K2 CONSULTING GROUP

Stage 2 - Environmental Site Investigation

515 Crookwell Road, Kingsdale NSW 2580

Prepared for: Alimaco Pty Ltd

ST-01-1492 / ESI V1 Final
27th August 2022

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Document Summary	
Client	Alimaco Pty Ltd
Title	Stage 2 - Environmental Site Investigation
Address	515 Crookwell Road, Kingsdale NSW 2580
Report No	ST-01-1492/ESI
Version	V1 Final
Date of issue	27th August 2022
Distribution	Alimaco Pty Ltd, K2's Electronic storage system

Document Status			
Revision No	Prepared by	Reviewed by	Issue Date
Revision 1 Final	Kannan Kaliappan	Dawit Bekele (PhD, PE)	27th August 2022

Document Control		
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List of Abbreviations

ACM	Asbestos Containing Material
ASC NEPM	Assessment of Site Contamination – National Environmental Protection Measure (1999 amended 2013)
ASET	Australian Safer Environment & Technology Pty Ltd
ASRIS	Australian Soil Resource Information System
ASLP	Australian Leaching Procedure
BH	Borehole
BGL	Below ground level
BR	Blind replicate
BTEXN	Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene
CLR	Contaminated Land Register
COC	Chain of Custody
CoPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DBYD	Dial Before You Dig
DDD	Dichloro-Diphenyl Dichloroethane
DDE	Dichloro-Diphenyl Dichloroethylene
DDT	Dichloro-Diphenyl Trichloroethane
DP	Deposited Plan
EIL	Ecological Investigation Levels
ESI	Environmental Site Investigation
GPR	Ground Penetrating Radar
HIL	Health Investigation Levels
HSL	Health Screening Levels
LGA	Local Government Area
LOR	Limit of Reporting
m AHD	meters, Australian Height Datum
NATA	National Association of Testing Authorities
NSW EPA	New South Wales Environment Protection Authority
OCP	Organochloride Pesticides
OEH	Office of Environment and Heritage
OPP	Organophosphate Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PID	Photo-ionisation detector
QA	Quality Assurance
QC	Quality Control
RPD	Relative Percentage Difference
SAC	Site Acceptance Criteria
SPR	Source-Pathway-Receptor
SWMS	Safe Work Method Statement
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Level

1. INTRODUCTION

K2 Consulting Group (K2) was engaged by Alimaco Pty Ltd (Client) to undertake a Stage 2 - Environmental Site Investigation (ESI) of the property located at 515 Crookwell Road, Kingsdale NSW 2580 (hereinafter referred to as 'the site'). The site can be identified as Lot 103 and Lot 104 of DP 1007433 and located within the Goulburn-Mulwaree Council Local Government Area (LGA). The site is proposed to be developed into twenty-four (24) low-density rural residential subdivisions/allotments.

This report has been prepared in general accordance with provisions for an Environmental Site Investigation as defined within the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Sites and National Environmental Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM, 2013) and other relevant best industry practices and guidelines.

2. PROPOSED WORKS

The proposed development at the site involves a twenty-four (24) lot rural residential subdivision and the construction of associated infrastructure such as roads and utilities. The existing structures at the site such as the residential buildings, sheds and other infrastructure will be demolished and disposed off-site to assist in proposed development. It is noted that cut and fill works may be undertaken to level ground at the site. The scope of work doesn't include hazardous material inspection at the existing buildings.

3. OBJECTIVES

The objectives of the site investigation for contamination include:

- Review previous site investigations conducted by other consultants;
- Refine the Conceptual Site Model (CSM) from the previous site investigation and update the CSM for any identified source of contamination – exposure pathway and receptor linkages
- Undertake limited intrusive site investigation including soil sampling to identify potential contaminations; and
- Evaluate suitability of the site for the proposed development in accordance with the NEPM 2013 and other relevant guidelines.

4. SCOPE OF WORKS

The scope of works undertaken to prepare the Stage 2 - Environmental Site Investigation report included the following:

- Preparation of Safe Work Method Statement (SWMS);
- Review of available desktop information (all information provided by the client to collate a CSM);
- Review of previous Preliminary Site Investigation (PSI) undertaken at the site by other consultants;
- Preparation of a limited soil sampling program;
- Undertake a Dial Before You Dig (DBYD) search before commencing site works;
- Collection of soil samples from twelve (12) locations across the areas of environmental concerns (AEC) identified during the previous report (**Figure 1**). The soil sample collected to a depth of 0.2 m to 1.0 m Below Ground Level (BGL). The proposed sampling density does not

meet the minimum number of sampling required as per the NSW EPA (2022) and sampling locations are selected using a professional judgemental sampling pattern;

- Laboratory analysis of selected soil samples for contaminants of potential concerns (CoPC) including Heavy metals/metalloids (Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Mercury, and Zinc), Total Recoverable Hydrocarbons (TRH), Polycyclic Aromatic Hydrocarbons (PAH), Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene (BTEXN), Organo Chlorine and Organo Phosphate pesticides (OCP / OPP), and Asbestos (presence or absence);
- Analysis of selected eight (8) soil samples for Australian Standard Leaching Procedure (ASLP) test metal; and
- Preparation of this Stage 2 - Environmental Site Investigation (ESI) report in accordance with adopted guidelines.

5. SITE DESCRIPTION

The site is located at 515 Crookwell Road, Kingsdale NSW 2580 (Lot 103 and Lot 104 on DP 1007433) and is currently zoned RU6 C3-Environmental management under the Goulburn-Mulwaree Local Environmental Plan (LEP) 2009. Compacted earth road base was observed in the driveway section leading from Crookwell Road and the remaining access roads were made of gravel and earth. Imported fill materials may be present under the constructed areas including the residential building and sheds. Topsoil was observed in the other AEC investigated. Areas in other sections of the site outside the AEC were not inspected and are outside the scope of this investigation. Refer to **Table 1** below for the site summary. The site location and boundaries are presented in **Appendix I**.

Table 1. Site Identification

Item	Description
Client	Alimaco Pty Ltd
Site Address	515 Crookwell Road, Kingsdale NSW 2580
Current Zoning	RU6 C3 – Environmental Management
Legal Description	Lot 103 and Lot 104 on DP 1007433
Local Government Authority	Goulburn-Mulwaree Council
Site Area (ha)	55 Approx.
Elevation (m AHD)	Between 670 along the South to 682 along the north
Geographical Location (GDA94-MGA56)	34°42'58" S 149°42'13" E

5.1. Surrounding Land Use

A summary of surrounding land uses is provided in **Table 2** below.

Table 2. Summary of surrounding areas

Surrounding areas	Description
Eastern section	Crookwell Road is the eastern boundary of the site beyond which is Sparse rural dwellings and paddock land.
Western section	The western boundary is defined by a cattle fence. Paddock land beyond the western boundary. Lake Sooley is located approximately 1 km to the west of the site.
Northern section	The northern boundary is defined by a cattle fence. Paddock land and sparse rural dwellings beyond.
Southern section	The southern boundary is defined by a cattle fence. Paddock land and sparse rural dwellings. The Wollondilly River has located approximately 1.8 km to the south of the site.

