17.2	58	2	SE	2	1011.3	23.3	50	2	SW	30	1009.4
3	Th	14.1	22.8	0	5.6	6.3	S	37	10:23	17.2	72	7	SSE	13	1016.9	20.6	53	7	S	20	1017.2
4	Fr	11.2	19.4	0	3.0	2.2	SW	33	12:02	15.6	52	7	E	15	1021.5	17.3	71	7	W	13	1021.0
5	Sa	11.5	20.6	0	2.2	10.6	W	30	12:27	16.2	68	2		Calm	1024.3	19.4	50	1	WSW	20	1022.1
6	Su	11.6	22.0	0	4.0	8.8	SW	39	19:18	18.8	54	3	N	11	1020.6	20.9	56	3	WSW	15	1019.7
7	Mo	13.4	21.3	0	5.0	6.1	WSW	33	14:20	17.9	51	7	SSE	13	1025.4	20.5	46	1	SW	24	1024.1
8	Tu	11.5	20.7	0	3.8	8.5	SW	33	14:14	17.4	51	7	ENE	11	1027.0	19.6	48	1	SW	24	1023.5
9	We	13.0	23.7	0	4.0	2.4	NE	24	23:53	17.3	54	7	N	7	1023.0	21.5	50	7	N	9	1018.0
10	Th	16.4	30.1	0.4	3.0	9.0	NNW	37	11:30	23.7	31	6	NNE	19	1018.3	29.4	23	2	NNW	20	1015.7
11	Fr	16.7	28.6	0	6.4	10.5	SE	30	04:02	19.8	68	1	WSW	6	1024.2	24.8	58	1	WSW	20	1022.3
12	Sa	13.8	32.1	0	4.8	10.5	N	30	10:37	24.4	44	1	ENE	6	1025.4	29.7	28	3	WSW	15	1022.6
13	Su	17.8	33.2	0	6.8	10.6	N	37	11:43	28.2	25	1	NNE	15	1024.1	32.4	19	1	WNW	17	1021.3
14	Mo	17.6	32.6	0	6.4	10.5	NE	33	21:39	26.8	33	1	ENE	7	1023.5	29.6	28	2	SW	15	1021.0
15	Tu	18.4	32.5	0	7.2	5.9	N	37	11:37	29.1	25	6	NE	19	1021.2	27.4	33	7	SW	13	1018.0
16	We	18.7	31.4	0	5.0	10.1	N	30	10:25	26.1	34	2	NE	15	1019.2	30.1	27	1	SW	11	1016.2
17	Th	15.2	26.1	0	5.8	7.7	N	26	11:01	21.2	55	6	NE	9	1015.9	21.8	73	7	WSW	15	1012.7
18	Fr	13.9	28.0	0	2.2	7.5	SW	35	13:58	20.5	68	4	WSW	2	1011.2	25.6	57	2	SSW	9	1007.1
19	Sa	20.5	25.5	0	4.4	0.8	N	61	11:08	23.8	53	7	N	13	1005.5	23.2	60	7	NNW	35	1003.4
20	Su	14.6	18.9	0.2	4.4	3.7	WSW	57	11:32	14.9	81	7	WSW	35	1011.4	16.3	76	6	SW	39	1013.2
21	Mo	13.7	18.5	4.4	3.6	0.5	SW	46	01:58	16.7	55	7	SSW	22	1023.2	17.0	63	8	S	20	1023.9
22	Tu	14.1	20.6	0	3.2	8.7	SSE	37	11:19	16.2	66	5	SSE	15	1028.8	20.0	48	1	SE	19	1025.1
23	We	9.8	20.1	0	4.0	9.8	SW	28	12:40	17.0	68	2	ENE	13	1024.6	19.7	60	1	SW	19	1020.3
24	Th	9.4	26.1	0	3.6	9.2	N	35	11:59	18.1	57	1	NE	15	1017.7	24.7	33	6	WNW	15	1013.6
25	Fr	14.2	23.6	0	3.4	0.0	SSE	24	18:30	19.3	60	7	NE	11	1012.7	20.9	67	7	SW	11	1011.6
26	Sa	13.7	22.3	0	0.6	10.2	SW	46	14:50	18.8	72	1	SSE	17	1017.9	20.4	66	2	SW	31	1016.6
27	Su	11.3	20.5	0	4.8	7.4	SW	39	15:32	17.4	62	3	S	15	1020.7	19.3	58	7	SW	28	1018.8
28	Mo	11.5	19.5	0	3.4	7.1	WSW	28	13:37	15.9	69	7	NE	7	1021.8	18.6	70	5	WSW	20	1019.3
29	Tu	9.4	21.4	0	3.4	7.9	SW	31	14:18	16.5	73	3		Calm	1024.5	21.2	52	7	SE	17	1023.3
30	We	11.0	19.7	0	2.8	10.1	SE	41	09:59	15.5	56	2	ESE	22	1030.5	18.7	40	1	SSE	26	1029.0
Statistics for April 2025																					
Mean		13.8	24.4		4.6	7.5				19.5	55	4		12	1020.3	22.6	50	3		19	1018.1
Lowest		9.4	18.5		0.6	0.0				14.9	25	1		Calm	1005.5	16.3	19	1	#	9	1003.4
Highest		20.5	33.2	4.4	14.0	10.8	N	61		29.1	81	7	WSW	35	1030.5	32.4	76	8	SW	39	1029.0
Total				5.0	136.6	223.8															

Observations were drawn from Adelaide Airport {station 023034}
Some cloud observations are from automated equipment; these are somewhat different to those made by a human observer and may not appear every day.

**APPENDIX F NATA LABORATORY TEST CERTIFICATES – SOIL
VAPOUR**

Echo Risk Consulting
84 North Terrace
Kent Town
SA 5067



NATA Accredited
Accreditation Number 1261
Site Number 20794 & 2780

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition
Arrangement for the mutual recognition of the
equivalence of testing, medical testing, calibration,
inspection, proficiency testing scheme providers and
reference materials producers reports and certificates.

Attention: Andrew Durand

Report 1210160-TO
Project name TONSLEY RESIDENTIAL MONITORING
Project ID EC0193
Received Date Apr 16, 2025

Client Sample ID			VP12_2.5	VP12_3.8	VP12_6.0	VP27_4.5
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045190	B25-Ap0045191	B25-Ap0045192	B25-Ap0045193
Date Sampled			Apr 13, 2025	Apr 13, 2025	Apr 13, 2025	Apr 13, 2025
Receipt Vac./Pressure (inHg)			8.9	9.7	9.5	8.7
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
Dilution Factor*	0.1		2.9	6.0	120	2.9
US EPA Compendium Methods TO-15						
1.1-Dichloroethane	2	ug/m3	< 6	< 12	< 239	< 6
1.1-Dichloroethene	2	ug/m3	< 6	< 12	< 239	< 6
1.1.1-Trichloroethane	2.7	ug/m3	< 8	< 16	< 323	< 8
1.1.2-Trichloroethane	2.7	ug/m3	< 8	< 16	< 323	< 8
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 10	< 20	< 407	< 10
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 10	< 22	< 431	< 10
1.2-Dichlorobenzene	3	ug/m3	< 9	< 18	< 359	< 9
1.2-Dichloroethane	2	ug/m3	< 6	< 12	< 239	< 6
1.2-Dichloropropane	2.3	ug/m3	< 7	< 14	< 275	< 7
1.2.4-Trichlorobenzene	15	ug/m3	< 44	< 90	< 1794	< 44
1.2.4-Trimethylbenzene	2.5	ug/m3	< 7	< 15	< 299	< 7
1.3-Butadiene	2.2	ug/m3	< 6	< 13	< 263	< 6
1.3-Dichlorobenzene	3	ug/m3	< 9	< 18	< 359	< 9
1.3.5-Trimethylbenzene	2.5	ug/m3	< 7	< 15	< 299	< 7
1.4-Dichlorobenzene	3	ug/m3	< 9	< 18	< 359	< 9
1.4-Dioxane	7.2	ug/m3	< 21	< 43	< 861	< 21
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 17	< 35	< 706	< 17
2-Hexanone	8.2	ug/m3	< 24	< 49	< 981	< 24
2.2.4-Trimethylpentane	9.3	ug/m3	1100	2500	160000	< 27
3-Chloropropene	1.6	ug/m3	< 5	< 10	< 191	< 5
4-Ethyltoluene	2.5	ug/m3	< 7	< 15	< 299	< 7
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 6	< 13	< 251	< 6
Acetone	16.6	ug/m3	< 48	< 100	< 1985	< 48
Benzene	1.6	ug/m3	9.5	< 10	< 191	< 5
Bromodichloromethane	3.4	ug/m3	< 10	< 20	< 407	< 10
Bromoform	5.2	ug/m3	< 15	< 31	< 622	< 15
Bromomethane	19.4	ug/m3	< 56	< 116	< 2320	< 56
Carbon Disulfide	15.6	ug/m3	< 45	< 94	< 1866	< 45
Carbon Tetrachloride	3.1	ug/m3	< 9	< 19	< 371	< 9
Chlorobenzene	2.3	ug/m3	< 7	< 14	< 275	< 7

Client Sample ID			VP12_2.5	VP12_3.8	VP12_6.0	VP27_4.5
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045190	B25-Ap0045191	B25-Ap0045192	B25-Ap0045193
Date Sampled			Apr 13, 2025	Apr 13, 2025	Apr 13, 2025	Apr 13, 2025
Receipt Vac./Pressure (inHg)			8.9	9.7	9.5	8.7
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-15						
Chloroethane	5.3	ug/m3	< 15	< 32	< 634	< 15
Chloroform	2.4	ug/m3	< 7	< 14	< 287	50
Chloromethane	10.3	ug/m3	< 30	< 62	< 1232	< 30
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 8	< 16	< 311	< 8
cis-1.2-Dichloroethene	2	ug/m3	< 6	< 12	< 239	< 6
cis-1.3-Dichloropropene	2.3	ug/m3	< 7	< 14	< 275	< 7
Cyclohexane	3.5	ug/m3	< 10	< 21	< 419	< 10
Dibromochloromethane	4.3	ug/m3	< 12	< 26	< 514	< 12
Methylene Chloride	17.4	ug/m3	< 50	< 104	< 2081	< 50
Ethanol	9.4	ug/m3	150	< 56	< 1124	47
Ethylbenzene	2.2	ug/m3	< 6	< 13	< 263	< 6
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 8	< 17	< 335	< 8
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 11	< 23	< 454	< 11
Freon 114	3.5	ug/m3	< 10	< 21	< 419	< 10
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 7	< 15	< 299	< 7
Heptane	2.1	ug/m3	< 6	< 13	< 251	< 6
Hexachlorobutadiene	21.3	ug/m3	< 62	< 128	< 2547	< 62
Hexane	5	ug/m3	< 14	< 30	< 598	< 14
Isopropanol	50	ug/m3	< 145	< 300	< 5980	< 145
m,p-Xylene	4.4	ug/m3	13	< 26	< 526	< 13
Xylenes - Total*	6.6	ug/m3	< 19	< 40	< 789	< 19
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 21	< 43	< 861	< 21
Naphthalene	10.5	ug/m3	< 30	< 63	< 1256	< 30
o-Xylene	2.2	ug/m3	< 6	< 13	< 263	< 6
Propylene	8.6	ug/m3	< 25	< 52	< 1029	< 25
Styrene	2.1	ug/m3	< 6	< 13	< 251	< 6
Tetrachloroethene	3.4	ug/m3	< 10	< 20	< 407	< 10
Tetrahydrofuran	1.5	ug/m3	< 4	< 9	< 179	< 4
Toluene	7.5	ug/m3	37	< 45	< 897	25
trans-1.2-Dichloroethene	2	ug/m3	< 6	< 12	< 239	< 6
trans-1.3-Dichloropropene	2.3	ug/m3	< 7	< 14	< 275	< 7
Trichloroethene	2.7	ug/m3	< 8	< 16	< 323	< 8
Vinyl Acetate	7.0	ug/m3	< 20	< 42	< 837	< 20
Vinyl Chloride	2.5	ug/m3	< 7	< 15	< 299	< 7
4-Bromofluorobenzene (surr.)	1	%	72	65	79	68
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	23000	58000	2200000	< 145
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	23000	58000	2200000	< 145
>C10-C12 minus Naphthalene (mod F2)	100	ug/m3	310	< 300	27000	< 145
>C10-C12	100	ug/m3	310	< 300	27000	< 145

Client Sample ID			VP27_6.0	VP31_3.0	VP41_3.0	VP41_6.0
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045194	B25-Ap0045195	B25-Ap0045196	B25-Ap0045197
Date Sampled			Apr 13, 2025	Apr 13, 2025	Apr 13, 2025	Apr 13, 2025
Receipt Vac./Pressure (inHg)			7.4	8.6	7.7	9.6
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
Dilution Factor*	0.1		110	2.9	2.8	3.0
US EPA Compendium Methods TO-15						
1.1-Dichloroethane	2	ug/m3	< 217	< 6	< 6	110
1.1-Dichloroethene	2	ug/m3	< 217	< 6	< 6	< 6
1.1.1-Trichloroethane	2.7	ug/m3	< 293	< 8	< 8	< 8
1.1.2-Trichloroethane	2.7	ug/m3	< 293	< 8	< 8	< 8
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 369	< 10	< 10	< 10
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 390	< 10	< 10	< 11
1.2-Dichlorobenzene	3	ug/m3	< 325	< 9	< 8	< 9
1.2-Dichloroethane	2	ug/m3	< 217	< 6	< 6	160
1.2-Dichloropropane	2.3	ug/m3	< 249	< 7	< 6	< 7
1.2.4-Trichlorobenzene	15	ug/m3	< 1626	< 44	< 42	< 45
1.2.4-Trimethylbenzene	2.5	ug/m3	< 271	< 7	19	19
1.3-Butadiene	2.2	ug/m3	< 238	< 6	< 6	< 7
1.3-Dichlorobenzene	3	ug/m3	< 325	< 9	< 8	63
1.3.5-Trimethylbenzene	2.5	ug/m3	< 271	< 7	9.0	< 8
1.4-Dichlorobenzene	3	ug/m3	< 325	< 9	< 8	< 9
1.4-Dioxane	7.2	ug/m3	< 780	< 21	< 20	< 22
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 640	< 17	< 17	< 18
2-Hexanone	8.2	ug/m3	< 889	< 24	< 23	< 25
2.2.4-Trimethylpentane	9.3	ug/m3	110000	< 27	< 26	2400
3-Chloropropene	1.6	ug/m3	< 173	< 5	< 4	< 5
4-Ethyltoluene	2.5	ug/m3	< 271	< 7	< 7	< 8
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 228	< 6	< 6	< 6
Acetone	16.6	ug/m3	< 1799	66	< 46	< 50
Benzene	1.6	ug/m3	< 173	< 5	26	< 5
Bromodichloromethane	3.4	ug/m3	< 369	< 10	< 10	< 10
Bromoform	5.2	ug/m3	< 564	< 15	< 15	< 16
Bromomethane	19.4	ug/m3	< 2103	< 56	< 54	< 58
Carbon Disulfide	15.6	ug/m3	< 1691	< 45	< 44	< 47
Carbon Tetrachloride	3.1	ug/m3	< 336	< 9	< 9	< 9
Chlorobenzene	2.3	ug/m3	< 249	< 7	< 6	< 7
Chloroethane	5.3	ug/m3	< 575	< 15	< 15	< 16
Chloroform	2.4	ug/m3	< 260	< 7	< 7	< 7
Chloromethane	10.3	ug/m3	< 1117	< 30	< 29	< 31
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 282	< 8	< 7	< 8
cis-1.2-Dichloroethene	2	ug/m3	< 217	< 6	< 6	< 6
cis-1.3-Dichloropropene	2.3	ug/m3	< 249	< 7	< 6	< 7
Cyclohexane	3.5	ug/m3	< 379	< 10	< 10	< 10
Dibromochloromethane	4.3	ug/m3	< 466	< 12	< 12	< 13
Methylene Chloride	17.4	ug/m3	< 1886	< 50	< 49	< 52
Ethanol	9.4	ug/m3	< 1019	< 27	< 26	< 28
Ethylbenzene	2.2	ug/m3	< 238	< 6	< 6	23
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 304	< 8	< 8	< 8
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 412	< 11	< 11	< 11
Freon 114	3.5	ug/m3	< 379	< 10	< 10	< 10

Client Sample ID			VP27_6.0	VP31_3.0	VP41_3.0	VP41_6.0
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045194	B25-Ap0045195	B25-Ap0045196	B25-Ap0045197
Date Sampled			Apr 13, 2025	Apr 13, 2025	Apr 13, 2025	Apr 13, 2025
Receipt Vac./Pressure (inHg)			7.4	8.6	7.7	9.6
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-15						
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 271	< 7	< 7	< 8
Heptane	2.1	ug/m3	< 228	< 6	< 6	< 6
Hexachlorobutadiene	21.3	ug/m3	< 2309	< 62	< 60	< 64
Hexane	5	ug/m3	< 542	< 14	< 14	< 15
Isopropanol	50	ug/m3	< 5420	< 145	< 140	< 150
m,p-Xylene	4.4	ug/m3	< 477	< 13	16	16
Xylenes - Total*	6.6	ug/m3	< 715	< 19	< 18	< 20
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 780	< 21	< 20	< 22
Naphthalene	10.5	ug/m3	< 1138	< 30	< 29	< 32
o-Xylene	2.2	ug/m3	< 238	< 6	< 6	< 7
Propylene	8.6	ug/m3	< 932	< 25	25	< 26
Styrene	2.1	ug/m3	< 228	< 6	< 6	< 6
Tetrachloroethene	3.4	ug/m3	< 369	< 10	< 10	< 10
Tetrahydrofuran	1.5	ug/m3	< 163	< 4	< 4	< 4
Toluene	7.5	ug/m3	< 813	< 22	< 21	< 22
trans-1,2-Dichloroethene	2	ug/m3	< 217	< 6	< 6	< 6
trans-1,3-Dichloropropene	2.3	ug/m3	< 249	< 7	< 6	< 7
Trichloroethene	2.7	ug/m3	< 293	< 8	< 8	< 8
Vinyl Acetate	7.0	ug/m3	< 759	< 20	< 20	< 21
Vinyl Chloride	2.5	ug/m3	< 271	< 7	< 7	< 8
4-Bromofluorobenzene (surr.)	1	%	82	72	81	82
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	2960000	< 145	40000	120000
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	2960000	< 145	40000	120000
>C10-C12 minus Naphthalene (mod F2)	100	ug/m3	420000	< 145	14000	44000
>C10-C12	100	ug/m3	420000	< 145	14000	44000

Client Sample ID			VP42_4.5	VP42_6.0	VP45_3.7	VP45A_2.3
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045198	B25-Ap0045199	B25-Ap0045200	B25-Ap0045201
Date Sampled			Apr 13, 2025	Apr 13, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			11	8.3	9.5	7.7
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
Dilution Factor*	0.1		3.2	2.8	3.0	2.7
US EPA Compendium Methods TO-15						
1,1-Dichloroethane	2	ug/m3	25	47	< 6	< 5
1,1-Dichloroethene	2	ug/m3	< 6	< 6	< 6	< 5
1,1,1-Trichloroethane	2.7	ug/m3	< 9	< 8	< 8	< 7
1,1,1,2-Tetrachloroethane	2.7	ug/m3	< 9	< 8	< 8	< 7
1,1,1,2,2-Tetrachloroethane	3.4	ug/m3	< 11	< 10	< 10	< 9
1,2-Dibromoethane (EDB)	3.6	ug/m3	< 12	< 10	< 11	< 10

Client Sample ID			VP42_4.5	VP42_6.0	VP45_3.7	VP45A_2.3
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045198	B25-Ap0045199	B25-Ap0045200	B25-Ap0045201
Date Sampled			Apr 13, 2025	Apr 13, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			11	8.3	9.5	7.7
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-15						
1.2-Dichlorobenzene	3	ug/m3	< 10	< 8	< 9	< 8
1.2-Dichloroethane	2	ug/m3	< 6	< 6	< 6	< 5
1.2-Dichloropropane	2.3	ug/m3	< 7	< 6	< 7	< 6
1.2.4-Trichlorobenzene	15	ug/m3	< 48	< 42	< 45	< 40
1.2.4-Trimethylbenzene	2.5	ug/m3	< 8	< 7	< 8	< 7
1.3-Butadiene	2.2	ug/m3	< 7	< 6	< 7	< 6
1.3-Dichlorobenzene	3	ug/m3	< 10	< 8	< 9	< 8
1.3.5-Trimethylbenzene	2.5	ug/m3	< 8	< 7	< 8	< 7
1.4-Dichlorobenzene	3	ug/m3	< 10	< 8	< 9	< 8
1.4-Dioxane	7.2	ug/m3	< 23	< 20	< 22	< 19
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 19	< 17	< 18	< 16
2-Hexanone	8.2	ug/m3	< 26	< 23	< 25	< 22
2.2.4-Trimethylpentane	9.3	ug/m3	200	< 26	< 28	< 25
3-Chloropropene	1.6	ug/m3	< 5	< 4	< 5	< 4
4-Ethyltoluene	2.5	ug/m3	< 8	< 7	< 8	< 7
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 7	< 6	< 6	< 6
Acetone	16.6	ug/m3	< 53	< 46	51	67
Benzene	1.6	ug/m3	< 5	< 4	< 5	33
Bromodichloromethane	3.4	ug/m3	< 11	< 10	< 10	< 9
Bromoform	5.2	ug/m3	< 17	< 15	< 16	< 14
Bromomethane	19.4	ug/m3	< 62	< 54	< 58	< 52
Carbon Disulfide	15.6	ug/m3	< 50	< 44	< 47	< 42
Carbon Tetrachloride	3.1	ug/m3	< 10	< 9	< 9	< 8
Chlorobenzene	2.3	ug/m3	< 7	< 6	< 7	< 6
Chloroethane	5.3	ug/m3	< 17	< 15	< 16	< 14
Chloroform	2.4	ug/m3	< 8	< 7	< 7	< 6
Chloromethane	10.3	ug/m3	< 33	< 29	< 31	< 28
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 8	< 7	< 8	< 7
cis-1.2-Dichloroethene	2	ug/m3	< 6	< 6	< 6	< 5
cis-1.3-Dichloropropene	2.3	ug/m3	< 7	< 6	< 7	< 6
Cyclohexane	3.5	ug/m3	< 11	< 10	< 10	< 9
Dibromochloromethane	4.3	ug/m3	< 14	< 12	< 13	< 12
Methylene Chloride	17.4	ug/m3	< 56	< 49	< 52	< 47
Ethanol	9.4	ug/m3	< 30	< 26	120	< 25
Ethylbenzene	2.2	ug/m3	< 7	30	< 7	< 6
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 9	< 8	< 8	< 8
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 12	< 11	< 11	< 10
Freon 114	3.5	ug/m3	< 11	< 10	< 10	< 9
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 8	< 7	< 8	< 7
Heptane	2.1	ug/m3	< 7	< 6	< 6	< 6
Hexachlorobutadiene	21.3	ug/m3	< 68	< 60	< 64	< 58
Hexane	5	ug/m3	< 16	< 14	< 15	< 14
Isopropanol	50	ug/m3	< 160	< 140	< 150	1400
m,p-Xylene	4.4	ug/m3	< 14	170	21	< 12
Xylenes - Total*	6.6	ug/m3	< 21	220	21	< 18
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 23	< 20	< 22	< 19

Client Sample ID			VP42_4.5	VP42_6.0	VP45_3.7	VP45A_2.3
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045198	B25-Ap0045199	B25-Ap0045200	B25-Ap0045201
Date Sampled			Apr 13, 2025	Apr 13, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			11	8.3	9.5	7.7
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-15						
Naphthalene	10.5	ug/m3	< 34	< 29	< 32	< 28
o-Xylene	2.2	ug/m3	< 7	54	< 7	< 6
Propylene	8.6	ug/m3	30	< 24	< 26	< 23
Styrene	2.1	ug/m3	< 7	< 6	< 6	< 6
Tetrachloroethene	3.4	ug/m3	< 11	< 10	< 10	< 9
Tetrahydrofuran	1.5	ug/m3	< 5	< 4	< 4	< 4
Toluene	7.5	ug/m3	< 24	< 21	83	40
trans-1.2-Dichloroethene	2	ug/m3	< 6	< 6	< 6	< 5
trans-1.3-Dichloropropene	2.3	ug/m3	< 7	< 6	< 7	< 6
Trichloroethene	2.7	ug/m3	< 9	< 8	< 8	< 7
Vinyl Acetate	7.0	ug/m3	< 22	< 20	< 21	< 19
Vinyl Chloride	2.5	ug/m3	< 8	< 7	< 8	< 7
4-Bromofluorobenzene (surr.)	1	%	83	80	78	72
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	8700	1200	< 150	< 135
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	8700	940	< 150	< 135
>C10-C12 minus Naphthalene (mod F2)	100	ug/m3	1600	610	580	< 135
>C10-C12	100	ug/m3	1600	610	580	< 135

Client Sample ID			VP46A_2.3	VP49_3.7	VP50_3.7	VP51_3.7
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045202	B25-Ap0045203	B25-Ap0045204	B25-Ap0045205
Date Sampled			Apr 14, 2025	Apr 14, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			7.3	8.3	8.0	12
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
Dilution Factor*	0.1		2.7	2.8	2.8	3.4
US EPA Compendium Methods TO-15						
1.1-Dichloroethane	2	ug/m3	< 5	< 6	< 6	< 7
1.1-Dichloroethene	2	ug/m3	< 5	13	< 6	< 7
1.1.1-Trichloroethane	2.7	ug/m3	< 7	< 8	< 8	< 9
1.1.2-Trichloroethane	2.7	ug/m3	< 7	< 8	< 8	< 9
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 9	< 10	< 10	< 12
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 10	< 10	< 10	< 12
1.2-Dichlorobenzene	3	ug/m3	< 8	< 8	< 8	< 10
1.2-Dichloroethane	2	ug/m3	< 5	< 6	< 6	< 7
1.2-Dichloropropane	2.3	ug/m3	< 6	< 6	< 6	< 8
1.2.4-Trichlorobenzene	15	ug/m3	< 40	< 42	< 42	< 51
1.2.4-Trimethylbenzene	2.5	ug/m3	< 7	14	< 7	< 8
1.3-Butadiene	2.2	ug/m3	< 6	< 6	< 6	< 7
1.3-Dichlorobenzene	3	ug/m3	< 8	< 8	< 8	< 10
1.3.5-Trimethylbenzene	2.5	ug/m3	< 7	< 7	< 7	< 8

Client Sample ID			VP46A_2.3	VP49_3.7	VP50_3.7	VP51_3.7
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045202	B25-Ap0045203	B25-Ap0045204	B25-Ap0045205
Date Sampled			Apr 14, 2025	Apr 14, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			7.3	8.3	8.0	12
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-15						
1,4-Dichlorobenzene	3	ug/m3	< 8	< 8	< 8	< 10
1,4-Dioxane	7.2	ug/m3	< 19	< 20	< 20	< 24
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 16	< 17	< 17	< 20
2-Hexanone	8.2	ug/m3	< 22	< 23	< 23	< 28
2,2,4-Trimethylpentane	9.3	ug/m3	< 25	1200	< 26	< 32
3-Chloropropene	1.6	ug/m3	< 4	< 4	< 4	< 5
4-Ethyltoluene	2.5	ug/m3	< 7	< 7	< 7	< 8
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 6	< 6	< 6	< 7
Acetone	16.6	ug/m3	< 45	< 46	< 46	69
Benzene	1.6	ug/m3	< 4	23	29	35
Bromodichloromethane	3.4	ug/m3	< 9	< 10	< 10	< 12
Bromoform	5.2	ug/m3	< 14	< 15	< 15	< 18
Bromomethane	19.4	ug/m3	< 52	< 54	< 54	< 66
Carbon Disulfide	15.6	ug/m3	< 42	< 44	< 44	100
Carbon Tetrachloride	3.1	ug/m3	< 8	< 9	< 9	< 11
Chlorobenzene	2.3	ug/m3	< 6	< 6	< 6	< 8
Chloroethane	5.3	ug/m3	< 14	< 15	< 15	< 18
Chloroform	2.4	ug/m3	< 6	< 7	< 7	< 8
Chloromethane	10.3	ug/m3	< 28	< 29	< 29	< 35
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 7	< 7	< 7	< 9
cis-1,2-Dichloroethene	2	ug/m3	< 5	< 6	< 6	< 7
cis-1,3-Dichloropropene	2.3	ug/m3	< 6	< 6	< 6	< 8
Cyclohexane	3.5	ug/m3	< 9	< 10	< 10	< 12
Dibromochloromethane	4.3	ug/m3	< 12	< 12	< 12	< 15
Methylene Chloride	17.4	ug/m3	< 47	< 49	< 49	< 59
Ethanol	9.4	ug/m3	< 25	< 26	< 26	< 32
Ethylbenzene	2.2	ug/m3	< 6	< 6	39	< 7
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 8	< 8	< 8	< 10
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 10	< 11	< 11	< 13
Freon 114	3.5	ug/m3	< 9	< 10	< 10	< 12
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 7	< 7	< 7	< 8
Heptane	2.1	ug/m3	< 6	< 6	< 6	< 7
Hexachlorobutadiene	21.3	ug/m3	< 58	< 60	< 60	< 72
Hexane	5	ug/m3	< 14	< 14	< 14	< 17
Isopropanol	50	ug/m3	< 135	< 140	< 140	< 170
m,p-Xylene	4.4	ug/m3	< 12	18	150	< 15
Xylenes - Total*	6.6	ug/m3	< 18	< 18	200	< 22
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 19	< 20	< 20	< 24
Naphthalene	10.5	ug/m3	< 28	< 29	< 29	< 36
o-Xylene	2.2	ug/m3	< 6	< 6	46	< 7
Propylene	8.6	ug/m3	< 23	< 24	< 24	75
Styrene	2.1	ug/m3	< 6	< 6	< 6	< 7
Tetrachloroethene	3.4	ug/m3	< 9	< 10	< 10	< 12
Tetrahydrofuran	1.5	ug/m3	< 4	< 4	< 4	< 5
Toluene	7.5	ug/m3	< 20	35	220	< 26
trans-1,2-Dichloroethene	2	ug/m3	< 5	< 6	< 6	< 7

Client Sample ID			VP46A_2.3	VP49_3.7	VP50_3.7	VP51_3.7
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045202	B25-Ap0045203	B25-Ap0045204	B25-Ap0045205
Date Sampled			Apr 14, 2025	Apr 14, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			7.3	8.3	8.0	12
Final Pressure (psi)			15	15	15	15
Test/Reference	LOR	Unit				
US EPA Compendium Methods TO-15						
trans-1,3-Dichloropropene	2.3	ug/m3	< 6	< 6	< 6	< 8
Trichloroethene	2.7	ug/m3	51	< 8	< 8	< 9
Vinyl Acetate	7.0	ug/m3	< 19	< 20	< 20	< 24
Vinyl Chloride	2.5	ug/m3	< 7	< 7	< 7	< 8
4-Bromofluorobenzene (surr.)	1	%	71	75	73	71
CRC CARE TR 23 PVI						
>C6-C10	100	ug/m3	< 135	17000	< 140	19000
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	< 135	17000	< 140	19000
>C10-C12 minus Naphthalene (mod F2)	100	ug/m3	< 135	390	360	1700
>C10-C12	100	ug/m3	< 135	390	360	1700

Client Sample ID			QV1	QV3	QV5
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045206	B25-Ap0045207	B25-Ap0045208
Date Sampled			Apr 14, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			9.7	7.6	8.0
Final Pressure (psi)			15	15	15
Test/Reference	LOR	Unit			
Dilution Factor*	0.1		6.0	2.7	2.8
US EPA Compendium Methods TO-15					
1.1-Dichloroethane	2	ug/m3	< 12	< 5	< 6
1.1-Dichloroethene	2	ug/m3	< 12	< 5	< 6
1.1.1-Trichloroethane	2.7	ug/m3	< 16	< 7	< 8
1.1.2-Trichloroethane	2.7	ug/m3	< 16	< 7	< 8
1.1.2.2-Tetrachloroethane	3.4	ug/m3	< 20	< 9	< 10
1.2-Dibromoethane (EDB)	3.6	ug/m3	< 22	< 10	< 10
1.2-Dichlorobenzene	3	ug/m3	< 18	< 8	< 8
1.2-Dichloroethane	2	ug/m3	< 12	< 5	< 6
1.2-Dichloropropane	2.3	ug/m3	< 14	< 6	< 6
1.2.4-Trichlorobenzene	15	ug/m3	< 90	< 40	< 42
1.2.4-Trimethylbenzene	2.5	ug/m3	< 15	< 7	< 7
1.3-Butadiene	2.2	ug/m3	< 13	< 6	< 6
1.3-Dichlorobenzene	3	ug/m3	< 18	< 8	< 8
1.3.5-Trimethylbenzene	2.5	ug/m3	< 15	< 7	< 7
1.4-Dichlorobenzene	3	ug/m3	< 18	< 8	< 8
1.4-Dioxane	7.2	ug/m3	< 43	< 19	< 20
2-Butanone (Methyl Ethyl Ketone)	5.9	ug/m3	< 35	< 16	< 17
2-Hexanone	8.2	ug/m3	< 49	< 22	< 23
2.2.4-Trimethylpentane	9.3	ug/m3	2300	< 25	< 26
3-Chloropropene	1.6	ug/m3	< 10	< 4	< 4
4-Ethyltoluene	2.5	ug/m3	< 15	< 7	< 7
4-Methyl-2-Pentanone (MIBK)	2.1	ug/m3	< 13	< 6	< 6