5.2. Site Description

The following site features were observed during the site walkover inspections and are summarised below:

- An unpaved driveway was observed to traverse from Crookwell Road on the eastern boundary to the residential property;
- A residential house was located centrally along the eastern section of the site. The inside of the house was not inspected. The house is a stand-alone residential building and is not attached to any sheds;
- The site was predominantly used as a sheep farm;
- A workshop shed was located adjacent to the house. The workshop was primarily used for maintenance of automobile and farm equipment and related storage of items including chemicals such as oils, and herbicides;
- A sheep mustering dock was located in the northern section of the site, which contains two (2) sheds;
- Hay storage shed, and a silo was observed to the west of the workshop shed;
- Another small shed was located along the western boundary of the site;
- Multiple fence lines and cattle grids were observed within the site;
- Extended driveways and tracks were observed leading to multiple storage sheds and silos located on the site. The remaining surfaces on site were grassed paddock land;
- Three (3) surface water dams constructed from soil embankments were observed on-site. The water in the dam located to the south-eastern section of the property appeared to contain a pinkish layer of film. No further investigation was undertaken during this assessment;
- Mature trees were noted across the property;
- The site is elevated along the northern section and generally slopes down towards the southern and western sections. Any surface water along the northern and eastern sections of the site will eventually drain into the Wollondilly River to the south of the site;

- Stockpiles of demolished construction material and timber were observed along the northwest corner of the site;
- Two (2) above-ground fuel storage tanks and agricultural machinery were observed to the north of the workshop shed. The volume of the fuel tanks was not determined during the inspection. Please refer to Photos.13 and 14 for the location and size of the tanks;
- IBC containers of unknown liquids were observed along AEC 2 and AEC 3. IBCs were partially filled with these unknown liquids and hence a volume could not be determined. Chemical containers were observed to be present at multiple locations on-site mainly along the driveway footprint in the eastern section of the site;
- An underground septic system and soil irrigation area were noted to the east of the house at AEC 2, however, no further investigation was undertaken as K2 did not have any plans of underground utilities or pipelines in this area;
- Power lines were noted to traverse through the site in a north-south direction; and
- Groundwater bores were noted along the eastern section of the site; however, the total number of bores on-site was not inspected. Water storage tanks were observed at multiple locations on-site, it is assumed that the extracted groundwater is stored in these tanks for farming purposes. Sub-surface water lines were reported to be present on-site, however, no drawings indicating the lines were available at the time of inspection.

Relevant site features are presented in **Figure 1** of this report.

6. PREVIOUS INVESTIGATIONS

Preliminary Site Investigation, Report No: 20027CC-001, dated 28th October 2021 (Civplan PSI 2021):

CivPlan Pty Ltd (CivPlan) prepared a PSI for the site and a summary of the report is presented below:

- *"Historical information for the property and onsite observations indicate that potentially contaminating activities may have occurred on site which may have impacted the site. The potential contaminants of concern associated with these activities, and the potential areas of environmental concern (AECs) are defined in the Conceptual Site Model (CSM);*
- *Potential for on-site use of pesticides, primary effluent disposal area, vehicle/equipment storage and maintenance activities, pre-1998 dwelling, shed and structure construction materials and importation of fill materials for the driveway which may have contained contaminants entrapped at the source of the fill; and*
- *Four AECs have been identified (refer to **Figure 1**) and will require further investigation both pre and post-demolition of the existing structures. The remainder of the site is of the MODERATE likelihood for any contamination due to agricultural land use activities and will also require additional investigation. "*

The recommendations in the report by CivPlan are summarised below:

- *"Due to the historical use of the site resulting in a moderate likelihood of any contamination, it is recommended that a Detailed Site Investigation (DSI) is undertaken to determine if the site is fit for its intended purpose;*

- *To address potential AEC and CoPC, an intrusive soil sampling regime is recommended to be conducted. The sampling regime must be in accordance with the following statutory guideline documents:*
  - *Consultants reporting on contaminated land, NSW EPA 2020;*
  - *National Environmental Protection (Assessment of site contamination) Measure, NEPM (2013).”*

7. CONCEPTUAL SITE MODEL

A conceptual site model (CSM) is a tool that relates identified impacts to potentially contaminated source areas based on interpretation of the geology/hydrogeology and contaminant migration pathways and potential human and environmental receptors. A CSM provides a discussion of the nature and extent of impacts, and relevant source-pathway-receptor (SPR) linkages.

A CSM was prepared by CivPlan (Civplan PSI 2021). **Table 3** below presents the updated CSM based on additional information and investigation undertaken by K2.

Table 3. Amended Conceptual Site Model

Source	Contaminants of Potential Concern (CoPC)	Affected Areas	Primary Release Mechanism	Secondary Release Mechanism	Potential Impacted Media	Exposure Pathways	Potential receptors*	The Potential risk of Complete exposure pathway
Imported fill material underneath concrete hardstand areas under the sheds and from compacted driveways within the site	TRH, BTEX, PAH, Heavy metals, OCP, OPP, Asbestos	Across the site, with emphasis on the areas adjacent to the AECs	Placement of fills material onsite	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water run-off	Dermal contact, inhalation of dust/vapour, ingestion, surface water, and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete
Storage of chemical containers and IBCs of unidentified liquids on site	TRH, BTEX, PAH, OCP, OPP, PCB, Heavy metals, Asbestos	Across the site, with emphasis on the areas adjacent to the AECs	Release of any hydrocarbon-based oils and fluids	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water	Dermal contact, inhalation of dust/vapour, ingestion, surface water, and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete
Fuel and oil spillage from maintenance, parking and refuelling of motor vehicles on site	TRH, BTEXN, PAH, Heavy metals	Across the site, with emphasis on the areas adjacent to the AECs	Release of any hydrocarbon-based oils and fluids, metals from the vehicles	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water	Dermal contact, inhalation of dust/vapour, ingestion, surface water and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete
Historical usage of pesticides onsite and adjacent properties	TRH, BTEXN, PAH, OCP, OPP, Heavy metals	Across the site, with emphasis on the areas adjacent to the AECs	Use of pesticides for landscaping/land management activities	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water	Dermal contact, inhalation of dust/vapour, ingestion, surface water and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete
Runoff from the septic effluent irrigation system	TRH, BTEXN, PAH, Heavy metals. Microbial contamination	Across the site, with emphasis on the areas adjacent to the AECs	Septic effluent irrigation system presents on site	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water	Dermal contact, inhalation of dust/vapour, ingestion, surface water and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete

Source	Contaminants of Potential Concern (CoPC)	Affected Areas	Primary Release Mechanism	Secondary Release Mechanism	Potential Impacted Media	Exposure Pathways	Potential receptors*	The Potential risk of Complete exposure pathway
Buildings onsite	PCB, Metals especially lead in paints, asbestos	Across the site, with emphasis on the areas adjacent to the building structures	Building material used on-site during construction	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water	Dermal contact, inhalation of dust/vapour, ingestion, surface water and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete
Above-ground fuel storage onsite	TRH, BTEXN, PAH, Heavy metals	Across the site, with emphasis on the areas adjacent to the AECs	Release of any hydrocarbon-based oils and fluids from the storage tanks	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water	Dermal contact, inhalation of dust/vapour, ingestion, surface water and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete
Stockpiles of demolished construction waste materials onsite	TRH, BTEXN, PAH, Heavy metals, asbestos.	Across the site, with emphasis on the areas adjacent to the AECs	Release of contaminants from the materials onto the soils	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water	Dermal contact, inhalation of dust/vapour, ingestion, surface water and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete
Adjacent sites – Goulburn timber works are located upstream of the site	Heavy metals in particular Chromated copper arsenate	Across the site	Potential wood treatment activities	Leaching and migration of contaminants via surface runoff, rainwater infiltration during historical land use, or disturbance during future development	Soil, groundwater, and surface water	Dermal contact, inhalation of dust/vapour, ingestion, surface water and groundwater migration.	Current residents, future residents, future workers, neighbouring residents, and construction personnel involved in the development of the site	Complete
							Groundwater	Complete

Note: *The proposed land use for large rural residential development may include continuing use as sheep graziers in parts of the subdivided lots.

8. Field Investigation Methodology

8.1. Soil Investigation

A total of nine (9) boreholes were drilled with the assistance of a hand auger for the top 0.2 m BGL and an excavator-mounted solid flight auger was used for the deeper samples. The sampling locations were based on a judgemental sampling pattern based on review information from the previous PSI report and site walkover inspection. Twenty (20) primary and one (1) intra-laboratory duplicate soil samples were collected and analysed for the CoPCs shown in **Table 3**. In addition, two (2) surface soil samples were collected and analysed for the CoPC. All samples were analysed at Eurofins|MGT (Eurofins)**,** an accredited laboratory by the National Association of Testing Authorities (NATA), Australia.

Generally, soil samples were collected from 0.0 m - 0.2 m BGL in the topsoil and underneath natural soils below or from soils where apparent contamination or change in the soil profile was noted. Natural soils (Silty clay) were generally encountered at varying depths at the boreholes between 0.2 m BGL to 0.7 m BGL. No refusal was encountered in the boreholes undertaken. Ground conditions encountered during the site investigation are generally consistent with the information reviewed as part of the PSI.

Borehole logs were prepared as per the Australian Standard Geotechnical Site Investigations AS 1726-1993, presented in **Appendix III**. Field observations and visual soil indicators such as staining, odour, and discolouration, were considered during the collection of samples and are recorded in the soil bore logs **(Appendix III).** No Photoionization Detector (PID) readings were taken as no indications such as odour and staining were observed during drilling. There was no gross contamination observed at the surface soil during the site inspection.

A Dial Before You Dig (DBYD) was undertaken to ascertain the services underground and finalise the sampling plans accordingly. Several underground water pipes are reported to traverse through the site and hence hand auguring to 0.2 m BGL depth to avoid pipe cutting prior to the mechanical auger. No underground utilities were damaged during the investigation.

Sampling Procedures

Soil samples were collected using appropriate personal protective equipment (PPE) including wearing disposable nitrile gloves, which were changed between each sample. Soil samples marked for chemical analysis were carefully placed in glass jars supplied by the laboratory. The jars were filled with soil samples to minimise any headspace.

Approximately 30 g - 50 g of soils were placed in zip lock bags for asbestos analysis (presence/absence method).

All field observations were noted in the field sheet using the chain of custody (COC) including, unique sample identification, sample description, sampling coordinates, soil profiles, and borehole numbers (appendix V) .

Sample Transportation

The jars were placed in an esky with chilled ice for sample preservation and transportation. The field forms were completed, and the samples were then transferred to the laboratories under (COC) forms.

All samples will be stored in the laboratories for a specified period following the receipt of samples.

Decontamination Procedures

The sampling tools were decontaminated with Decon 90 detergent spray and rinsed with deionised water to ensure no cross-contamination occurs from other sampling locations. This decontamination procedure was followed between the sampling locations within the site. Any excess soils collected during the investigation were used to backfill the borehole and reinstated the ground. No soils from the sampling program were taken off-site for disposal.

8.2. Laboratory Analysis

Chemical Analysis

A total of twenty (20) primary soil samples from test boreholes and two (2) surface samples were collected during field investigations and sent to Eurofins for analysis of the CoPC.

In addition, one (1) blind intra-laboratory duplicate sample (ST-01-1492-BR1) was sent to Eurofins for QA/QC purposes.

Asbestos Analysis

Four (4) primary and one (1) blind duplicate soil samples were sent to Australian Safer Environment and Technology (ASET) for analysis of asbestos in soils (presence/absence method). One (1) fibrous cement sheet sample collected from a debris stockpile was also sent to ASET for analysis of asbestos. The samples were tested for the presence/absence of asbestos in soils (AS 4964-2004 method).

Additional Analysis

One (1) sample (Sample ID: ST-01-1492-BH08- 0.4m) was analysed for % Clay, pH, Conductivity, and Cation Exchange Capacity (CEC) by Eurofins for the assessment of site – specific EILs.

9. SITE ASSESSMENT CRITERIA

9.1. Soil Assessment Criteria

The adopted site assessment criteria (SAC) used in this investigation are as per the Assessment of Site Contamination, National Environment Protection (Assessment of Site Contamination) Measure (1999 as amended 2013).

9.1.1. Adopted site assessment criteria (SAC)

Based on the current and the proposed land use (sub-division into 24 low-density residential rural allotments), health investigation level **(**HIL) A - Residential land use with garden/accessible soil was considered as the Tier 1 screening criteria relevant to the proposed development.

Health Screening Levels (HSLs) were established for specific petroleum hydrocarbon contaminations to assess the human health risk from vapour inhalation and direct contact pathways. The HSLs is a site-specific depending on the physio-chemical properties of subsurface soil at the site, generally the soil at the site is characterised as Clay (clay, clay loam, and silt loam) and are summarised in the SAC, however values for sand is used here as a conservative criteria in **Table 4**.