Client Sample ID			QV1	QV3	QV5
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045206	B25-Ap0045207	B25-Ap0045208
Date Sampled			Apr 14, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			9.7	7.6	8.0
Final Pressure (psi)			15	15	15
Test/Reference	LOR	Unit			
US EPA Compendium Methods TO-15					
Acetone	16.6	ug/m3	< 100	< 45	< 46
Benzene	1.6	ug/m3	< 10	< 4	< 4
Bromodichloromethane	3.4	ug/m3	< 20	< 9	< 10
Bromoform	5.2	ug/m3	< 31	< 14	< 15
Bromomethane	19.4	ug/m3	< 116	< 52	< 54
Carbon Disulfide	15.6	ug/m3	< 94	< 42	< 44
Carbon Tetrachloride	3.1	ug/m3	< 19	< 8	< 9
Chlorobenzene	2.3	ug/m3	< 14	< 6	< 6
Chloroethane	5.3	ug/m3	< 32	< 14	< 15
Chloroform	2.4	ug/m3	< 14	< 6	< 7
Chloromethane	10.3	ug/m3	< 62	< 28	< 29
Chlorotoluene (Benzyl Chloride)	2.6	ug/m3	< 16	< 7	< 7
cis-1.2-Dichloroethene	2	ug/m3	< 12	< 5	< 6
cis-1.3-Dichloropropene	2.3	ug/m3	< 14	< 6	< 6
Cyclohexane	3.5	ug/m3	< 21	< 9	< 10
Dibromochloromethane	4.3	ug/m3	< 26	< 12	< 12
Methylene Chloride	17.4	ug/m3	< 104	< 47	< 49
Ethanol	9.4	ug/m3	< 56	< 25	< 26
Ethylbenzene	2.2	ug/m3	< 13	< 6	13
Freon 11 (Trichlorofluoromethane)	2.8	ug/m3	< 17	< 8	< 8
Freon 113 (Trichlorotrifluoroethane)	3.8	ug/m3	< 23	< 10	< 11
Freon 114	3.5	ug/m3	< 21	< 9	< 10
Freon 12 (Dichlorodifluoromethane)	2.5	ug/m3	< 15	< 7	< 7
Heptane	2.1	ug/m3	< 13	< 6	< 6
Hexachlorobutadiene	21.3	ug/m3	< 128	< 58	< 60
Hexane	5	ug/m3	< 30	< 14	< 14
Isopropanol	50	ug/m3	740	560	< 140
m,p-Xylene	4.4	ug/m3	< 26	< 12	17
Xylenes - Total*	6.6	ug/m3	< 40	< 18	< 18
Methyl t-Butyl Ether (MTBE)	7.2	ug/m3	< 43	< 19	< 20
Naphthalene	10.5	ug/m3	< 63	< 28	< 29
o-Xylene	2.2	ug/m3	< 13	< 6	< 6
Propylene	8.6	ug/m3	< 52	< 23	< 24
Styrene	2.1	ug/m3	< 13	< 6	< 6
Tetrachloroethene	3.4	ug/m3	< 20	< 9	< 10
Tetrahydrofuran	1.5	ug/m3	< 9	< 4	< 4
Toluene	7.5	ug/m3	< 45	< 20	< 21
trans-1.2-Dichloroethene	2	ug/m3	< 12	< 5	< 6
trans-1.3-Dichloropropene	2.3	ug/m3	< 14	< 6	< 6
Trichloroethene	2.7	ug/m3	< 16	< 7	< 8
Vinyl Acetate	7.0	ug/m3	< 42	< 19	< 20
Vinyl Chloride	2.5	ug/m3	< 15	< 7	< 7
4-Bromofluorobenzene (surr.)	1	%	70	73	71

Client Sample ID			QV1	QV3	QV5
Sample Matrix			1L Passivated Canister	1L Passivated Canister	1L Passivated Canister
Eurofins Sample No.			B25-Ap0045206	B25-Ap0045207	B25-Ap0045208
Date Sampled			Apr 14, 2025	Apr 14, 2025	Apr 14, 2025
Receipt Vac./Pressure (inHg)			9.7	7.6	8.0
Final Pressure (psi)			15	15	15
Test/Reference	LOR	Unit			
CRC CARE TR 23 PVI					
>C6-C10	100	ug/m3	59000	< 135	< 140
>C6-C10 TRH minus BTEX (F1)	100	ug/m3	59000	< 135	< 140
>C10-C12 minus Naphthalene (mod F2)	100	ug/m3	< 300	1400	< 140
>C10-C12	100	ug/m3	< 300	1400	< 140

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
US EPA Compendium Methods TO-15	Brisbane	Apr 16, 2025	30 Days
- Method: SOP #6 Analysis of Volatile Organic Compounds in Summa Polished Canisters EPA Method TO-15 And Modified EPA Method TO-14A			
CRC CARE TR 23 PVI	Brisbane	Apr 16, 2025	N/A
- Method: SOP #111 TPH, NMOC, and TVH Hydrocarbon Fractionation Calculations from EPA Methods TO-14A/TO-15			



web: www.eurofins.com.au

email: EnviroSales@eurofinsanz.com

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
---	--	--	--	--	--

Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554
--

Auckland 35 O'Rorke Road Penrose Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) Unit C1/4 Pacific Rise Mount Wellington Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road Gate Pa Tauranga 3112 +64 9 525 0568 IANZ# 1402
--	--	---	--

Company Name: Echo Risk Consulting
Address: 84 North Terrace
Kent Town
SA 5067

Project Name: TONSLEY RESIDENTIAL MONITORING
Project ID: EC0193

Order No.: EC0193
Report #: 1210160
Phone: 0414 496 402
Fax:

Received: Apr 16, 2025 9:45 AM
Due: May 6, 2025
Priority: 10 Day
Contact Name: Andrew Durand

Eurofins Analytical Services Manager : Karl Bulow

Sample Detail						Canister Certification and Supply fee	Dilution Factor*	Final Pressure (psi)*	Receipt Vac./Pressure (in Hg)*	AirToxics Extended Suite 2: US EPA Compendium Methods TO-14a TO-15/CRC
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X	X	X
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	VP12_2.5	Apr 13, 2025		1L Passivated Canister	B25-Ap0045190	X	X	X	X	X
2	VP12_3.8	Apr 13, 2025		1L Passivated Canister	B25-Ap0045191	X	X	X	X	X
3	VP12_6.0	Apr 13, 2025		1L Passivated Canister	B25-Ap0045192	X	X	X	X	X
4	VP27_4.5	Apr 13, 2025		1L Passivated Canister	B25-Ap0045193	X	X	X	X	X
5	VP27_6.0	Apr 13, 2025		1L Passivated Canister	B25-Ap0045194	X	X	X	X	X
6	VP31_3.0	Apr 13, 2025		1L Passivated Canister	B25-Ap0045195	X	X	X	X	X
7	VP41_3.0	Apr 13, 2025		1L Passivated Canister	B25-Ap0045196	X	X	X	X	X
8	VP41_6.0	Apr 13, 2025		1L Passivated Canister	B25-Ap0045197	X	X	X	X	X
9	VP42_4.5	Apr 13, 2025		1L Passivated	B25-Ap0045198	X	X	X	X	X



web: www.eurofins.com.au

email: EnviroSales@eurofinsanz.com

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise Mount Wellington Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road Gate Pa Tauranga 3112 +64 9 525 0568 IANZ# 1402

Company Name: Echo Risk Consulting
Address: 84 North Terrace
Kent Town
SA 5067

Project Name: TONSLEY RESIDENTIAL MONITORING
Project ID: EC0193

Order No.: EC0193
Report #: 1210160
Phone: 0414 496 402
Fax:

Received: Apr 16, 2025 9:45 AM
Due: May 6, 2025
Priority: 10 Day
Contact Name: Andrew Durand

Eurofins Analytical Services Manager : Karl Bulow

Sample Detail						Canister Certification and Supply fee	Dilution Factor*	Final Pressure (psi)*	Receipt Vac./Pressure (in Hg)*	AirToxics Extended Suite 2: US EPA Compendium Methods TO-14a TO-15/CRC
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X	X	X
				Canister						
10	VP42_6.0	Apr 13, 2025		1L Passivated Canister	B25-Ap0045199	X	X	X	X	X
11	VP45_3.7	Apr 14, 2025		1L Passivated Canister	B25-Ap0045200	X	X	X	X	X
12	VP45A_2.3	Apr 14, 2025		1L Passivated Canister	B25-Ap0045201	X	X	X	X	X
13	VP46A_2.3	Apr 14, 2025		1L Passivated Canister	B25-Ap0045202	X	X	X	X	X
14	VP49_3.7	Apr 14, 2025		1L Passivated Canister	B25-Ap0045203	X	X	X	X	X
15	VP50_3.7	Apr 14, 2025		1L Passivated Canister	B25-Ap0045204	X	X	X	X	X
16	VP51_3.7	Apr 14, 2025		1L Passivated Canister	B25-Ap0045205	X	X	X	X	X
17	QV1	Apr 14, 2025		1L Passivated Canister	B25-Ap0045206	X	X	X	X	X
18	QV3	Apr 14, 2025		1L Passivated Canister	B25-Ap0045207	X	X	X	X	X
19	QV5	Apr 14, 2025		1L Passivated	B25-Ap0045208	X	X	X	X	X



web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise Mount Wellington Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road Gate Pa Tauranga 3112 +64 9 525 0568 IANZ# 1402

Company Name:

Address:

Project Name:

Project ID:

Echo Risk Consulting

84 North Terrace

Kent Town

SA 5067

TONSLEY RESIDENTIAL MONITORING

EC0193

Order No.:

Report #:

Phone:

Fax:

EC0193

1210160

0414 496 402

Received:

Due:

Priority:

Contact Name:

Apr 16, 2025 9:45 AM

May 6, 2025

10 Day

Andrew Durand

Eurofins Analytical Services Manager : Karl Bulow

Sample Detail						Canister Certification and Supply fee	Dilution Factor*	Final Pressure (psi)*	Receipt Vac./Pressure (in Hg)*	AirToxics Extended Suite 2: US EPA Compendium Methods TO-14a TO-15/CRC
Brisbane Laboratory - NATA # 1261 Site # 20794 & 2780						X	X	X	X	X
19	QV5	Apr 14, 2025		1L Passivated Canister	B25-Ap0045208					
20	1L0015	Apr 14, 2025		1L Passivated Canister	B25-Ap0045209	X				
21	1L0111	Apr 14, 2025		1L Passivated Canister	B25-Ap0045210	X				
Test Counts						21	19	19	19	19

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. Dilutions are performed on samples due to the presence of high level target species or the presence of high level non-target species.
3. Results are uncorrected for surrogate recoveries.
4. All QC limit exceedances and affected sample results are noted by flags. Each qualifying flag is defined below in section entitled 'Definition of Data Qualifying Flags' and additionally on individual sample results (where relevant).
5. "100% certification" is defined as evaluating the sampling system with humid zero air/N₂ and humid calibration gases that pass through all active components of the sampling system. The system is "100% certified" if no significant additions or deletions (less than 0.2 ppbv each of target compounds) have occurred when challenged with the test gas stream.
6. The conversion equation from ppbv to g/m³ uses a temperature of 25 °C and an ambient sea level atmospheric pressure of 1 atmosphere (101.325 kPa) is assumed.
7. All canister samples are only analysed once temperature equilibrium with the laboratory has been achieved.
8. Safe Sampling Volume (SSV) - calculated by taking two-thirds of the breakthrough volume (direct method) and Appendix 1 of Method T0-17.
9. Samples were analysed on an 'as received' basis.
10. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
11. This report replaces any interim results previously issued.

Definition of Data Qualifying Flags

Qualifiers may have been used on the data analysis sheets and indicates as follows:

- A01 Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
- A02 Estimated value.
- A03 Exceeds instrument calibration range.
- A04 Saturated peak.
- A05 Exceeds quality control limits.
- A06 Compound analysed for but not detected above the Limit of Reporting (LOR). See data page for project specific U-flag definition.
- A07 Non-detected compound associated with low bias in the CCV.
- A08 The identification is based on presumptive evidence.
- A09 SSV has been exceeded for this compound. It is likely that this compound has been underestimated.
- A10 LORs cited do not take into account sample dilution due to canister pressurisation.
- A11 Naphthalene elutes outside the >C10-C12 range on the system used for sample analysis. As a result, >C10-C12 TRH value is equivalent to the modified F2 value.

Holding Times

Under conditions of normal usage for sampling ambient air, most Volatile Organic Compounds (VOCs) can be recovered from canisters near their original concentrations after storage times of up to thirty days. For thermal desorption tubes (TDT) samples should be refrigerated at <4°C in a clean environment during storage and analysed within 30 days of sample collection (within one week for limonene, carene, bis-chloromethyl ether and labile sulfur or nitrogen containing volatiles).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

ppbv: parts per billion by volume

kPa: kilopascal

ug/m³: micrograms per cubic metre

psig: pounds per square inch gauge

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
US EPA Compendium Methods TO-15							
1.1-Dichloroethane	ug/m3	< 2			2	Pass	
1.1-Dichloroethene	ug/m3	< 2			2	Pass	
1.1.1-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2.2-Tetrachloroethane	ug/m3	< 3.4			3.4	Pass	
1.2-Dibromoethane (EDB)	ug/m3	< 3.6			3.6	Pass	
1.2-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.2-Dichloroethane	ug/m3	< 2			2	Pass	
1.2-Dichloropropane	ug/m3	< 2.3			2.3	Pass	
1.2.4-Trichlorobenzene	ug/m3	< 15			15	Pass	
1.2.4-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.3-Butadiene	ug/m3	< 2.2			2.2	Pass	
1.3-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.3.5-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.4-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.4-Dioxane	ug/m3	< 7.2			7.2	Pass	
2-Butanone (Methyl Ethyl Ketone)	ug/m3	< 5.9			5.9	Pass	
2-Hexanone	ug/m3	< 8.2			8.2	Pass	
2.2.4-Trimethylpentane	ug/m3	< 9.3			9.3	Pass	
3-Chloropropene	ug/m3	< 1.6			1.6	Pass	
4-Ethyltoluene	ug/m3	< 2.5			2.5	Pass	
4-Methyl-2-Pentanone (MIBK)	ug/m3	< 2.1			2.1	Pass	
Acetone	ug/m3	< 16.6			16.6	Pass	
Benzene	ug/m3	< 1.6			1.6	Pass	
Bromodichloromethane	ug/m3	< 3.4			3.4	Pass	
Bromoform	ug/m3	< 5.2			5.2	Pass	
Bromomethane	ug/m3	< 19.4			19.4	Pass	
Carbon Disulfide	ug/m3	< 15.6			15.6	Pass	
Carbon Tetrachloride	ug/m3	< 3.1			3.1	Pass	
Chlorobenzene	ug/m3	< 2.3			2.3	Pass	
Chloroethane	ug/m3	< 5.3			5.3	Pass	
Chloroform	ug/m3	< 2.4			2.4	Pass	
Chloromethane	ug/m3	< 10.3			10.3	Pass	
Chlorotoluene (Benzyl Chloride)	ug/m3	< 2.6			2.6	Pass	
cis-1.2-Dichloroethene	ug/m3	< 2			2	Pass	
cis-1.3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Cyclohexane	ug/m3	< 3.5			3.5	Pass	
Dibromochloromethane	ug/m3	< 4.3			4.3	Pass	
Methylene Chloride	ug/m3	< 17.4			17.4	Pass	
Ethanol	ug/m3	< 9.4			9.4	Pass	
Ethylbenzene	ug/m3	< 2.2			2.2	Pass	
Freon 11 (Trichlorofluoromethane)	ug/m3	< 2.8			2.8	Pass	
Freon 113 (Trichlorotrifluoroethane)	ug/m3	< 3.8			3.8	Pass	
Freon 114	ug/m3	< 3.5			3.5	Pass	
Freon 12 (Dichlorodifluoromethane)	ug/m3	< 2.5			2.5	Pass	
Heptane	ug/m3	< 2.1			2.1	Pass	
Hexachlorobutadiene	ug/m3	< 21.3			21.3	Pass	
Hexane	ug/m3	< 5			5	Pass	
Isopropanol	ug/m3	< 50			50	Pass	
m,p-Xylene	ug/m3	< 4.4			4.4	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total*	ug/m3	< 6.6			6.6	Pass	
Methyl t-Butyl Ether (MTBE)	ug/m3	< 7.2			7.2	Pass	
Naphthalene	ug/m3	< 10.5			10.5	Pass	
o-Xylene	ug/m3	< 2.2			2.2	Pass	
Propylene	ug/m3	< 8.6			8.6	Pass	
Styrene	ug/m3	< 2.1			2.1	Pass	
Tetrachloroethene	ug/m3	< 3.4			3.4	Pass	
Tetrahydrofuran	ug/m3	< 1.5			1.5	Pass	
Toluene	ug/m3	< 7.5			7.5	Pass	
trans-1,2-Dichloroethene	ug/m3	< 2			2	Pass	
trans-1,3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Trichloroethene	ug/m3	< 2.7			2.7	Pass	
Vinyl Acetate	ug/m3	< 7			7.0	Pass	
Vinyl Chloride	ug/m3	< 2.5			2.5	Pass	
Method Blank							
US EPA Compendium Methods TO-15							
1.1-Dichloroethane	ug/m3	< 2			2	Pass	
1.1-Dichloroethene	ug/m3	< 2			2	Pass	
1.1.1-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2.2-Tetrachloroethane	ug/m3	< 3.4			3.4	Pass	
1.2-Dibromoethane (EDB)	ug/m3	< 3.6			3.6	Pass	
1.2-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.2-Dichloroethane	ug/m3	< 2			2	Pass	
1.2-Dichloropropane	ug/m3	< 2.3			2.3	Pass	
1.2.4-Trichlorobenzene	ug/m3	< 15			15	Pass	
1.2.4-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.3-Butadiene	ug/m3	< 2.2			2.2	Pass	
1.3-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.3.5-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.4-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.4-Dioxane	ug/m3	< 7.2			7.2	Pass	
2-Butanone (Methyl Ethyl Ketone)	ug/m3	< 5.9			5.9	Pass	
2-Hexanone	ug/m3	< 8.2			8.2	Pass	
2.2.4-Trimethylpentane	ug/m3	< 9.3			9.3	Pass	
3-Chloropropene	ug/m3	< 1.6			1.6	Pass	
4-Ethyltoluene	ug/m3	< 2.5			2.5	Pass	
4-Methyl-2-Pentanone (MIBK)	ug/m3	< 2.1			2.1	Pass	
Acetone	ug/m3	< 16.6			16.6	Pass	
Benzene	ug/m3	< 1.6			1.6	Pass	
Bromodichloromethane	ug/m3	< 3.4			3.4	Pass	
Bromoform	ug/m3	< 5.2			5.2	Pass	
Bromomethane	ug/m3	< 19.4			19.4	Pass	
Carbon Disulfide	ug/m3	< 15.6			15.6	Pass	
Carbon Tetrachloride	ug/m3	< 3.1			3.1	Pass	
Chlorobenzene	ug/m3	< 2.3			2.3	Pass	
Chloroethane	ug/m3	< 5.3			5.3	Pass	
Chloroform	ug/m3	< 2.4			2.4	Pass	
Chloromethane	ug/m3	< 10.3			10.3	Pass	
Chlorotoluene (Benzyl Chloride)	ug/m3	< 2.6			2.6	Pass	
cis-1,2-Dichloroethene	ug/m3	< 2			2	Pass	
cis-1,3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Cyclohexane	ug/m3	< 3.5			3.5	Pass	
Dibromochloromethane	ug/m3	< 4.3			4.3	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methylene Chloride	ug/m3	< 17.4			17.4	Pass	
Ethanol	ug/m3	< 9.4			9.4	Pass	
Ethylbenzene	ug/m3	< 2.2			2.2	Pass	
Freon 11 (Trichlorofluoromethane)	ug/m3	< 2.8			2.8	Pass	
Freon 113 (Trichlorotrifluoroethane)	ug/m3	< 3.8			3.8	Pass	
Freon 114	ug/m3	< 3.5			3.5	Pass	
Freon 12 (Dichlorodifluoromethane)	ug/m3	< 2.5			2.5	Pass	
Heptane	ug/m3	< 2.1			2.1	Pass	
Hexachlorobutadiene	ug/m3	< 21.3			21.3	Pass	
Hexane	ug/m3	< 5			5	Pass	
Isopropanol	ug/m3	< 50			50	Pass	
m,p-Xylene	ug/m3	< 4.4			4.4	Pass	
Xylenes - Total*	ug/m3	< 6.6			6.6	Pass	
Methyl t-Butyl Ether (MTBE)	ug/m3	< 7.2			7.2	Pass	
Naphthalene	ug/m3	< 10.5			10.5	Pass	
o-Xylene	ug/m3	< 2.2			2.2	Pass	
Propylene	ug/m3	< 8.6			8.6	Pass	
Styrene	ug/m3	< 2.1			2.1	Pass	
Tetrachloroethene	ug/m3	< 3.4			3.4	Pass	
Tetrahydrofuran	ug/m3	< 1.5			1.5	Pass	
Toluene	ug/m3	< 7.5			7.5	Pass	
trans-1,2-Dichloroethene	ug/m3	< 2			2	Pass	
trans-1,3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Trichloroethene	ug/m3	< 2.7			2.7	Pass	
Vinyl Acetate	ug/m3	< 7			7.0	Pass	
Vinyl Chloride	ug/m3	< 2.5			2.5	Pass	
Method Blank							
US EPA Compendium Methods TO-15							
1.1-Dichloroethane	ug/m3	< 2			2	Pass	
1.1-Dichloroethene	ug/m3	< 2			2	Pass	
1.1.1-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2-Trichloroethane	ug/m3	< 2.7			2.7	Pass	
1.1.2.2-Tetrachloroethane	ug/m3	< 3.4			3.4	Pass	
1.2-Dibromoethane (EDB)	ug/m3	< 3.6			3.6	Pass	
1.2-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.2-Dichloroethane	ug/m3	< 2			2	Pass	
1.2-Dichloropropane	ug/m3	< 2.3			2.3	Pass	
1.2.4-Trichlorobenzene	ug/m3	< 15			15	Pass	
1.2.4-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.3-Butadiene	ug/m3	< 2.2			2.2	Pass	
1.3-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.3.5-Trimethylbenzene	ug/m3	< 2.5			2.5	Pass	
1.4-Dichlorobenzene	ug/m3	< 3			3	Pass	
1.4-Dioxane	ug/m3	< 7.2			7.2	Pass	
2-Butanone (Methyl Ethyl Ketone)	ug/m3	< 5.9			5.9	Pass	
2-Hexanone	ug/m3	< 8.2			8.2	Pass	
2.2.4-Trimethylpentane	ug/m3	< 9.3			9.3	Pass	
3-Chloropropene	ug/m3	< 1.6			1.6	Pass	
4-Ethyltoluene	ug/m3	< 2.5			2.5	Pass	
4-Methyl-2-Pentanone (MIBK)	ug/m3	< 2.1			2.1	Pass	
Acetone	ug/m3	< 16.6			16.6	Pass	
Benzene	ug/m3	< 1.6			1.6	Pass	
Bromodichloromethane	ug/m3	< 3.4			3.4	Pass	
Bromoform	ug/m3	< 5.2			5.2	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Bromomethane	ug/m3	< 19.4			19.4	Pass	
Carbon Disulfide	ug/m3	< 15.6			15.6	Pass	
Carbon Tetrachloride	ug/m3	< 3.1			3.1	Pass	
Chlorobenzene	ug/m3	< 2.3			2.3	Pass	
Chloroethane	ug/m3	< 5.3			5.3	Pass	
Chloroform	ug/m3	< 2.4			2.4	Pass	
Chloromethane	ug/m3	< 10.3			10.3	Pass	
Chlorotoluene (Benzyl Chloride)	ug/m3	< 2.6			2.6	Pass	
cis-1.2-Dichloroethene	ug/m3	< 2			2	Pass	
cis-1.3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Cyclohexane	ug/m3	< 3.5			3.5	Pass	
Dibromochloromethane	ug/m3	< 4.3			4.3	Pass	
Methylene Chloride	ug/m3	< 17.4			17.4	Pass	
Ethanol	ug/m3	< 9.4			9.4	Pass	
Ethylbenzene	ug/m3	< 2.2			2.2	Pass	
Freon 11 (Trichlorofluoromethane)	ug/m3	< 2.8			2.8	Pass	
Freon 113 (Trichlorotrifluoroethane)	ug/m3	< 3.8			3.8	Pass	
Freon 114	ug/m3	< 3.5			3.5	Pass	
Freon 12 (Dichlorodifluoromethane)	ug/m3	< 2.5			2.5	Pass	
Heptane	ug/m3	< 2.1			2.1	Pass	
Hexachlorobutadiene	ug/m3	< 21.3			21.3	Pass	
Hexane	ug/m3	< 5			5	Pass	
Isopropanol	ug/m3	< 50			50	Pass	
m,p-Xylene	ug/m3	< 4.4			4.4	Pass	
Xylenes - Total*	ug/m3	< 6.6			6.6	Pass	
Methyl t-Butyl Ether (MTBE)	ug/m3	< 7.2			7.2	Pass	
Naphthalene	ug/m3	< 10.5			10.5	Pass	
o-Xylene	ug/m3	< 2.2			2.2	Pass	
Propylene	ug/m3	< 8.6			8.6	Pass	
Styrene	ug/m3	< 2.1			2.1	Pass	
Tetrachloroethene	ug/m3	< 3.4			3.4	Pass	
Tetrahydrofuran	ug/m3	< 1.5			1.5	Pass	
Toluene	ug/m3	< 7.5			7.5	Pass	
trans-1.2-Dichloroethene	ug/m3	< 2			2	Pass	
trans-1.3-Dichloropropene	ug/m3	< 2.3			2.3	Pass	
Trichloroethene	ug/m3	< 2.7			2.7	Pass	
Vinyl Acetate	ug/m3	< 7			7.0	Pass	
Vinyl Chloride	ug/m3	< 2.5			2.5	Pass	
LCS - % Recovery							
US EPA Compendium Methods TO-15							
1.1-Dichloroethane	%	121			70-130	Pass	
1.1-Dichloroethene	%	122			70-130	Pass	
1.1.1-Trichloroethane	%	103			70-130	Pass	
1.1.2-Trichloroethane	%	116			70-130	Pass	
1.1.2.2-Tetrachloroethane	%	123			70-130	Pass	
1.2-Dibromoethane (EDB)	%	111			70-130	Pass	
1.2-Dichlorobenzene	%	97			70-130	Pass	
1.2-Dichloroethane	%	110			70-130	Pass	
1.2-Dichloropropane	%	124			70-130	Pass	
1.2.4-Trichlorobenzene	%	82			70-130	Pass	
1.2.4-Trimethylbenzene	%	114			70-130	Pass	
1.3-Butadiene	%	121			70-130	Pass	
1.3-Dichlorobenzene	%	100			70-130	Pass	
1.3.5-Trimethylbenzene	%	126			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1,4-Dichlorobenzene	%	96			70-130	Pass	
1,4-Dioxane	%	127			70-130	Pass	
2-Butanone (Methyl Ethyl Ketone)	%	129			70-130	Pass	
2-Hexanone	%	122			70-130	Pass	
3-Chloropropene	%	120			70-130	Pass	
4-Ethyltoluene	%	116			70-130	Pass	
4-Methyl-2-Pentanone (MIBK)	%	100			70-130	Pass	
Acetone	%	120			70-130	Pass	
Benzene	%	98			70-130	Pass	
Bromodichloromethane	%	104			70-130	Pass	
Bromoform	%	111			70-130	Pass	
Bromomethane	%	95			70-130	Pass	
Carbon Disulfide	%	115			70-130	Pass	
Carbon Tetrachloride	%	105			70-130	Pass	
Chlorobenzene	%	104			70-130	Pass	
Chloroethane	%	130			70-130	Pass	
Chloroform	%	108			70-130	Pass	
Chloromethane	%	110			70-130	Pass	
Chlorotoluene (Benzyl Chloride)	%	119			70-130	Pass	
cis-1,2-Dichloroethene	%	115			70-130	Pass	
cis-1,3-Dichloropropene	%	99			70-130	Pass	
Cyclohexane	%	119			70-130	Pass	
Dibromochloromethane	%	119			70-130	Pass	
Methylene Chloride	%	130			70-130	Pass	
Ethanol	%	128			70-130	Pass	
Ethylbenzene	%	120			70-130	Pass	
Freon 11 (Trichlorofluoromethane)	%	99			70-130	Pass	
Freon 113 (Trichlorotrifluoroethane)	%	99			70-130	Pass	
Freon 114	%	97			70-130	Pass	
Freon 12 (Dichlorodifluoromethane)	%	98			70-130	Pass	
Heptane	%	107			70-130	Pass	
Hexachlorobutadiene	%	78			70-130	Pass	
Hexane	%	99			70-130	Pass	
Isopropanol	%	123			70-130	Pass	
m,p-Xylene	%	115			70-130	Pass	
Xylenes - Total*	%	116			70-130	Pass	
Methyl t-Butyl Ether (MTBE)	%	122			70-130	Pass	
Naphthalene	%	71			70-130	Pass	
o-Xylene	%	119			70-130	Pass	
Propylene	%	116			70-130	Pass	
Styrene	%	113			70-130	Pass	
Tetrachloroethene	%	94			70-130	Pass	
Tetrahydrofuran	%	130			70-130	Pass	
Toluene	%	95			70-130	Pass	
trans-1,2-Dichloroethene	%	125			70-130	Pass	
trans-1,3-Dichloropropene	%	113			70-130	Pass	
Trichloroethene	%	95			70-130	Pass	
Vinyl Acetate	%	111			70-130	Pass	
Vinyl Chloride	%	117			70-130	Pass	
LCS - % Recovery							
US EPA Compendium Methods TO-15							
1,1-Dichloroethane	%	121			70-130	Pass	
1,1-Dichloroethene	%	122			70-130	Pass	
1,1,1-Trichloroethane	%	103			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1.1.2-Trichloroethane	%	117			70-130	Pass	
1.1.2.2-Tetrachloroethane	%	123			70-130	Pass	
1.2-Dibromoethane (EDB)	%	112			70-130	Pass	
1.2-Dichlorobenzene	%	97			70-130	Pass	
1.2-Dichloroethane	%	110			70-130	Pass	
1.2-Dichloropropane	%	124			70-130	Pass	
1.2.4-Trichlorobenzene	%	72			70-130	Pass	
1.2.4-Trimethylbenzene	%	114			70-130	Pass	
1.3-Butadiene	%	121			70-130	Pass	
1.3-Dichlorobenzene	%	100			70-130	Pass	
1.3.5-Trimethylbenzene	%	126			70-130	Pass	
1.4-Dichlorobenzene	%	96			70-130	Pass	
1.4-Dioxane	%	127			70-130	Pass	
2-Butanone (Methyl Ethyl Ketone)	%	129			70-130	Pass	
2-Hexanone	%	122			70-130	Pass	
2.2.4-Trimethylpentane	%	110			70-130	Pass	
3-Chloropropene	%	120			70-130	Pass	
4-Ethyltoluene	%	116			70-130	Pass	
4-Methyl-2-Pentanone (MIBK)	%	100			70-130	Pass	
Acetone	%	120			70-130	Pass	
Benzene	%	98			70-130	Pass	
Bromodichloromethane	%	104			70-130	Pass	
Bromoform	%	111			70-130	Pass	
Bromomethane	%	95			70-130	Pass	
Carbon Disulfide	%	115			70-130	Pass	
Carbon Tetrachloride	%	105			70-130	Pass	
Chlorobenzene	%	105			70-130	Pass	
Chloroethane	%	130			70-130	Pass	
Chloroform	%	108			70-130	Pass	
Chloromethane	%	110			70-130	Pass	
Chlorotoluene (Benzyl Chloride)	%	120			70-130	Pass	
cis-1.2-Dichloroethene	%	115			70-130	Pass	
cis-1.3-Dichloropropene	%	99			70-130	Pass	
Cyclohexane	%	119			70-130	Pass	
Dibromochloromethane	%	120			70-130	Pass	
Methylene Chloride	%	130			70-130	Pass	
Ethanol	%	128			70-130	Pass	
Ethylbenzene	%	120			70-130	Pass	
Freon 11 (Trichlorofluoromethane)	%	99			70-130	Pass	
Freon 113 (Trichlorotrifluoroethane)	%	99			70-130	Pass	
Freon 114	%	97			70-130	Pass	
Freon 12 (Dichlorodifluoromethane)	%	98			70-130	Pass	
Heptane	%	107			70-130	Pass	
Hexachlorobutadiene	%	71			70-130	Pass	
Hexane	%	99			70-130	Pass	
Isopropanol	%	123			70-130	Pass	
m,p-Xylene	%	115			70-130	Pass	
Xylenes - Total*	%	116			70-130	Pass	
Methyl t-Butyl Ether (MTBE)	%	122			70-130	Pass	
Naphthalene	%	71			70-130	Pass	
o-Xylene	%	119			70-130	Pass	
Propylene	%	116			70-130	Pass	
Styrene	%	113			70-130	Pass	
Tetrachloroethene	%	95			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Tetrahydrofuran	%	130			70-130	Pass	
Toluene	%	95			70-130	Pass	
trans-1.2-Dichloroethene	%	125			70-130	Pass	
trans-1.3-Dichloropropene	%	113			70-130	Pass	
Trichloroethene	%	95			70-130	Pass	
Vinyl Acetate	%	111			70-130	Pass	
Vinyl Chloride	%	117			70-130	Pass	
LCS - % Recovery							
US EPA Compendium Methods TO-15							
1.1-Dichloroethane	%	120			70-130	Pass	
1.1-Dichloroethene	%	123			70-130	Pass	
1.1.1-Trichloroethane	%	100			70-130	Pass	
1.1.2-Trichloroethane	%	115			70-130	Pass	
1.1.2.2-Tetrachloroethane	%	122			70-130	Pass	
1.2-Dibromoethane (EDB)	%	111			70-130	Pass	
1.2-Dichlorobenzene	%	95			70-130	Pass	
1.2-Dichloroethane	%	102			70-130	Pass	
1.2-Dichloropropane	%	122			70-130	Pass	
1.2.4-Trichlorobenzene	%	91			70-130	Pass	
1.2.4-Trimethylbenzene	%	107			70-130	Pass	
1.3-Butadiene	%	129			70-130	Pass	
1.3-Dichlorobenzene	%	99			70-130	Pass	
1.3.5-Trimethylbenzene	%	119			70-130	Pass	
1.4-Dichlorobenzene	%	99			70-130	Pass	
1.4-Dioxane	%	119			70-130	Pass	
2-Butanone (Methyl Ethyl Ketone)	%	121			70-130	Pass	
2-Hexanone	%	127			70-130	Pass	
2.2.4-Trimethylpentane	%	128			70-130	Pass	
3-Chloropropene	%	114			70-130	Pass	
4-Ethyltoluene	%	106			70-130	Pass	
4-Methyl-2-Pentanone (MIBK)	%	104			70-130	Pass	
Acetone	%	113			70-130	Pass	
Benzene	%	105			70-130	Pass	
Bromodichloromethane	%	105			70-130	Pass	
Bromoform	%	110			70-130	Pass	
Bromomethane	%	106			70-130	Pass	
Carbon Disulfide	%	114			70-130	Pass	
Carbon Tetrachloride	%	99			70-130	Pass	
Chlorobenzene	%	104			70-130	Pass	
Chloroethane	%	126			70-130	Pass	
Chloroform	%	107			70-130	Pass	
Chloromethane	%	107			70-130	Pass	
Chlorotoluene (Benzyl Chloride)	%	119			70-130	Pass	
cis-1.2-Dichloroethene	%	111			70-130	Pass	
cis-1.3-Dichloropropene	%	109			70-130	Pass	
Cyclohexane	%	115			70-130	Pass	
Dibromochloromethane	%	118			70-130	Pass	
Methylene Chloride	%	128			70-130	Pass	
Ethanol	%	120			70-130	Pass	
Ethylbenzene	%	111			70-130	Pass	
Freon 11 (Trichlorofluoromethane)	%	101			70-130	Pass	
Freon 113 (Trichlorotrifluoroethane)	%	99			70-130	Pass	
Freon 114	%	102			70-130	Pass	
Freon 12 (Dichlorodifluoromethane)	%	103			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptane	%	110			70-130	Pass	
Hexachlorobutadiene	%	82			70-130	Pass	
Hexane	%	99			70-130	Pass	
Isopropanol	%	129			70-130	Pass	
m,p-Xylene	%	112			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
Methyl t-Butyl Ether (MTBE)	%	120			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
o-Xylene	%	106			70-130	Pass	
Propylene	%	117			70-130	Pass	
Styrene	%	104			70-130	Pass	
Tetrachloroethene	%	93			70-130	Pass	
Tetrahydrofuran	%	118			70-130	Pass	
Toluene	%	99			70-130	Pass	
trans-1,2-Dichloroethene	%	122			70-130	Pass	
trans-1,3-Dichloropropene	%	118			70-130	Pass	
Trichloroethene	%	100			70-130	Pass	
Vinyl Acetate	%	116			70-130	Pass	
Vinyl Chloride	%	124			70-130	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Karl Bulow	Analytical Services Manager
Jonathon Angell	Senior Analyst-Air