Table 4. Site Assessment Criteria – HIL-A

Analytes	Health Investigation Levels (A)[1]	Health Screening Levels Residential (A)[2]		Management Limits (A) Fine soils (mg/kg)
		HSL (mg/kg)[3]	Direct Contact (mg/kg)	
Arsenic (total)	100	-	-	-
Cadmium	20	-	-	-
Chromium (Total)	100	-	-	-
Copper	7000	-	-	-
Lead	300	-	-	-
Mercury (inorganic)	200	-	-	-
Nickel	400	-	-	-
Zinc	8000	-	-	-
Polycyclic aromatic hydrocarbons (PAHs)	300	-	-	-
Carcinogenic PAHs (As BaP TEQ)	3	-	-	-
Phenols	3000	-	-	-
DDT+DDE+DDD	260	-	-	-
Aldrin and Dieldrin	7	-	-	-
Chlordane	50	-	-	-
Endosulfan	300	-	-	-
Endrin	10	-	-	-
Heptachlor	7	-	-	-
Hexachlorobenzene	10	-	-	-
Methoxychlor	400	-	-	-
Chlorpyrifos	170	-	-	-
Benzene	-	0.6	100	-
Toluene	-	190	14000	-
Ethyl Benzene	-	NL	4500	-
Xylene	-	45	12000	-

Naphthalene	-	3	1400	-
TRH: $C_6 - C_{10}$ (F1)	-	50	4400	800
TRH: C_{10}-C_{16} (F2)	-	130	3300	1000
TRH: C_{16}- C_{34} (F3)	-	-	4500	3500
TRH: $C_{34} - C_{40}$ (F4)	-	-	6300	10000

Notes:

1. HIL A - Residential with garden/accessible soil (homegrown produce <10% fruit and vegetable intake, (no poultry), also includes children's day-care centres, preschools, and primary schools.
2. Health Screening Levels (HSL) for surface soils 0 m to <1 m where applicable. NL - Not Limiting.
3. Clay (clay, clay loam and silt loam) criteria were adopted.

9.1.2. Management Limits

Schedule B1 of NEPM ASC 2013 includes 'management limits' to avoid or minimise any potential impacts from petroleum hydrocarbon fractions (F1, F2, F3 and F4) and referred indicate the maximum acceptable values above which a site-specific assessment is required. The management limits apply to all soil depths if any petroleum hydrocarbon contamination is identified at the site. Management limits should be considered to identify the presence of phase-separated hydrocarbons (light non-aqueous phase liquids - LNAPL), gross contamination, any potential fire or explosive risks and damage to buried infrastructure and aesthetics of the site.

Based on the current and future development, the Management Limits adopted during this investigation are 'Residential, parkland and public open spaces and are summarised in the SAC, see **Table 4**.

9.1.3. Ecological Investigation Levels (EILs)

Ecological Investigation Levels (EILs) and Added Contaminant Limits (ACLs), where appropriate, have been derived for selected metals and organic compounds and are applicable for assessing risk to terrestrial ecosystems (NEPC, 2013).

Site-specific EILs were calculated based on the equation as below:

EIL=ABC (ambient background concentration) + ACL (added contaminant limit)

The Interactive (Excel) Calculation Spreadsheet was used for calculating site-specific EIL for these contaminants. Input values included were based on site-specific testing undertaken on the sample (sample ID: ST-01-1492-BH08-0.4m):

- A low traffic volume in NSW;
- Conservative organic carbon content of 1% in the absence of site-specific test results;
- Clay content of 49%;
- A pH of 4.5; and
- A cation exchange capacity (CEC) of 19 meq/100g.

In addition, given the site history, the contamination was considered to be aged (i.e. not fresh). The EIL is presented in **Table 5**.

One (1) sample collected from BH2 at 0.2 m BGL (sample ID: ST-01-1492-BH02-0.2m) was analysed for heavy metals and is considered to be the background concentration for this EIL study. However, it is

recommended that additional samples are collected in the future to ascertain a statistical mean background reading.

Table 5. Site Assessment Criteria -Ecological Investigation Levels

Analyte	ABC (mg/kg)	ACL	EIL (mg/kg)
Arsenic	4.3	100	100
Copper	17	60	75
Nickel	30	260	290
Chromium III	81	400	750
Lead	22	1100	1100
Zinc	49	120	170
Naphthalene	<LOR	170	170
DDT	<LOR	180	180

9.1.4. Asbestos in soils

Asbestos in soils was analysed using the Australian Standard AS 4964-2004 (Method for the qualitative identification of asbestos in bulk samples) by a NATA accredited laboratory. The presence of asbestos was used as an indication to assess the soils for any risks from asbestos. If any samples were identified to be positive or if any Asbestos Containing Material (ACM) is observed in soils, a detailed asbestos investigation is recommended.

9.1.5. Acceptable statistical analysis

The soils with contaminant concentration that meets the following criteria will be considered acceptable:

- The maximum concentration of analytes in all samples meet the adopted acceptance criteria; or
- The 95% UCL average concentration of each contaminant is below the adopted acceptance criteria; and
- No individual exceedance is greater than 2.5 times the acceptance criteria.

A location will be a ‘hot spot’ and requires further management, including additional assessment and remediation if:

- The concentration of a contaminant is greater than 2.5 times the acceptable adopted criteria; and
- The 95% UCL average concentration is above the adopted acceptance criteria

10. RESULTS AND DISCUSSION

10.1. Field Observations

In general, fill material was observed at boreholes BH1, BH3, BH7 and BH8 to a maximum depth of 0.7 m BGL. The fill materials comprised of road base and gravels which appeared to have been imported from construction demolished waste material for the construction of access roads. Natural soils were encountered at varying depths at the boreholes investigated, which comprised silty clay. In the remaining boreholes, organic-rich topsoil was encountered at 0.0 m - 0.2 m BGL. No groundwater was encountered in the boreholes during sampling. Please refer to the bore logs for the depth of fill and natural soils at each test location.

10.2. Discussion of Analytical Results

A summary of laboratory results and chain of custody is provided in QA/QC Laboratory certificates are presented in **Appendix IV**.

Metals /Metalloids

The concentration of heavy metals (Arsenic, Cadmium, Copper, Lead, Nickel, Mercury, and Zinc) was below the adopted SAC for HIL-A except Chromium:

Chromium:

- A total of twelve (12) out of Twenty (20) primary samples exceeded the adopted SAC of HIL-A for the total chromium (100 mg/kg);
- No sample concentration exceeded the site adopted EIL concentration of 750 mg/kg for chromium;
- The concentration of chromium at borehole BH01 at 1.0 m BGL (sample ID: ST-01-1492-BH01 (1.0m)) was recorded as 250 mg/kg, however, did not exceed the 250 % of SAC, hence is not considered as a hotspot;
- A ProUCL statistical analysis undertaken on the samples indicated the student-t UCL of 139 mg/kg, which is above the HIL-A of 100 mg/kg (Refer to **Appendix VI**);

The soil sample exceeding the adopted SAC of HIL-A (100 mg/kg) for the concentration of total chromium is presented in **Table 6** below.

Furthermore, an ASLP analysis was undertaken on eight (8) samples and the result indicated in **Table 6**. The results of the ASLP analysis indicated the following:

- Hexavalent chromium was detected above the LOR (0.005 mg/L) in four (4) of the eight (8) samples analysed. The deepest soil sample analysed was collected at 0.4 m BGL (sample IDs- ST-01-1492-BH02-0.4m and ST-01-1492-BH04-0.4m), which indicates detection of Hexavalent and Trivalent chromium considered as evident leaching of chromium (VI) from the surface soils;
- Trivalent chromium was observed above the LOR (0.005 mg/L) in six (6) out of the eight (8) samples analyses. The deepest sample analysed was collected from 0.4 m BGL (sample ID- ST-01-1492-BH02-0.4m, ST-01-1492-BH04-0.4m) which indicates potential leaching of chromium (III) from the soils.

Table 6. Summary of Chromium exceedance and ASLP concentration

Borehole sample ID	Depth (m)	HIL-A	EIL	Chromium concentration (mg/kg)	ASLP concentration Chromium-hexavalent (mg/L)	ASLP concentration Chromium-trivalent (mg/L)
		mg/kg	mg/kg		LOR 0.005 mg/L	LOR 0.005 mg/L
ST-01-1492-BH01	0.2	100	750	190	<0.005	0.35
	0.7			150	-	-
	1.0			250	<0.005	<0.05
ST-01-1492-BH02	0.4			110	0.010	0.18
ST-01-1492-BH03	0.2			140	<0.005	0.16
	0.5			150	-	-
ST-01-1492-BH04	0.2			170	-	-
	0.4			110	0.011	0.20
ST-01-1492-BH08	0.2			160	0.014	0.11
ST-01-1492-BH11	0.2			130	0.016	0.044
	0.4			190	-	-
ST-01-1492-SS02	0.0			140	<0.005	<0.05

TRH/BTEX

The concentrations of TRH/BTEX were below the laboratory Limit of reporting (LOR) , the adopted SAC and the management limits.

PAH

The concentrations of all PAH were below the laboratory LOR and hence were below the adopted SAC and the management limits.

OCP/OPPs

The concentrations of all OCP/OPPs were below the laboratory LOR and the adopted SAC.

Asbestos

No ACM fragments were observed on-site during the site walkover or the soil drilling program. No asbestos was detected in any of the soil samples presented to the laboratories for analysis. Based on field observation and laboratory analysis, it can be concluded that no asbestos was detected in the investigated area. If any fragments or any asbestos in other forms are detected in the soils onsite all works should be ceased and the unexpected finds procedure as per **section 13** shall be implemented immediately.

11. DATA QUALITY INDICATORS ASSESSMENT

11.1. Precision

11.1.1. Duplicate samples

Blind duplicate samples were used to identify any variation in analyte concentration from samples collected from the same sampling point and ensure the repeatability of the laboratory's analysis method. A split duplicate sample was collected to determine the analytical proficiency of the laboratories.

The acceptance criteria for quality control samples as stipulated in AS4482.1-2005 indicates that a 30-50% range of the mean concentration of the analyte (RPD) is acceptable with the below criteria adopted for this purpose:

- RPD 30% for organics and RPD 50% for inorganics - if concentration greater than or equal to 10x the laboratory Detection Limit (LOR);
- No limit - if the primary and duplicate concentration is less than 10 x the LOR; and
- If both sample values are less than the LOR, the RPD is not calculated

A summary of the RPD between the primary sample (ST-01-1492-BH08 (0.2m)) and the duplicate sample (ST-01-1492-BR1) is provided in Table 7 below. No asbestos was detected in the primary and blind duplicate samples.

The surrogate spikes undertaken by the laboratory for the contaminants of potential concern meet the control limits of 50-150%. A review of the holding times of the analytes indicated that all samples were provided to the laboratory under suitable cold chain conditions and within the holding times prescribed. The RPDs and the lab comments indicate that sample collection and handling have been undertaken in accordance with the acceptable limits and no anomalies were detected. Standard analytical methods used during this investigation were accredited by NATA. Eurofins Laboratory was used as a primary laboratory for chemical analysis. ASET was used as the primary laboratory for asbestos analysis in the soil samples. All chain of custody and field documentation was reviewed. The samples were collected by an experienced field consultant and soil profiles and other observations were noted during the investigation.

As per NSW EPA (2020) Contaminated Land Guidelines - Consultants Reporting on Contaminated Land, One (1) intra-lab duplicate sample should be collected for every ten (10) primary samples and one (1) inter-lab sample should be collected for every twenty (20) samples , however in this investigation this criteria was not met as the soil sampling program planned was a preliminary and a limited assessment. Future investigations will be designed to meet this criteria.

The analysis of the QA/QC program indicates that the data obtained from this investigation undertaken by K2 Consulting Group can be considered reliable and representative of the soil conditions on-site during the time of sampling.

Table 7. RPD comparison between primary sample and Blind Duplicate sample

Analyte	LOR	Blind Duplicate Samples			
		ST-01-1492-BH08 (0.2m)	ST-01-1492-BR1	RPD%	DQI met
Arsenic	2	30	18	50	Yes
Cadmium	0.4	<0.4	< 0.4	NA	Yes
Chromium (total)	5	160	130	21	Yes
Copper	5	14	12	15	Yes
Lead	5	31	28	10	Yes
Mercury	0.1	<0.1	<0.1	NA	Yes
Nickel	5	11	10	10	Yes
Zinc	5	21	26	21	Yes
Benzene	0.1	<0.1	<0.1	NA	Yes
Toluene	0.1	<0.1	<0.1	NA	Yes
Ethylbenzene	0.1	<0.1	<0.1	NA	Yes
Xylene	0.3	<0.3	<0.3	NA	Yes
Benzo(a)pyrene	0.5	<0.5	<0.5	NA	Yes
Total PAH	0.5	<0.5	<0.5	NA	Yes
TRH C6-C10	20	<20	<20	NA	Yes
TRH C10-C16	50	<50	<50	NA	Yes
TRH C16-C34	100	<100	100	NA	Yes
TRH C34-C40	100	<100	<100	NA	Yes

NA- Analyte concentrations below LOR and hence no RPD was calculated

12. CONCLUSIONS

The below discussion is based on a site walkover inspection, a review of publicly available information, a review of previously available reports and the laboratory results from the soil samples collected during the investigation.

- Among the twenty (20) soil samples analysed for various contaminants of concern, twelve (12) soil samples exceeded the site assessment criteria (HIL-A) for total chromium. The ASLP leaching analysis undertaken in eight (8) representative samples indicated there is a potential for both trivalent and hexavalent chromium to leach from the soil matrix;
- Statical analysis UCL using ProUCL analysis for total chromium was undertaken on twenty (20) results and the 95 % UCL Student-t values were 139 mg/kg which exceeds the HIL A criteria of 100 mg/kg;
- No asbestos was detected in any of the soil samples analysed;
- One (1) fibrous cement sheet sample collected from a construction debris stockpile did not record the presence of asbestos;
- Data quality assessment undertaken on the samples indicates that the samples and the field procedures met the Data Quality Indicators according to Eurofins Laboratory Quality Control acceptance criteria;
- RPDs between the primary sample (ST-01-1492-BH08 (0.2m)) and duplicate sample (ST-01-1492-BR1) were calculated, and it is noted that the RPDs of these samples were below the allowed criteria; and
- The laboratory analytical procedures met the laboratory Data Quality Indicators and adopted criteria.