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.



#R10160



CHAIN OF CUSTODY RECORD

(Chain of Custody Form - 2023/24 - 10/01/2023)



Sydney Laboratory

170 Macquarie Street, Sydney NSW 2000
Ph: (02) 9250 1234 Fax: (02) 9250 1235
Email: info@echorisk.com.au



Brisbane Laboratory

170 Macquarie Street, Brisbane QLD 4000
Ph: (07) 3210 1234 Fax: (07) 3210 1235
Email: info@echorisk.com.au



Perth Laboratory

170 Macquarie Street, Perth WA 6000
Ph: (08) 9210 1234 Fax: (08) 9210 1235
Email: info@echorisk.com.au



Melbourne Laboratory

170 Macquarie Street, Melbourne VIC 3000
Ph: (03) 9210 1234 Fax: (03) 9210 1235
Email: info@echorisk.com.au

Company	Echo Risk Consulting	Project No	EC0193	Project Manager	Andrew Durand	Sample(s)	AD
Address		Project Name	Tonsley, Residential Monitoring	EDD Format	ESdat	Handled over by	AD
Contact Name	Andrew Durand	Analyst When collecting samples, please ensure they are in a secure container and clearly labelled with the project name and sample ID.	AT2 - AirToxics Suite #2 (VOC, CRC Core)	Canister Volume (litres)	Initial	Final	Canister
Phone No	0402 762 065						
Special Directions							
Purchase Order	EC0193						
Quote ID No							
Client Sample ID	Sampled Date/Time (dd/mm/yyyy)	Matrix (Water, Soil)					
VP45A_2.3	14/4/25	1L Summa Canister	X		-30.5	-7.3	1L0180
VP45A_2.3	14/4/25	1L Summa Canister	X		-30	-7	1L0217
VP49_3.7	14/4/25	1L Summa Canister	X		-30	-7	1L0045
VP50_3.7	14/4/25	1L Summa Canister	X		-30	-7	1L0096
VP51_3.7	14/4/25	1L Summa Canister	X		-30	-10	1L0149
QV1	13/4/25	1L Summa Canister	X		-28	-7	1L0212
QV3	14/4/25	1L Summa Canister	X		-30.5	-7.5	1L0226
QV5	14/4/25	1L Summa Canister	X		-30	-7	1L0118
NOT USED							1L0015 / 1L0111
Add Rows		Total Counts	19				

Required Turnaround Time (TAT)

Time taken to deliver results to client

Overnight (powering by 9am)

1 day

2 days

3 days

5 days (Standard)

Other

Method of Transport	☐ Courier	☐ Hand Delivered	☐ Postal	Name	Andrew Durand	Signature	AD	Date	14/04/2025	Time	4:00pm
Laboratory Use Only	Received By	Michael Young	SYD BNE MEL PER ADL NTL DRW	Signature	My	Date	17/4/25	Time	4pm	Temperature	
	Received By	Dylan	SYD BNE MEL PER ADL NTL DRW	Signature	Dylan	Date	14/4	Time	9:45am	Report No	1210162

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise Mount Wellington Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road Gate Pa Tauranga 3112 +64 9 525 0568 IANZ# 1402

Sample Receipt Advice

Company name: Echo Risk Consulting
Contact name: Andrew Durand
Project name: TONSLEY RESIDENTIAL MONITORING
Project ID: EC0193
Turnaround time: 10 Day
Date/Time received: Apr 16, 2025 9:45 AM
Eurofins reference: 1210160

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- N/A Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Karl Bulow on phone : or by email: Karl.Bulow@eurofinsanz.com

Results will be delivered electronically via email to Andrew Durand - andrew.durand@echorisk.com.au.

Note: A copy of these results will also be delivered to the general Echo Risk Consulting email address.



CERTIFICATE OF ANALYSIS

Work Order : **EN2506733**
Client : **ECHO RISK CONSULTING**
Contact : Andrew Durand
Address : 84 North Terrace
Kent Town 5067
Telephone : ----
Project : EC0193 TONSLEY RESIDENTIAL MONITORING
Order number : EC0193
C-O-C number : ----
Sampler : Andrew Durand
Site : ----
Quote number : EN/222
No. of samples received : 3
No. of samples analysed : 3

Page : 1 of 9
Laboratory : Environmental Division Newcastle
Contact :
Address : 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone : +61 2 4014 2500
Date Samples Received : 28-Apr-2025 11:10
Date Analysis Commenced : 28-Apr-2025
Issue Date : 30-Apr-2025 15:05



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Dale Semple	Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Organic Chemist	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Organic Chemist	Newcastle, Mayfield West, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- CAN-001: Results for Pressure - As Received are measured under controlled conditions using calibrated laboratory gauges. These results are expressed as an absolute pressure. Equivalent gauge pressures may be calculated by subtracting the Pressure - Laboratory Atmosphere.
- CAN-001: Results for Pressure - Gauge As Received are obtained from uncalibrated field gauges and are indicative only. These results may not precisely match calibrated gauge readings and may vary from field measurements due to changes in temperature and pressure.
- CAN-001: Results for Vacuum - As Received are calculated from the pressures of the canister and laboratory atmosphere at the time of receipt, and are expressed as a measure of the vacuum remaining. A positive value indicates that the canister was below atmospheric pressure upon receipt.
- EP101, EP103: Results reported in mg/m³ are calculated from PPMV results based on a temperature of 25°C and atmospheric pressure of 101.3 kPa.



Analytical Results

Sub-Matrix: SOIL GAS
 (Matrix: AIR)

Sample ID

				QV2 C748 S260	QV4 C14191 S154	QV6 C14223 S105	----	----
Sampling date / time				13-Apr-2025 09:30	13-Apr-2025 12:30	14-Apr-2025 09:45	----	----
Compound	CAS Number	LOR	Unit	EN2506733-001	EN2506733-002	EN2506733-003	-----	-----
				Result	Result	Result	----	----
EP101: VOCs by USEPA Method TO15 (Calculated Concentration)								
Freon 12	75-71-8	0.250	mg/m ³	<0.250	<0.250	<0.250	----	----
Chloromethane	74-87-3	0.100	mg/m ³	<0.100	<0.100	<0.100	----	----
Freon 114	76-14-2	0.350	mg/m ³	<0.350	<0.350	<0.350	----	----
Vinyl chloride	75-01-4	0.0051	mg/m ³	<0.0051	<0.0051	<0.0051	----	----
Bromomethane	74-83-9	0.190	mg/m ³	<0.190	<0.190	<0.190	----	----
Chloroethane	75-00-3	0.130	mg/m ³	<0.130	<0.130	<0.130	----	----
Freon 11	75-69-4	0.280	mg/m ³	<0.280	<0.280	<0.280	----	----
1,1-Dichloroethene	75-35-4	0.200	mg/m ³	<0.200	<0.200	<0.200	----	----
Dichloromethane	75-09-2	0.170	mg/m ³	<0.170	<0.170	<0.170	----	----
Freon 113	76-13-1	0.380	mg/m ³	<0.380	<0.380	<0.380	----	----
1,1-Dichloroethane	75-34-3	0.200	mg/m ³	<0.200	<0.200	<0.200	----	----
cis-1,2-Dichloroethene	156-59-2	0.0200	mg/m ³	<0.0200	<0.0200	<0.0200	----	----
Chloroform	67-66-3	0.240	mg/m ³	<0.240	<0.240	<0.240	----	----
1,2-Dichloroethane	107-06-2	0.200	mg/m ³	<0.200	<0.200	<0.200	----	----
1,1,1-Trichloroethane	71-55-6	0.270	mg/m ³	<0.270	<0.270	<0.270	----	----
Benzene	71-43-2	0.100	mg/m ³	<0.100	<0.100	<0.100	----	----
Carbon Tetrachloride	56-23-5	0.310	mg/m ³	<0.310	<0.310	<0.310	----	----
1,2-Dichloropropane	78-87-5	0.230	mg/m ³	<0.230	<0.230	<0.230	----	----
Trichloroethene	79-01-6	0.0054	mg/m ³	<0.0054	<0.0054	<0.0054	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.230	mg/m ³	<0.230	<0.230	<0.230	----	----
trans-1,3-Dichloropropene	10061-02-6	0.230	mg/m ³	<0.230	<0.230	<0.230	----	----
1,1,2-Trichloroethane	79-00-5	0.270	mg/m ³	<0.270	<0.270	<0.270	----	----
Toluene	108-88-3	0.190	mg/m ³	<0.190	<0.190	<0.190	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.380	mg/m ³	<0.380	<0.380	<0.380	----	----
Tetrachloroethene	127-18-4	0.340	mg/m ³	<0.340	<0.340	<0.340	----	----
Chlorobenzene	108-90-7	0.230	mg/m ³	<0.230	<0.230	<0.230	----	----



Analytical Results

Sub-Matrix: SOIL GAS
 (Matrix: AIR)

Sample ID

				QV2 C748 S260	QV4 C14191 S154	QV6 C14223 S105	----	----
Sampling date / time				13-Apr-2025 09:30	13-Apr-2025 12:30	14-Apr-2025 09:45	----	----
Compound	CAS Number	LOR	Unit	EN2506733-001	EN2506733-002	EN2506733-003	-----	-----
				Result	Result	Result	----	----
EP101: VOCs by USEPA Method TO15 (Calculated Concentration) - Continued								
Ethylbenzene	100-41-4	0.220	mg/m ³	<0.220	<0.220	<0.220	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.430	mg/m ³	<0.430	<0.430	<0.430	----	----
Styrene	100-42-5	0.210	mg/m ³	<0.210	<0.210	<0.210	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.340	mg/m ³	<0.340	<0.340	<0.340	----	----
ortho-Xylene	95-47-6	0.220	mg/m ³	<0.220	<0.220	<0.220	----	----
4-Ethyltoluene	622-96-8	0.240	mg/m ³	<0.240	<0.240	<0.240	----	----
Total Xylenes	----	0.650	mg/m ³	<0.650	<0.650	<0.650	----	----
1.3.5-Trimethylbenzene	108-67-8	0.240	mg/m ³	<0.240	<0.240	<0.240	----	----
1.2.4-Trimethylbenzene	95-63-6	0.240	mg/m ³	<0.240	<0.240	<0.240	----	----
1.3-Dichlorobenzene	541-73-1	0.300	mg/m ³	<0.300	<0.300	<0.300	----	----
Benzylchloride	100-44-7	0.260	mg/m ³	<0.260	<0.260	<0.260	----	----
1.4-Dichlorobenzene	106-46-7	0.300	mg/m ³	<0.300	<0.300	<0.300	----	----
1.2-Dichlorobenzene	95-50-1	0.300	mg/m ³	<0.300	<0.300	<0.300	----	----
1.2.4-Trichlorobenzene	120-82-1	0.370	mg/m ³	<0.370	<0.370	<0.370	----	----
Hexachlorobutadiene	87-68-3	0.530	mg/m ³	<0.530	<0.530	<0.530	----	----
Acetone	67-64-1	0.120	mg/m ³	<0.120	<0.120	<0.120	----	----
Bromodichloromethane	75-27-4	0.340	mg/m ³	<0.340	<0.340	<0.340	----	----
1.3-Butadiene	106-99-0	0.110	mg/m ³	<0.110	<0.110	<0.110	----	----
Carbon disulfide	75-15-0	0.160	mg/m ³	<0.160	<0.160	<0.160	----	----
1-Chloro-2-propene (Allyl chloride)	107-05-1	0.160	mg/m ³	<0.160	<0.160	<0.160	----	----
Cyclohexane	110-82-7	0.170	mg/m ³	<0.170	<0.170	<0.170	----	----
Dibromochloromethane	124-48-1	0.430	mg/m ³	<0.430	<0.430	<0.430	----	----
1.4-Dioxane	123-91-1	0.180	mg/m ³	<0.180	<0.180	<0.180	----	----
Ethylacetate	9002-89-5	0.180	mg/m ³	<0.180	<0.180	<0.180	----	----
trans-1.2-Dichloroethene	156-60-5	0.200	mg/m ³	<0.200	<0.200	<0.200	----	----
Heptane	142-82-5	0.200	mg/m ³	<0.200	<0.200	<0.200	----	----



Analytical Results

Sub-Matrix: SOIL GAS
 (Matrix: AIR)