K2 Consulting Group was advised that the proposed development at the site involves a twenty-four (24) lot rural residential subdivision and the construction of associated infrastructure such as roads and utilities. The existing structures at the site such as the residential buildings, sheds and other infrastructure will be demolished and disposed off-site to assist in proposed development. Consequently, require further investigation both pre and post-demolition of the existing structures.

K2 has been advised that cut and fill earth works may be undertaken to level ground at the site. K2 Recommends further sampling the recommended sampling density for site characterisation as per NSW EPA (2022) prior to moving soil on-site and/or transported off-site. Based on the site history review and site walkover, it is considered that there is a moderate to high potential for site contamination from one or more of the identified potential contamination sources (see Section 7) and it is concluded that the environmental and human health risk is high. This report does not warrant the absence of contamination at the remaining area at the site.

13. RECOMMENDATIONS

13.1. Identified Data Gaps

K2 Consulting recommends the following data gaps are addressed to assess the suitability of the site for the proposed development:

- The site investigation is limited only to AECs identified in the previous PSI undertaken by CivPlan. Consistent with the CivPlan, K2 recommends additional investigation of the remainder of the site for any contamination due to agricultural land use activities and the presence of fill materials;
- If any unexpected finds including but not limited to foreign materials including building materials, asbestos, materials buried under the surface of the soils, hydrocarbon-based materials or unpleasant fill materials are encountered on-site during the development works, all works shall cease, and the contaminated land consultant shall be contacted immediately for further advice;
- Both hexavalent and trivalent chromium has a potential to leach from the soil matrix as shown in elevated detections in the deeper soil samples (BH02/0.4 and BH4/0.4) as well as in the ASLP test results. Groundwater assessment is recommended to ensure that the groundwater is safe for the present and future use of the site. The site inspection identified on-site existing groundwater extraction bores, the K2 recommends testing for the exiting bores and further investigation of groundwater contamination using additional monitoring bores installed at strategic locations and monitoring for a period of time;
- Sampling and analysis of surface water from surface water dams across the site. This will assist in the dam decommissioning works, where the soils and sediments can then be classified for future management;
- A surface water dam dewatering and decommissioning plan is recommended to be prepared and implemented before the commencement of earth works;
- Investigate areas around the sewage effluent irrigation area for microbial and other potential contaminants;
- Undertake a detailed desktop study including but not limited to the activities on-site and neighbouring sites, the search of chemical storage register, and groundwater extraction wells.

Ecological Investigation Levels

The concentration of chromium in the soil samples collected was below the site-specific derived EIL of 750 mg/kg. As per NEPM schedule B5b, all EILs only apply to soil to a depth of 2 m BGL. Current investigations were undertaken to a depth of 1 m BGL. It is recommended that an EIL assessment is undertaken in soil profiles between 1 to 2 m BGL to address the data gap.

Sampling Analysis and Quality Plan (SAQP)

A Sampling Analysis and Quality Plan is recommended to be prepared as the next step. This SAQP will capture the requirements of the future investigation works, address data gaps and define the scope and the extent of the future environmental investigations on site.

14. LIMITATIONS

This report has been prepared for use by the Client who has commissioned the works in accordance with the project brief only and has been based on information provided by the client. The advice herein relates only to this project and all results, conclusions, and recommendations made should be reviewed by a competent and experienced person with experience in environmental and occupational hygiene investigations, before being used for any other purpose.

K2 Environmental Services Pty Ltd (K2) accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced or amended in any way without prior approval by the client or K2 and should not be relied upon by any other party, who should make their own independent inquiries. This report does not provide a complete assessment of the status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, K2 reserves the right to review the report in the context of the additional information. When interpreting reports from other parties, K2 assumes that works undertaken were of a high standard. K2 does not take responsibility for the works or quality of reports produced by other parties involved in the project at any time.

The report is reviewed and authorised by Dawit Bekele (PhD, PE) (Certified Site Contamination Specialist CEnvP-SC (ID. SC41149). Dawit has provided an expert review of this report based on the information and data provided by K2. K2's professional opinions are based upon its professional judgment, experience, training, and results from analytical data (if applicable). In some cases, further testing and analysis may be required, thus producing different results and/or opinions. K2 has limited investigation to the scope agreed upon with its client. It should be noted only the subject area outlined in this report was inspected and adjacent areas may contain asbestos. K2 reserves the right to retract, review and amend this report if an omission, error, or further investigation is required that may affect the conclusions in the report.

Unless otherwise agreed in writing and signed by both parties, K2's total aggregate liability will not exceed the total consulting fees paid by the client in relation to this Proposal. K2 has used a degree of care and skill ordinarily exercised in similar investigations by a reputable member of the Environmental Industry within Australia. No other warranty, expressed or implied, is made or intended.

15. REFERENCES

- National Environment Protection Council (NEPC), (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999, NEPM, Canberra. Schedule B2: Guideline On-site Characterisation*.
- NSW EPA (1997). *Contaminated Land Management Act 1997.*
- NSW Environmental Protection Authority (2014). Waste Classification Guidelines.
- NSW Government (2016). NSW Work Health and Safety Regulations.
- NSW EPA (2020) Contaminated Land Guidelines - Consultants Reporting on Contaminated Land.
  NSW EPA (2022) Contaminated land sampling design guidelines , part 1 – application.
- Australian Standard 4482.1-2005: Guide to the Investigation and Sampling of Potentially Contaminated Soil – Part 1: Non-volatile and semi-volatile compounds, Part 2: Volatile compounds

Appendix I

Aerial Photographs

AEC 1 – Shed, silo
AEC 2 – Residential dwelling, shed
AEC 3 – Shed, silo
AEC 4 – Shed

Figure 1. Aerial photograph of the subject areas on site - Areas of Environmental Concern (AEC) identified by the PSI (Civplan PSI 2017).

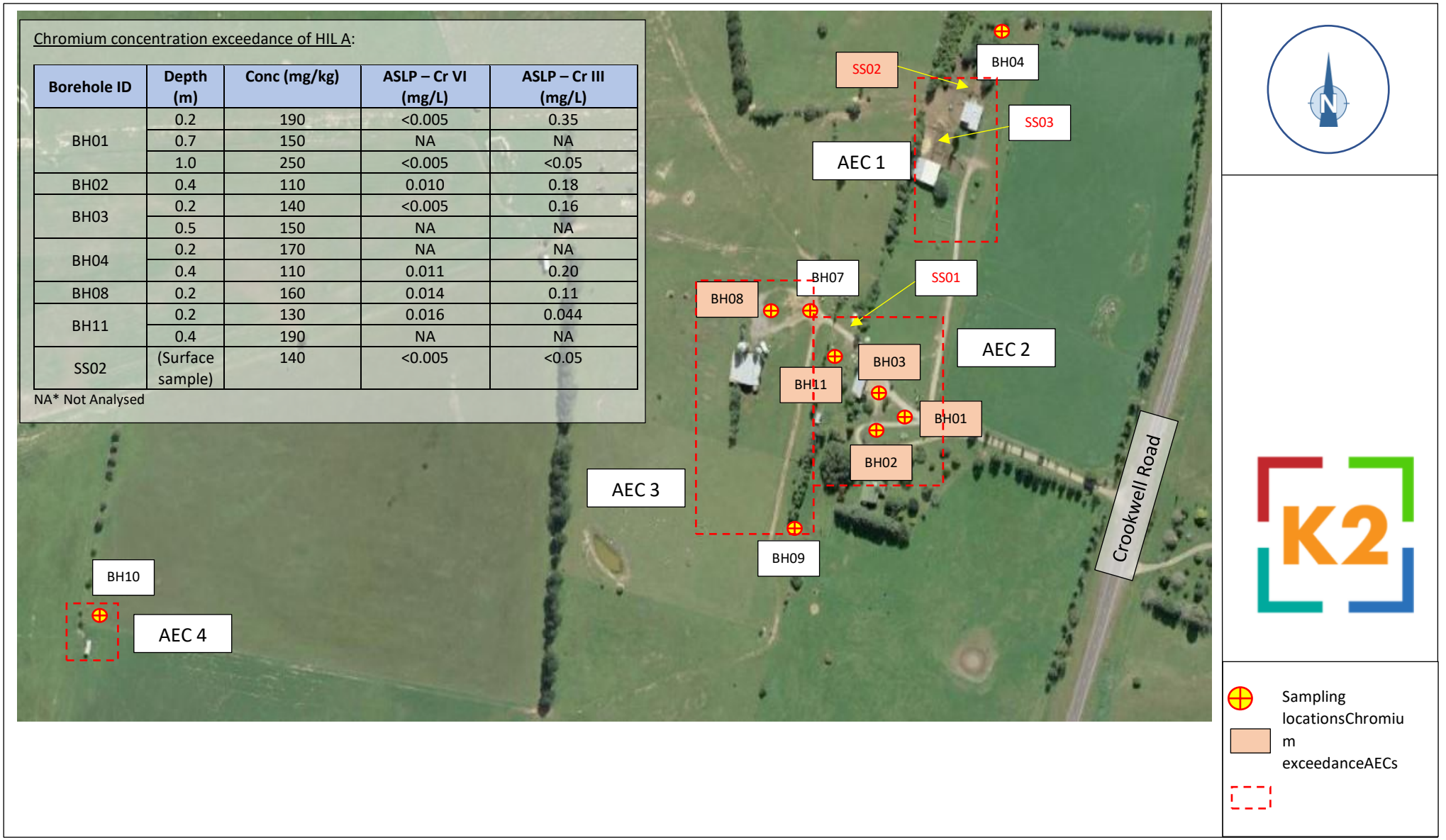

Figure 2. Aerial photograph of the subject site with approximate borehole locations and chromium exceedance.

Appendix II

Photographs

Photo.1. Representative photo of the imported fill and soil profile at borehole 1 (on the driveway).

Photo.2. Representative photo of soil profile at borehole 3.

Photo.3. Representative photo of the imported fill and soil profile at borehole 8.

Photo.4. Representative photo of the soil profile observed at borehole 4.

Photo.5. Representative photo of storage in the shed at AEC 2.

Photo.6. Representative photo of storage of equipment and chemicals in the shed at AEC 2.

Photo.7. Representative photo of IBC scattered on site.

Photo.8. Representative photo of rubbish pile observed on the site.

Photo.9. Representative photo of agricultural equipment on site.

Photo.10. Representative photo of colourbond shed present on site.

Photo.11. Representative photo of soil profile at the cattle loading station.

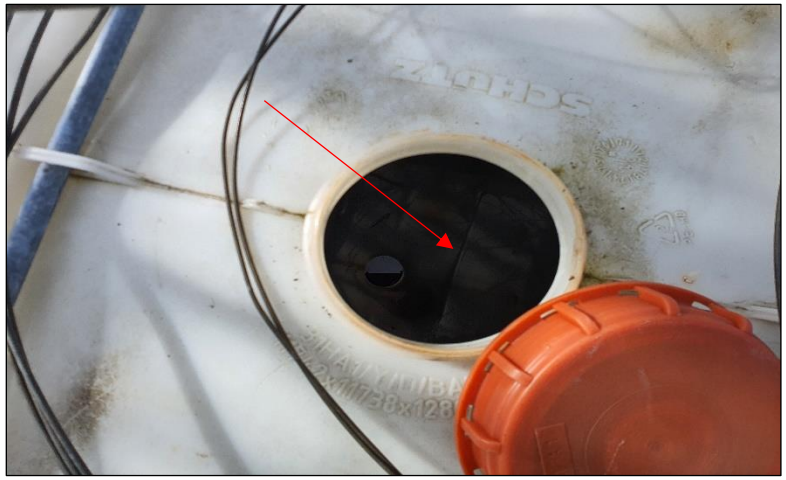

Photo.12. Representative photo of unidentified chemical inside an IBC observed on the property.

Photo.13. Representative photo of above ground fuel storage tank observed on site.

Photo.14. Representative photo of above ground fuel storage tank observed on site.

Appendix III

Soil Bore Logs

K2 CONSULTING GROUP

TEST PIT LOGS BH01

PROJECT NUMBER ST-01-1492
PROJECT NAME Environmental Site Investigatior
CLIENT Alimaco Pty Ltd
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580

SAMPLING DATE 27/06/2022
SAMPLING CONTRACTOR Taralga Earth Trembl
OPERATOR Terry
SAMPLING EQUIPMENT Excavator/Hand Auger

COORDINATES 34°42.698' S 149°42.155' E
SURFACE ELEVATION 681m AHD
LOGGED BY Sirish Baniya
CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
0	ST-01-1492-BH01 (0.2m) ST-01-1492-BH01-ASB1(0.2	Y		FILL. Silty CLAY with minor gravels. Dark to light brown. Dry. Loose.	
0.5	ST-01-1492-BH01 (0.7m)			FILL. Silty CLAY with minor gravels. Dark to light brown. Dry. Loose.	
1	ST-01-1492-BH01 (1.0m) ST-01-1492-BH01-ASB1' (1.0m)			NATURAL. Silty CLAY with minor gravels. Light brown to grey. Stiff. Slightly moist.	
1.5				Termination Depth at:1.0m	
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5					