Sample ID

				QV2 C748 S260	QV4 C14191 S154	QV6 C14223 S105	----	----
Sampling date / time				13-Apr-2025 09:30	13-Apr-2025 12:30	14-Apr-2025 09:45	----	----
Compound	CAS Number	LOR	Unit	EN2506733-001	EN2506733-002	EN2506733-003	-----	-----
				Result	Result	Result	----	----
EP101: VOCs by USEPA Method TO15 (Calculated Concentration) - Continued								
Hexane	110-54-3	0.180	mg/m ³	<0.180	<0.180	<0.180	----	----
Isooctane	540-84-1	0.230	mg/m ³	1.29	<0.230	1.12	----	----
Isopropyl Alcohol	67-63-0	0.120	mg/m ³	<0.120	<0.120	<0.120	----	----
2-Butanone (MEK)	78-93-3	0.150	mg/m ³	<0.150	<0.150	<0.150	----	----
Methyl iso-Butyl ketone	108-10-1	0.200	mg/m ³	<0.200	<0.200	<0.200	----	----
2-Hexanone (MBK)	591-78-6	0.200	mg/m ³	<0.200	<0.200	<0.200	----	----
Propene	115-07-1	0.0900	mg/m ³	<0.0900	<0.0900	<0.0900	----	----
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.180	mg/m ³	<0.180	<0.180	<0.180	----	----
Tetrahydrofuran	109-99-9	0.150	mg/m ³	<0.150	<0.150	<0.150	----	----
Bromoform	75-25-2	0.520	mg/m ³	<0.520	<0.520	<0.520	----	----
Vinyl Acetate	108-05-4	0.180	mg/m ³	<0.180	<0.180	<0.180	----	----
Vinyl bromide	593-60-2	0.220	mg/m ³	<0.220	<0.220	<0.220	----	----
Naphthalene	91-20-3	0.100	mg/m ³	<0.100	<0.100	<0.100	----	----
EP101: VOCs by USEPA Method TO15r								
Freon 12	75-71-8	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Chloromethane	74-87-3	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Freon 114	76-14-2	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Vinyl chloride	75-01-4	0.0020	ppmv	<0.0020	<0.0020	<0.0020	----	----
Bromomethane	74-83-9	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Chloroethane	75-00-3	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Freon 11	75-69-4	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,1-Dichloroethene	75-35-4	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Dichloromethane	75-09-2	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Freon 113	76-13-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,1-Dichloroethane	75-34-3	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
cis-1,2-Dichloroethene	156-59-2	0.0050	ppmv	<0.0050	<0.0050	<0.0050	----	----



Analytical Results

Sub-Matrix: SOIL GAS
 (Matrix: AIR)

Sample ID

				QV2 C748 S260	QV4 C14191 S154	QV6 C14223 S105	----	----
Sampling date / time				13-Apr-2025 09:30	13-Apr-2025 12:30	14-Apr-2025 09:45	----	----
Compound	CAS Number	LOR	Unit	EN2506733-001	EN2506733-002	EN2506733-003	-----	-----
				Result	Result	Result	----	----
EP101: VOCs by USEPA Method TO15r - Continued								
Chloroform	67-66-3	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,2-Dichloroethane	107-06-2	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,1,1-Trichloroethane	71-55-6	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Benzene	71-43-2	0.0300	ppmv	<0.0300	<0.0300	<0.0300	----	----
Carbon Tetrachloride	56-23-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,2-Dichloropropane	78-87-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Trichloroethene	79-01-6	0.0010	ppmv	<0.0010	<0.0010	<0.0010	----	----
cis-1,3-Dichloropropylene	10061-01-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
trans-1,3-Dichloropropene	10061-02-6	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,1,2-Trichloroethane	79-00-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Toluene	108-88-3	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,2-Dibromoethane (EDB)	106-93-4	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Tetrachloroethene	127-18-4	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Chlorobenzene	108-90-7	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Ethylbenzene	100-41-4	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.100	ppmv	<0.100	<0.100	<0.100	----	----
Styrene	100-42-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,1,2,2-Tetrachloroethane	79-34-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
ortho-Xylene	95-47-6	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
4-Ethyltoluene	622-96-8	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,3,5-Trimethylbenzene	108-67-8	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,2,4-Trimethylbenzene	95-63-6	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,3-Dichlorobenzene	541-73-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Benzylchloride	100-44-7	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,4-Dichlorobenzene	106-46-7	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,2-Dichlorobenzene	95-50-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----



Analytical Results

Sub-Matrix: SOIL GAS
 (Matrix: AIR)

Sample ID

				QV2 C748 S260	QV4 C14191 S154	QV6 C14223 S105	----	----
Sampling date / time				13-Apr-2025 09:30	13-Apr-2025 12:30	14-Apr-2025 09:45	----	----
Compound	CAS Number	LOR	Unit	EN2506733-001	EN2506733-002	EN2506733-003	-----	-----
				Result	Result	Result	----	----
EP101: VOCs by USEPA Method TO15r - Continued								
1,2,4-Trichlorobenzene	120-82-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Hexachlorobutadiene	87-68-3	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Acetone	67-64-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Bromodichloromethane	75-27-4	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,3-Butadiene	106-99-0	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Carbon disulfide	75-15-0	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1-Chloro-2-propene (Allyl chloride)	107-05-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Cyclohexane	110-82-7	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Dibromochloromethane	124-48-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
1,4-Dioxane	123-91-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Ethylacetate	9002-89-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
trans-1,2-Dichloroethene	156-60-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Heptane	142-82-5	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Hexane	110-54-3	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Isooctane	540-84-1	0.0500	ppmv	0.276	<0.0500	0.239	----	----
Isopropyl Alcohol	67-63-0	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
2-Butanone (MEK)	78-93-3	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Methyl iso-Butyl ketone	108-10-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
2-Hexanone (MBK)	591-78-6	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Propene	115-07-1	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Tetrahydrofuran	109-99-9	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Bromoform	75-25-2	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Vinyl Acetate	108-05-4	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Vinyl bromide	593-60-2	0.0500	ppmv	<0.0500	<0.0500	<0.0500	----	----
Naphthalene	91-20-3	0.0190	ppmv	<0.0190	<0.0190	<0.0190	----	----



Analytical Results

Sub-Matrix: SOIL GAS
 (Matrix: AIR)

Sample ID

				QV2 C748 S260	QV4 C14191 S154	QV6 C14223 S105	----	----
Sampling date / time				13-Apr-2025 09:30	13-Apr-2025 12:30	14-Apr-2025 09:45	----	----
Compound	CAS Number	LOR	Unit	EN2506733-001	EN2506733-002	EN2506733-003	-----	-----
Result				Result	Result	Result	----	----
EP103: Petroleum Hydrocarbons in Gaseous Samples								
C6 - C9 Fraction	----	5.00	ppmv	7.27	<5.00	<5.00	----	----
C10 - C14 Fraction	----	5.00	ppmv	<5.00	<5.00	<5.00	----	----
EP103: Petroleum Hydrocarbons in Gaseous Samples (Calc Conc)								
C6 - C9 Fraction	----	20.0	mg/m ³	29.7	<20.0	<20.0	----	----
C10 - C14 Fraction	----	35.0	mg/m ³	<35.0	<35.0	<35.0	----	----
EP103: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	5.00	ppmv	5.07	<5.00	<5.00	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	5.00	ppmv	5.06	<5.00	<5.00	----	----
>C10 - C16 Fraction	----	5.00	ppmv	<5.00	<5.00	<5.00	----	----
>C10 - C16 Fraction minus Naphthalene (F2)	----	5.00	ppmv	<5.00	<5.00	<5.00	----	----
EP103: Total Recoverable Hydrocarbons - NEPM 2013 (Calc Conc)								
C6 - C10 Fraction	C6_C10	20.0	mg/m ³	20.7	<20.0	<20.0	----	----
C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20.0	mg/m ³	20.7	<20.0	<20.0	----	----
>C10 - C16 Fraction	----	40.0	mg/m ³	<40.0	<40.0	<40.0	----	----
>C10 - C16 Fraction minus Naphthalene (F2)	----	40.0	mg/m ³	<40.0	<40.0	<40.0	----	----
Sampling Quality Assurance								
Pressure - As received	PRESSURE	0.1	kPaa	72.2	66.5	84.0	----	----
Pressure - Laboratory Atmosphere	----	0.1	kPaa	101	101	101	----	----
Temperature as Received	----	0.1	°C	21.0	21.0	21.0	----	----
Vacuum - As received	----	0.03	Inches Hg	8.53	10.2	5.02	----	----
USEPA Air Toxics Method TO15r Surrogates								
4-Bromofluorobenzene	460-00-4	0.5	%	94.4	96.2	91.7	----	----

Page : 9 of 9
Work Order : EN2506733
Client : ECHO RISK CONSULTING
Project : EC0193 TONSLEY RESIDENTIAL MONITORING



Surrogate Control Limits

Sub-Matrix: SOIL GAS		Recovery Limits (%)	
Compound	CAS Number	Low	High
USEPA Air Toxics Method TO15r Surrogates			
4-Bromofluorobenzene	460-00-4	60	140



QUALITY CONTROL REPORT

Work Order	: EN2506733	Page	: 1 of 6
Client	: ECHO RISK CONSULTING	Laboratory	: Environmental Division Newcastle
Contact	: Andrew Durand	Contact	:
Address	: 84 North Terrace Kent Town 5067	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: ----	Telephone	: +61 2 4014 2500
Project	: EC0193 TONSLEY RESIDENTIAL MONITORING	Date Samples Received	: 28-Apr-2025
Order number	: EC0193	Date Analysis Commenced	: 28-Apr-2025
C-O-C number	: ----	Issue Date	: 30-Apr-2025
Sampler	: Andrew Durand		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 3		
No. of samples analysed	: 3		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Dale Semple	Analyst	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Organic Chemist	Newcastle - Organics, Mayfield West, NSW
Daniel Junek	Senior Organic Chemist	Newcastle, Mayfield West, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot

CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

RPD = Relative Percentage Difference

= Indicates failed QC

* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: AIR				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP101: VOCs by USEPA Method TO15r (QC Lot: 6539520)									
EN2506733-001	QV2 C748 S260	EP101-15X: Freon 12	75-71-8	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Chloromethane	74-87-3	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Freon 114	76-14-2	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Vinyl chloride	75-01-4	0.5 (2.0)*	ppbv	<0.0020 ppmv	<2.0	0.0	No Limit
		EP101-15X: Bromomethane	74-83-9	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Chloroethane	75-00-3	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Freon 11	75-69-4	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1,1-Dichloroethene	75-35-4	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Dichloromethane	75-09-2	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Freon 113	76-13-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1,1-Dichloroethane	75-34-3	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: cis-1,2-Dichloroethene	156-59-2	0.5 (5.0)*	ppbv	<0.0050 ppmv	<5.0	0.0	No Limit
		EP101-15X: Chloroform	67-66-3	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1,2-Dichloroethane	107-06-2	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1,1,1-Trichloroethane	71-55-6	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Benzene	71-43-2	0.5 (30.0)*	ppbv	<0.0300 ppmv	<30.0	0.0	No Limit
		EP101-15X: Carbon Tetrachloride	56-23-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1,2-Dichloropropane	78-87-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Trichloroethene	79-01-6	0.5 (1.0)*	ppbv	<0.0010 ppmv	<1.0	0.0	No Limit
		EP101-15X: cis-1,3-Dichloropropylene	10061-01-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: trans-1,3-Dichloropropene	10061-02-6	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit



Sub-Matrix: AIR				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP101: VOCs by USEPA Method TO15r (QC Lot: 6539520) - continued									
EN2506733-001	QV2 C748 S260	EP101-15X: 1.1.2-Trichloroethane	79-00-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Toluene	108-88-3	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.2-Dibromoethane (EDB)	106-93-4	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Tetrachloroethene	127-18-4	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Chlorobenzene	108-90-7	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Ethylbenzene	100-41-4	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Styrene	100-42-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.1.2.2-Tetrachloroethane	79-34-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: ortho-Xylene	95-47-6	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 4-Ethyltoluene	622-96-8	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.3.5-Trimethylbenzene	108-67-8	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.2.4-Trimethylbenzene	95-63-6	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.3-Dichlorobenzene	541-73-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Benzylchloride	100-44-7	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.4-Dichlorobenzene	106-46-7	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.2-Dichlorobenzene	95-50-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.2.4-Trichlorobenzene	120-82-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Hexachlorobutadiene	87-68-3	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Acetone	67-64-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Bromodichloromethane	75-27-4	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.3-Butadiene	106-99-0	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Carbon disulfide	75-15-0	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1-Chloro-2-propene (Allyl chloride)	107-05-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Cyclohexane	110-82-7	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Dibromochloromethane	124-48-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 1.4-Dioxane	123-91-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Ethylacetate	9002-89-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: trans-1.2-Dichloroethene	156-60-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Heptane	142-82-5	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Hexane	110-54-3	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Isooctane	540-84-1	0.5 (50.0)*	ppbv	0.276 ppmv	276	0.2	No Limit
		EP101-15X: Isopropyl Alcohol	67-63-0	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 2-Butanone (MEK)	78-93-3	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Methyl iso-Butyl ketone	108-10-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: 2-Hexanone (MBK)	591-78-6	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Propene	115-07-1	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Tetrahydrofuran	109-99-9	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit

Page : 4 of 6
 Work Order : EN2506733
 Client : ECHO RISK CONSULTING
 Project : EC0193 TONSLEY RESIDENTIAL MONITORING



Sub-Matrix: AIR				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP101: VOCs by USEPA Method TO15r (QC Lot: 6539520) - continued									
EN2506733-001	QV2 C748 S260	EP101-15X: Bromoform	75-25-2	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Vinyl Acetate	108-05-4	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Vinyl bromide	593-60-2	0.5 (50.0)*	ppbv	<0.0500 ppmv	<50.0	0.0	No Limit
		EP101-15X: Naphthalene	91-20-3	0.5 (19.0)*	ppbv	<0.0190 ppmv	<19.0	0.0	No Limit
		EP101-15X: meta- & para-Xylene	108-38-3 106-42-3	1 (100)*	ppbv	<0.100 ppmv	<100	0.0	No Limit
EP103: Petroleum Hydrocarbons in Gaseous Samples (QC Lot: 6539525)									
EN2506733-001	QV2 C748 S260	EP103-PC: C6 - C9 Fraction	----	50 (5000)*	ppbv	7.27 ppmv	7220	0.7	No Limit
		EP103-PC: C10 - C14 Fraction	----	50 (5000)*	ppbv	<5.00 ppmv	<5000	0.0	No Limit
EP103: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 6539525)									
EN2506733-001	QV2 C748 S260	EP103-PC: C6 - C10 Fraction	C6_C10	50 (5000)*	ppbv	5.07 ppmv	5050	0.3	No Limit
		EP103-PC: >C10 - C16 Fraction	----	50 (5000)*	ppbv	<5.00 ppmv	<5000	0.0	No Limit



Method Blank (MB), Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (DCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control terms Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (DCS) refers to certified reference materials, or known interference free matrices spiked with target analytes. The purpose of these QC parameters are to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS and DCS.

Sub-Matrix: AIR		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
Method: Compound	CAS Number										
EP101: VOCs by USEPA Method TO15r (QCLot: 6539520)											
EP101-15X: Freon 12	75-71-8	0.5	ppbv	<0.5	10 ppbv	105	105	88.1	117	0.0	----
EP101-15X: Chloromethane	74-87-3	0.5	ppbv	<0.5	10 ppbv	105	105	70.5	130	0.0	----
EP101-15X: Freon 114	76-14-2	0.5	ppbv	<0.5	10 ppbv	106	107	88.2	118	0.9	----
EP101-15X: Vinyl chloride	75-01-4	0.5	ppbv	<0.5	10 ppbv	107	107	82.0	120	0.0	----
EP101-15X: Bromomethane	74-83-9	0.5	ppbv	<0.5	10 ppbv	103	104	87.9	116	1.0	----
EP101-15X: Chloroethane	75-00-3	0.5	ppbv	<0.5	10 ppbv	105	106	84.2	118	0.9	----
EP101-15X: Freon 11	75-69-4	0.5	ppbv	<0.5	10 ppbv	101	101	87.1	117	0.0	----
EP101-15X: 1,1-Dichloroethene	75-35-4	0.5	ppbv	<0.5	10 ppbv	101	101	87.1	115	0.0	----
EP101-15X: Dichloromethane	75-09-2	0.5	ppbv	<0.5	10 ppbv	105	106	70.0	129	0.9	----
EP101-15X: Freon 113	76-13-1	0.5	ppbv	<0.5	10 ppbv	99.1	99.6	83.8	121	0.5	----
EP101-15X: 1,1-Dichloroethane	75-34-3	0.5	ppbv	<0.5	10 ppbv	103	103	85.1	116	0.0	----
EP101-15X: cis-1,2-Dichloroethene	156-59-2	0.5	ppbv	<0.5	10 ppbv	100	100	83.7	119	0.0	----
EP101-15X: Chloroform	67-66-3	0.5	ppbv	<0.5	10 ppbv	99.2	99.3	87.3	113	0.1	----
EP101-15X: 1,2-Dichloroethane	107-06-2	0.5	ppbv	<0.5	10 ppbv	97.6	98.4	81.7	117	0.8	----
EP101-15X: 1,1,1-Trichloroethane	71-55-6	0.5	ppbv	<0.5	10 ppbv	96.1	96.7	82.8	116	0.6	----
EP101-15X: Benzene	71-43-2	0.5	ppbv	<0.5	10 ppbv	95.3	96.2	83.3	114	0.9	----
EP101-15X: Carbon Tetrachloride	56-23-5	0.5	ppbv	<0.5	10 ppbv	94.0	94.6	82.7	120	0.6	----
EP101-15X: 1,2-Dichloropropane	78-87-5	0.5	ppbv	<0.5	10 ppbv	94.5	95.3	83.3	113	0.8	----
EP101-15X: Trichloroethene	79-01-6	0.5	ppbv	<0.5	10 ppbv	92.8	93.1	85.1	113	0.3	----
EP101-15X: cis-1,3-Dichloropropylene	10061-01-5	0.5	ppbv	<0.5	10 ppbv	95.5	97.3	84.0	116	1.9	----
EP101-15X: trans-1,3-Dichloropropene	10061-02-6	0.5	ppbv	<0.5	10 ppbv	93.2	95.2	75.3	121	2.1	----
EP101-15X: 1,1,2-Trichloroethane	79-00-5	0.5	ppbv	<0.5	10 ppbv	96.5	97.2	87.5	116	0.7	----
EP101-15X: Toluene	108-88-3	0.5	ppbv	<0.5	10 ppbv	96.2	97.4	81.8	120	1.2	----
EP101-15X: 1,2-Dibromoethane (EDB)	106-93-4	0.5	ppbv	<0.5	10 ppbv	94.2	95.3	84.0	119	1.2	----
EP101-15X: Tetrachloroethene	127-18-4	0.5	ppbv	<0.5	10 ppbv	93.0	93.4	75.7	126	0.4	----
EP101-15X: Chlorobenzene	108-90-7	0.5	ppbv	<0.5	10 ppbv	95.0	96.3	84.8	118	1.4	----
EP101-15X: Ethylbenzene	100-41-4	0.5	ppbv	<0.5	10 ppbv	97.1	97.7	82.8	116	0.6	----
EP101-15X: meta- & para-Xylene	108-38-3 106-42-3	1	ppbv	<1.0	20 ppbv	96.2	96.8	84.3	118	0.6	----
EP101-15X: Styrene	100-42-5	0.5	ppbv	<0.5	10 ppbv	90.7	92.0	74.6	125	1.4	----
EP101-15X: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	ppbv	<0.5	10 ppbv	96.4	97.6	86.9	120	1.2	----
EP101-15X: ortho-Xylene	95-47-6	0.5	ppbv	<0.5	10 ppbv	97.0	98.0	84.9	120	1.0	----
EP101-15X: 4-Ethyltoluene	622-96-8	0.5	ppbv	<0.5	10 ppbv	94.5	96.8	78.2	125	2.4	----



Sub-Matrix: AIR		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					Concentration	LCS	DCS	Low	High	Value	Control Limit
EP101: VOCs by USEPA Method TO15r (QCLot: 6539520) - continued											
EP101-15X: 1.3.5-Trimethylbenzene	108-67-8	0.5	ppbv	<0.5	10 ppbv	96.1	96.4	83.3	126	0.3	----
EP101-15X: 1.2.4-Trimethylbenzene	95-63-6	0.5	ppbv	<0.5	10 ppbv	93.7	95.0	82.1	125	1.4	----
EP101-15X: 1.3-Dichlorobenzene	541-73-1	0.5	ppbv	<0.5	10 ppbv	89.1	91.3	78.5	124	2.4	----
EP101-15X: Benzylchloride	100-44-7	0.5	ppbv	<0.5	10 ppbv	83.8	87.7	70.0	122	4.5	----
EP101-15X: 1.4-Dichlorobenzene	106-46-7	0.5	ppbv	<0.5	10 ppbv	91.0	92.8	79.0	124	2.0	----
EP101-15X: 1.2-Dichlorobenzene	95-50-1	0.5	ppbv	<0.5	10 ppbv	92.4	93.8	80.0	125	1.5	----
EP101-15X: 1.2.4-Trichlorobenzene	120-82-1	0.5	ppbv	<0.5	10 ppbv	77.5	81.0	70.0	120	4.4	----
EP101-15X: Hexachlorobutadiene	87-68-3	0.5	ppbv	<0.5	10 ppbv	92.6	93.0	70.0	130	0.4	----
EP101-15X: Acetone	67-64-1	0.5	ppbv	<0.5	10 ppbv	112	112	70.0	130	0.0	----
EP101-15X: Bromodichloromethane	75-27-4	0.5	ppbv	<0.5	10 ppbv	95.4	96.6	82.3	117	1.2	----
EP101-15X: 1.3-Butadiene	106-99-0	0.5	ppbv	<0.5	10 ppbv	105	106	74.0	126	0.9	----
EP101-15X: Carbon disulfide	75-15-0	0.5	ppbv	<0.5	10 ppbv	102	103	85.0	115	1.0	----
EP101-15X: 1-Chloro-2-propene (Allyl chloride)	107-05-1	0.5	ppbv	<0.5	10 ppbv	102	102	74.3	122	0.0	----
EP101-15X: Cyclohexane	110-82-7	0.5	ppbv	<0.5	10 ppbv	106	106	82.2	113	0.0	----
EP101-15X: Dibromochloromethane	124-48-1	0.5	ppbv	<0.5	10 ppbv	93.8	94.9	78.4	129	1.2	----
EP101-15X: 1.4-Dioxane	123-91-1	0.5	ppbv	<0.5	10 ppbv	79.0	79.9	70.0	130	1.1	----
EP101-15X: Ethylacetate	9002-89-5	0.5	ppbv	<0.5	10 ppbv	96.3	98.1	70.0	122	1.9	----
EP101-15X: trans-1.2-Dichloroethene	156-60-5	0.5	ppbv	<0.5	10 ppbv	101	102	82.9	115	1.0	----
EP101-15X: Heptane	142-82-5	0.5	ppbv	<0.5	10 ppbv	95.6	95.8	80.1	117	0.2	----
EP101-15X: Hexane	110-54-3	0.5	ppbv	<0.5	10 ppbv	102	102	76.8	123	0.0	----
EP101-15X: Isooctane	540-84-1	0.5	ppbv	<0.5	10 ppbv	97.7	98.1	77.6	120	0.4	----
EP101-15X: Isopropyl Alcohol	67-63-0	0.5	ppbv	<0.5	10 ppbv	97.3	97.0	70.0	128	0.3	----
EP101-15X: 2-Butanone (MEK)	78-93-3	0.5	ppbv	<0.5	10 ppbv	97.6	98.5	70.0	123	0.9	----
EP101-15X: Methyl iso-Butyl ketone	108-10-1	0.5	ppbv	<0.5	10 ppbv	84.0	85.1	70.0	126	1.3	----
EP101-15X: 2-Hexanone (MBK)	591-78-6	0.5	ppbv	<0.5	10 ppbv	78.1	79.4	70.0	130	1.7	----
EP101-15X: Propene	115-07-1	0.5	ppbv	<0.5	10 ppbv	106	106	70.0	130	0.0	----
EP101-15X: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	ppbv	<0.5	10 ppbv	102	102	74.7	125	0.0	----
EP101-15X: Tetrahydrofuran	109-99-9	0.5	ppbv	<0.5	10 ppbv	98.1	99.1	70.0	130	1.0	----
EP101-15X: Bromoform	75-25-2	0.5	ppbv	<0.5	10 ppbv	88.1	89.9	70.0	130	2.0	----
EP101-15X: Vinyl Acetate	108-05-4	0.5	ppbv	<0.5	10 ppbv	90.0	92.0	70.0	128	2.2	----
EP101-15X: Vinyl bromide	593-60-2	0.5	ppbv	<0.5	10 ppbv	99.5	100	83.8	116	0.5	----
EP101-15X: Naphthalene	91-20-3	0.5	ppbv	<0.5	10 ppbv	70.0	75.4	70.0	125	7.4	----
EP103: Petroleum Hydrocarbons in Gaseous Samples (QCLot: 6539525)											
EP103-PC: C6 - C9 Fraction	----	50	ppbv	<50	2800 ppbv	97.8	98.5	75.3	124	0.7	25
EP103-PC: C10 - C14 Fraction	----	50	ppbv	<50	1200 ppbv	105	106	80.8	126	0.9	25
EP103: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 6539525)											
EP103-PC: C6 - C10 Fraction	C6_C10	50	ppbv	<50	3000 ppbv	99.0	99.6	77.5	124	0.6	25
EP103-PC: >C10 - C16 Fraction	----	50	ppbv	<50	500 ppbv	104	104	79.3	131	0.0	25

● No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EN2506733	Page	: 1 of 4
Client	: ECHO RISK CONSULTING	Laboratory	: Environmental Division Newcastle
Contact	: Andrew Durand	Telephone	: +61 2 4014 2500
Project	: EC0193 TONSLEY RESIDENTIAL MONITORING	Date Samples Received	: 28-Apr-2025
Site	: ----	Issue Date	: 30-Apr-2025
Sampler	: Andrew Durand	No. of samples received	: 3
Order number	: EC0193	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, where applicable to the methodology, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: AIR

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP101: VOCs by USEPA Method TO15r							
Gas Canister - ALS Stainless Steel Silonite (EP101-15X) QV2 - C748 S260, QV4 - C14191 S154	13-Apr-2025	----	----	----	29-Apr-2025	13-May-2025	✓
Gas Canister - ALS Stainless Steel Silonite (EP101-15X) QV6 - C14223 S105	14-Apr-2025	----	----	----	29-Apr-2025	14-May-2025	✓
EP103: Petroleum Hydrocarbons in Gaseous Samples							
Gas Canister - ALS Stainless Steel Silonite (EP103-PC) QV2 - C748 S260, QV4 - C14191 S154	13-Apr-2025	----	----	----	29-Apr-2025	13-May-2025	✓
Gas Canister - ALS Stainless Steel Silonite (EP103-PC) QV6 - C14223 S105	14-Apr-2025	----	----	----	29-Apr-2025	14-May-2025	✓
EP103: Total Recoverable Hydrocarbons - NEPM 2013							
Gas Canister - ALS Stainless Steel Silonite (EP103-PC) QV2 - C748 S260, QV4 - C14191 S154	13-Apr-2025	----	----	----	29-Apr-2025	13-May-2025	✓
Gas Canister - ALS Stainless Steel Silonite (EP103-PC) QV6 - C14223 S105	14-Apr-2025	----	----	----	29-Apr-2025	14-May-2025	✓
Sampling Quality Assurance							
Gas Canister - ALS Stainless Steel Silonite (CAN-001) QV2 - C748 S260, QV4 - C14191 S154	13-Apr-2025	----	----	----	28-Apr-2025	13-Apr-2026	✓
Gas Canister - ALS Stainless Steel Silonite (CAN-001) QV6 - C14223 S105	14-Apr-2025	----	----	----	28-Apr-2025	14-Apr-2026	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **AIR**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Duplicate Control Samples (DCS)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile TPH/TRH in Gaseous Samples	EP103-PC	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Duplicates (DUP)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile TPH/TRH in Gaseous Samples	EP103-PC	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile TPH/TRH in Gaseous Samples	EP103-PC	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile TPH/TRH in Gaseous Samples	EP103-PC	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Canister Sampling - Field Data	CAN-001	AIR	In house: Referenced to USEPA TO14 / TO15
VOCs in Air by USEPA TO15r - Extended Suite	EP101-15X	AIR	In house: Referenced to USEPA TO15r Volatile Organic Compounds in Air by USEPA TO15. Extended Suite
VOCs in Air by USEPA TO15r - Extended Suite (mass/volume)	EP101-15X-MV	AIR	USEPA TO15r VOCs in Air Results recalculated as mass/volume concentrations from volume/volume concentrations at a given temperature and pressure.
Volatile TPH/TRH in Gaseous Samples	EP103-PC	AIR	Volatile TPH/TRH by GC-MS with Preconcentration and Thermal Desorption Injection Based on USEPA TO15, MassDEP APH and TPH/NEPM Schedule B(3) Fractions
Volatile TPH/TRH in Gaseous Samples (Calc Conc)	EP103-PC-MV	AIR	USEPA TO15r, CRCCARE, MassDEP APH Results recalculated as mass/volume concentrations from volume/volume concentrations at a given temperature, pressure and mid-range molecular weights.



If sourced from an ALS Laboratory, please tick ->

Client Satisfied Completely? ☐ Yes ☐ No

2501 HAWTHORNE ST. #100, NEW YORK, NY 10017-2400
Tel: 212 693-1000 Fax: 212 693-1001
www.2126931000.com

CLIENT: Echo Risk Consulting		TURNAROUND REQUIREMENTS : ☒ Standard TAT (List due date):		LABORATORY USE ONLY (Circle) Recovery to initial and detection	
OFFICE: Adelaide		☐ Non Standard or urgent TAT (List due date):		Custody Seal Intact? Rec Lab Y / N NE Y / N MA	
PROJECT: Tonsley Residential Monitoring		PROJECT NO.: EC0193		Valves closed on Receipt? Rec Lab Y / N NE Y / N MA	
CANISTER REQUEST NO:		PURCHASE ORDER NO.: EC0193		Canister/Sampler Complete and Not Damaged Yes No	
PROJECT MANAGER: Andrew Durand		CONTACT PH: 0402 762 065		Other comment: Temperature °C	
SAMPLER: Andrew Durand		SAMPLER MOBILE: 0402 762 065		RELINQUISHED BY: 	
COC Emailed to ALS? YES		EDD FORMAT (or default):		RELINQUISHED BY: 	
Email Reports to (will default to PM if no other addresses are listed): andrew.durand@echorisk.com.au		RECEIVED BY: 		RECEIVED BY: 	
Email Invoice to (will default to PM if no other addresses are listed): andrew.durand@echorisk.com.au		RECEIVED BY: 		RECEIVED BY: 	

COMMENTS/SPECIAL HANDLING/REPLACEMENT OR RETURN INSTRUCTIONS:

[illegible]

Job Specific Instructions:

Environmental Division
Newcastle
Work Order Reference
EN2506733



Telephone: +61 2 4014 2500



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EN2506733**

Client	: ECHO RISK CONSULTING	Laboratory	: Environmental Division Newcastle
Contact	: Andrew Durand	Contact	:
Address	: 84 North Terrace Kent Town 5067	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
E-mail	: andrew.durand@echorisk.com.au	E-mail	:
Telephone	: ----	Telephone	: +61 2 4014 2500
Facsimile	: ----	Facsimile	: +61 2 4967 7382
Project	: EC0193 TONSLEY RESIDENTIAL MONITORING	Page	: 1 of 2
Order number	: EC0193	Quote number	: EM2023ECHRIS0001 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: Andrew Durand		

Dates

Date Samples Received	: 28-Apr-2025 11:10	Issue Date	: 28-Apr-2025
Client Requested Due Date	: 05-May-2025	Scheduled Reporting Date	: 05-May-2025

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: ----
Receipt Detail	:	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Sample Disposal - Aqueous Chemistry (3 weeks), Aqueous Microbiological (1 week), Solid (2 months ± 1 week) from receipt of samples.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: AIR

Laboratory sample ID	Sampling date / time	Sample ID	AIR - CAN-1.4L-SAMPLE Canister Sampling - Field Data (1.4 litre canister)	AIR - SG-PH2 TO15 VOCs + NEPM TRH - Soil Vapour
EN2506733-001	13-Apr-2025 09:30	QV2 C748 S260	✓	✓
EN2506733-002	13-Apr-2025 12:30	QV4 C14191 S154	✓	✓
EN2506733-003	14-Apr-2025 09:45	QV6 C14223 S105	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

Andrew Durand

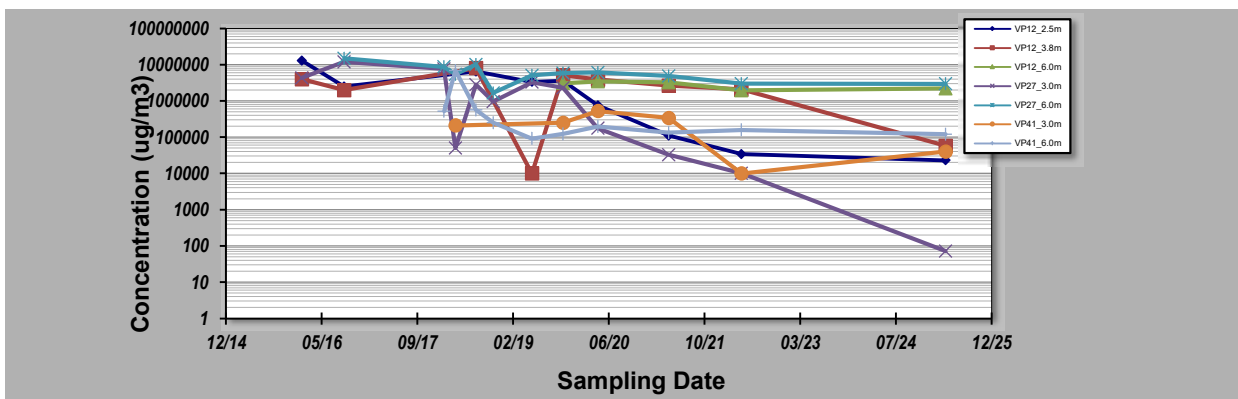
- *AU Certificate of Analysis - NATA (COA)	Email	andrew.durand@echorisk.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	andrew.durand@echorisk.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - USEPA (QC-USEPA)	Email	andrew.durand@echorisk.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	andrew.durand@echorisk.com.au
- A4 - AU Tax Invoice (INV)	Email	andrew.durand@echorisk.com.au
- Chain of Custody (CoC) (COC)	Email	andrew.durand@echorisk.com.au
- EDI Format - XTab (XTAB)	Email	andrew.durand@echorisk.com.au

**APPENDIX G MANN-KENDALL STATISTICAL ANALYSIS – SOIL
VAPOUR**

GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **C6-C10 less BTEX (F1)**
Conducted By: **AD** Concentration Units: **ug/m3**

Sampling Point ID:		VP12_2.5m	VP12_3.8m	VP12_6.0m	VP27_3.0m	VP27_6.0m	VP41_3.0m	VP41_6.0m
Sampling Event	Sampling Date	C6-C10 LESS BTEX (F1) CONCENTRATION (ug/m3)						
1	28-Jan-16	13000000	4000000		4300000			
2	5-Sep-16	2500000	2000000		12000000	15000000		
3	9-Feb-18				7600000	8700000		520000
4	9-Apr-18				50000	5400000	210000	6900000
5	26-Jul-18	6420000	8010000		2820000	10100000		564000
6	24-Oct-18				960000	1670000		250000
7	15-May-19	3340000	10000		3270000	5070000		91600
8	24-Oct-19	3570000	5110000	3080000	2300000	5800000	251000	122000
9	23-Apr-20	744000	3890000	3460000	175000	6130000	527000	197000
10	28-Apr-21	111000	2630000	3240000	32700	4900000	340000	133000
11	13-May-22	34000	2070000	1950000	10000	2980000	10000	158000
12	13-Apr-25	23000	58000	2200000	72.5	2960000	40000	120000
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.28	0.82	0.24	1.33	0.61	0.84	2.33
Mann-Kendall Statistic (S):		-28	-12	-4	-46	-29	-3	-23
Confidence Factor:		99.9%	87.0%	75.8%	100.0%	98.7%	64.0%	97.7%
Concentration Trend:		Decreasing	Stable	Stable	Decreasing	Decreasing	Stable	Decreasing



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

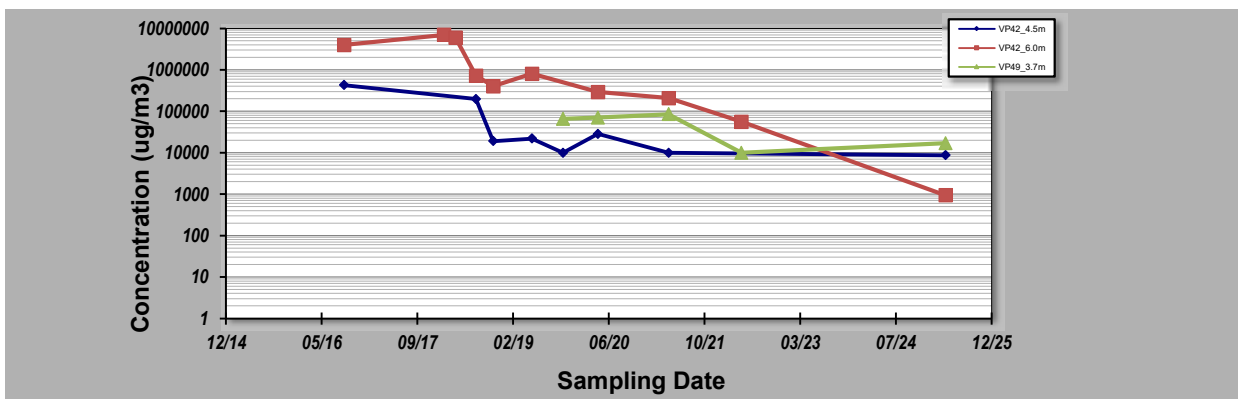
DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSi Environmental Inc., www.gsi-net.com

GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: July 25	Job ID: EC0193
Facility Name: Residential Audit Area - Monitoring	Constituent: C6-C10 less BTEX (F1)
Conducted By: AD	Concentration Units: ug/m3

Sampling Event	Sampling Date	C6-C10 LESS BTEX (F1) CONCENTRATION (ug/m3)					
1	28-Jan-16						
2	5-Sep-16	430000	4000000				
3	9-Feb-18		7000000				
4	9-Apr-18		6000000				
5	26-Jul-18	198000	721000				
6	24-Oct-18	19000	400000				
7	15-May-19	21900	802000				
8	24-Oct-19	10000		65300			
9	23-Apr-20	28400	290000	70800			
10	28-Apr-21	10000	209000	85200			
11	13-May-22		55500	10000			
12	13-Apr-25	8700	940	17000			
13							
14							
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		1.67	1.37	0.68			
Mann-Kendall Statistic (S):		-19	-37	-2			
Confidence Factor:		98.9%	>99.9%	59.2%			
Concentration Trend:		Decreasing	Decreasing	Stable			



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

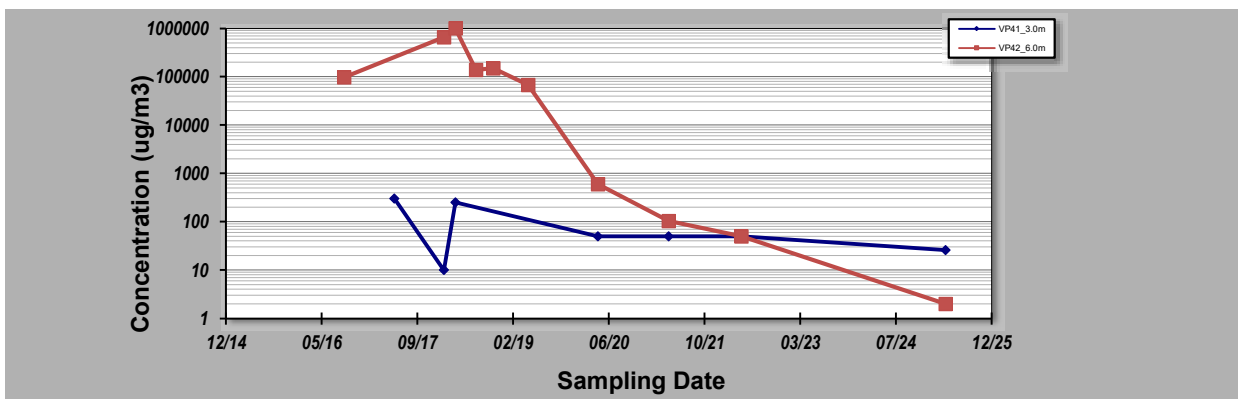
DISCLAIMER: The GSI Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSI Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSI Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSI Environmental Inc., www.gsi-net.com

GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **Benzene**
Conducted By: **AD** Concentration Units: **ug/m3**

Sampling Point ID:		VP41 3.0m	VP42 6.0m				
Sampling Event	Sampling Date	BENZENE CONCENTRATION (ug/m3)					
1	28-Jan-16						
2	5-Sep-16		98000				
3	26-May-17	300					
4	9-Feb-18	10	660000				
5	9-Apr-18	250	1000000				
6	26-Jul-18		138000				
7	24-Oct-18		150000				
8	24-Apr-19		67400				
9	24-Oct-19						
10	23-Apr-20	50	597				
11	28-Apr-21	50	104				
12	13-May-22	50	50				
13	13-Apr-25	26	2				
14							
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		1.12	1.61				
Mann-Kendall Statistic (S):		-8	-33				
Confidence Factor:		84.5%	99.9%				
Concentration Trend:		No Trend	Decreasing				



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSi Environmental Inc., www.gsi-net.com

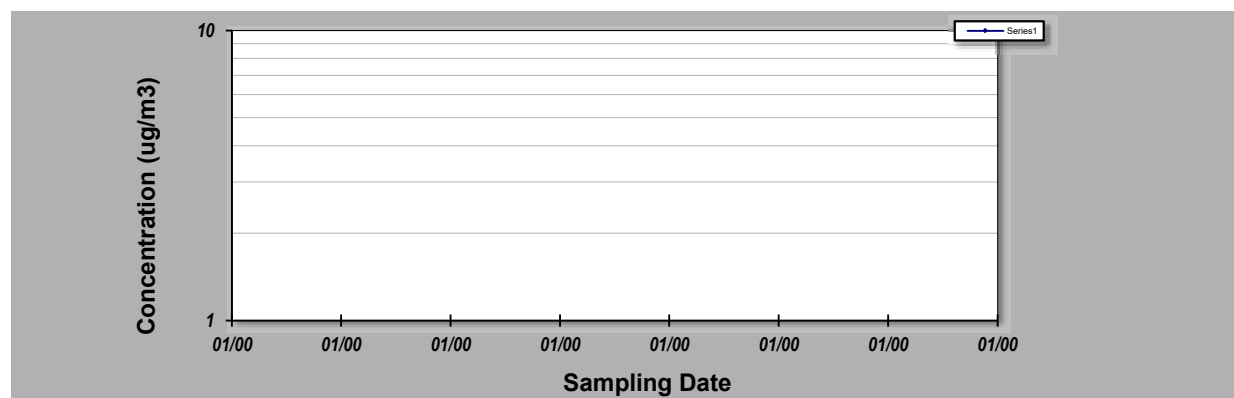
GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **Ethylbenzene**
Conducted By: **AD** Concentration Units: **ug/m3**

Sampling Point ID: **VP42 6.0m**

Sampling Event	Sampling Date	ETHYLBENZENE CONCENTRATION (ug/m3)					
1							
2	1-Jun-17	1800000					
3	9-Feb-18	2400000					
4	9-Apr-18	150000					
5	26-Jul-18	2260000					
6	24-Oct-18	980000					
7	15-May-19	52900					
8	24-Oct-19						
9	23-Apr-20	5250					
10	28-Apr-21	4050					
11	13-May-22	698					
12	13-Apr-25	30					
13							
14							
15							
16							
17							
18							
19							
20							

Coefficient of Variation: 1.32
Mann-Kendall Statistic (S): -37
Confidence Factor: >99.9%
Concentration Trend: Decreasing



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

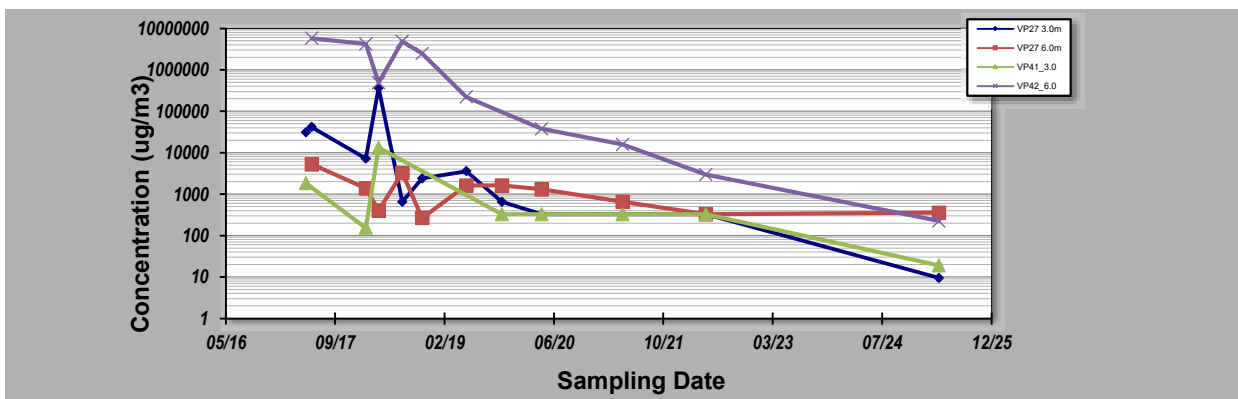
DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSi Environmental Inc., www.gsi-net.com

GSi MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **July 25** Job ID: **EC0193**
Facility Name: **Residential Audit Area - Monitoring** Constituent: **Xylenes**
Conducted By: **AD** Concentration Units: **ug/m3**

Sampling Point ID:		VP27 3.0m	VP27 6.0m	VP41 3.0	VP42 6.0			
Sampling Event	Sampling Date	XYLENES CONCENTRATION (ug/m3)						
1	11-May-17	31000		1820				
2	7-Jun-17	41550	5250		5745000			
3	9-Feb-18	7170	1370	153	4220000			
4	9-Apr-18	369600	405	13180	490000			
5	26-Jul-18	650	3250		4831600			
6	24-Oct-18	2406	266		2462000			
7	15-May-19	3570	1625		221200			
8	24-Oct-19	650	1625	325				
9	23-Apr-20	325	1300	325	37646			
10	28-Apr-21	325	650	325	15710			
11	13-May-22	325	325	325	2970			
12	13-Apr-25	9.5	357.5	19	224			
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		2.76	1.02	2.20	1.28			
Mann-Kendall Statistic (S):		-48	-24	-10	-39			
Confidence Factor:		>99.9%	96.4%	86.2%	>99.9%			
Concentration Trend:		Decreasing	Decreasing	No Trend	Decreasing			



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$): $> 95\%$ = Increasing or Decreasing; $\geq 90\%$ = Probably Increasing or Probably Decreasing; $< 90\%$ and $S > 0$ = No Trend; $< 90\%$, $S \leq 0$, and $COV \geq 1$ = No Trend; $< 90\%$ and $COV < 1$ = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

DISCLAIMER: The GSi Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSi Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSi Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.

GSi Environmental Inc., www.gsi-net.com

APPENDIX H STATEMENT OF LIMITATIONS

STATEMENT OF LIMITATIONS - ECHO RISK CONSULTING PTY LTD

This report has been prepared in accordance with the agreement between The Client and Echo Risk Consulting Pty Ltd (Echo).

Within the limitations of the agreed upon scope of services, this work has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using a degree of skill and care ordinarily exercised by members of its profession and consulting practice. Opinions and judgements expressed herein are based on Echo's understanding of current regulatory standards and should not be construed as legal opinions. No other warranty, expressed or implied, is made.

This report is solely for the use of The Client and any reliance on this report by third parties shall be at such party's sole risk. This report shall only be presented in full and may not be used to support any other objective than those set out in the report, except where written approval with comments is provided by Echo. The report may also be relied upon by a Site Contamination Auditor engaged for the purpose of completing a Site Contamination Audit Report for the site indicated.

The first stage in the site assessment process generally involves site history research and/or a site inspection. This stage is intended to establish whether there is a likelihood of site contamination. Dependent on the location of the site and site conditions, there could be contamination present which could not have been identified by a preliminary investigation of this nature. The investigations rely on information provided to Echo by third parties. Echo cannot guarantee completeness or accuracy of any descriptions or conclusions based on information supplied to it during site surveys, visits and interviews. The extent of risk The Client wishes to accept is something which The Client must determine and accordingly, the Client waives any claim against Echo and agrees to defend, indemnify and hold Echo harmless from any claim or liability for injury or loss allegedly arising from errors, omissions or inaccuracies in documents or other information provided to Echo by The Client.

If recommendations have been made on whether to conduct intrusive investigations, these have been based on the likelihood of site contamination and are generally based on the sensitivity of the proposed future use of the site. The site assessment process is often ongoing, with additional stages of investigation being required to resolve issues raised in previous stages. In cases where intrusive investigations (or other sampling) have been conducted, then the following limitations apply:

- Professional judgment has been used to interpret the data obtained from site sampling and subsequent laboratory testing to characterise contamination that is present on site. The Client accepts that even a comprehensive sampling and testing program, implemented with the appropriate equipment and experienced personnel under the direction of a trained professional who functions in accordance with a professional standard of care, may fail to detect certain conditions because they are hidden and therefore cannot be considered in development of a subsurface exploration program.
- Where relevant, the extent of sampling and analysis has been targeted towards areas where contamination is most likely, based on site history and visual assessment. The potential for contamination that occurs in unexpected locations or from unexplained sources cannot be ruled out. Soil contamination can be expected to be non-homogenous across the stratified soils where present on site, and the concentrations of contaminants may vary significantly within areas where the contamination has occurred. Contaminant movement can follow paths of high permeability and it is possible that sampling will not have intersected these preferential pathways. The scope of services included with the Proposal is that which The Client agreed to or selected considering their own risk preferences and other considerations.
- Intrusive investigations may result in contamination of certain sub-surface areas, as when a probe or boring device moves through a contaminated area, linking it to an aquifer or other water body not previously contaminated. Echo has applied its best efforts to minimise and eliminate such cross contamination during the conduct of any sub-surface investigation. Because sub-surface sampling is a necessary aspect of the work which Echo may perform on The Client's behalf, The client waives any claims against Echo and agrees to defend, indemnify and hold Echo harmless from any claims or liability for injury or loss which may arise as a result of alleged cross contamination caused by sampling.

Preliminary findings which may result from this investigation/study may require verification through further analytical testing programs. The final decision to conduct additional investigative activities will be dependent upon The Client's assessment of the business risks involved. The Client agrees to hold Echo harmless from any claim, losses or damages arising out of The Client's rejection of any additional work suggested as a result of the work performed hereunder.

This report is based on conditions encountered and information reviewed at the time of preparation. Echo disclaims responsibility for any changes that may have occurred after this time.