K2 CONSULTING GROUP

TEST PIT LOGS BH02

PROJECT NUMBER ST-01-1492
PROJECT NAME Environmental Site Investigatior
CLIENT Alimaco Pty Ltd
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580

SAMPLING DATE 27/06/2022
SAMPLING CONTRACTOR Taralga Earth Trembl
OPERATOR Terry
SAMPLING EQUIPMENT Excavator/Hand Auger

COORDINATES 34°42.698' S 149°42.155' E
SURFACE ELEVATION 681m AHD
LOGGED BY Sirish Baniya
CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
	ST-01-1492-BH02 (0.2m) ST-01-1492-BH02-ASB2(0.2	Y		TOPSOIL. Silty CLAY. Dark brown. Slightly moist.	Organic. Roots observed at 0-0.2m BGL.
	ST-01-1492-BH02 (0.4m) ST-01-1492-BH02-ASB2' (0.4m)			NATURAL. Silty CLAY. Light brown to grey. Slightly moist.	
0.5				Termination Depth at:0.4m	
1					
1.5					
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5					

K2 CONSULTING GROUP

TEST PIT LOGS BH03

PROJECT NUMBER ST-01-1492
PROJECT NAME Environmental Site Investigation
CLIENT Alimaco Pty Ltd
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580

SAMPLING DATE 27/06/2022
SAMPLING CONTRACTOR Taralga Earth Trembl
OPERATOR Terry
SAMPLING EQUIPMENT Excavator/Hand Auger

COORDINATES 34°42.691' S 149°42.143' E
SURFACE ELEVATION 689m AHD
LOGGED BY Sirish Baniya
CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
0	ST-01-1492-BH03 (0.2m) ST-01-1492-BH03-ASB3(0.2	Y		FILL. Silty CLAY. Red to brown. Loose. Slightly moist.	
	ST-01-1492-BH03 (0.5m) ST-01-1492-BH03-ASB3' (0.5m)				
0.5				NATURAL. Silty CLAY. Very stiff. Orange-brown mottled. Slightly moist.	
				Termination Depth at:0.7m	
1					
1.5					
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5					

K2 CONSULTING GROUP

TEST PIT LOGS BH04

PROJECT NUMBER ST-01-1492
PROJECT NAME Environmental Site Investigatior
CLIENT Alimaco Pty Ltd
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580

SAMPLING DATE 27/06/2022
SAMPLING CONTRACTOR Taralga Earth Trembl
OPERATOR Terry
SAMPLING EQUIPMENT Excavator/Hand Auger

COORDINATES 34°42.571' S 149°42.207' E
SURFACE ELEVATION 692m AHD
LOGGED BY Sirish Baniya
CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
	ST-01-1492-BH04 (0.2m) ST-01-1492-BH04-ASB4(0.2	Y		TOPSOIL. Silty CLAY. Brown. Dry. Loose.	Organic. Roots observed at 0-0.2m BGL.
	ST-01-1492-BH04 (0.4m) ST-01-1492-BH04-ASB4' (0.4m)			NATURAL. Silty CLAY. Light brown to grey. Loose. Slightly moist.	
0.5				Termination Depth at:0.4m (Rock refusal)	
1					
1.5					
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5					

K2 CONSULTING GROUP

TEST PIT LOGS BH07

PROJECT NUMBER ST-01-1492
PROJECT NAME Environmental Site Investigatior
CLIENT Alimaco Pty Ltd
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580

SAMPLING DATE 27/06/2022
SAMPLING CONTRACTOR Taralga Earth Trembl
OPERATOR Terry
SAMPLING EQUIPMENT Excavator/Hand Auger

COORDINATES 34°42.659' S 149°42.077' E
SURFACE ELEVATION 748m AHD
LOGGED BY Sirish Baniya
CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
	ST-01-1492-BH07 (0.2m) ST-01-1492-BH04-ASB7(0.2	Y		Compacted FILL. Silty CLAY with minor gravels. Light Brown. Dry. Loose.	Organic. Roots observed at 0-0.2m BGL.
	ST-01-1492-BH07 (0.4m) ST-01-1492-BH07-ASB7' (0.4m)			NATURAL. Silty CLAY. Yellow-orange mottled. Stiff. Slightly moist.	
0.5				Termination Depth at:0.4m	
1					
1.5					
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5					

K2 CONSULTING GROUP

TEST PIT LOGS BH08

PROJECT NUMBER ST-01-1492	**SAMPLING DATE** 27/06/2022	**COORDINATES** 34°42.665' S 149°42.090' E
PROJECT NAME Environmental Site Investigatior	**SAMPLING CONTRACTOR** Taralga Earth Trembl	
CLIENT Alimaco Pty Ltd	**OPERATOR** Terry	**SURFACE ELEVATION** 688m AHD
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580	**SAMPLING EQUIPMENT** Excavator/Hand Auger	**LOGGED BY** Sirish Baniya
		CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
	ST-01-1492-BH08 (0.2m) ST-01-1492-BH08-ASB8(0.2	Y		FILL. Silty CLAY with gravelly aggregates. Brown. Dry. Loose.	Organic. Roots observed at 0-0.2m BGL.
	ST-01-1492-BH08 (0.4m) ST-01-1492-BH08-ASB8' (0.4m)			NATURAL. Silty CLAY. Orange-brown mottled. Very stiff. Slightly moist.	
0.5				Termination Depth at:0.4m	
1					
1.5					
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5					

K2 CONSULTING GROUP

TEST PIT LOGS BH09

PROJECT NUMBER ST-01-1492
PROJECT NAME Environmental Site Investigatior
CLIENT Alimaco Pty Ltd
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580

SAMPLING DATE 27/06/2022
SAMPLING CONTRACTOR Taralga Earth Trembl
OPERATOR Terry
SAMPLING EQUIPMENT Excavator/Hand Auger

COORDINATES 34°42.752' S 149°42.090' E
SURFACE ELEVATION 686m AHD
LOGGED BY Sirish Baniya
CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
	ST-01-1492-BH09 (0.2m) ST-01-1492-BH09-ASB9(0.2	Y		TOPSOIL. Gravelly silty CLAY. Brown. Dry. Loose.	Oraganic. Roots observed at 0-0.2m BGL.
				Termination Depth at:0.2m (Abandonment)	
0.5					
1					
1.5					
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5					

K2 CONSULTING GROUP

TEST PIT LOGS BH10

PROJECT NUMBER ST-01-1492
PROJECT NAME Environmental Site Investigation
CLIENT Alimaco Pty Ltd
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580

SAMPLING DATE 27/06/2022
SAMPLING CONTRACTOR Taralga Earth Trembl
OPERATOR Terry
SAMPLING EQUIPMENT Excavator/Hand Auger

COORDINATES 34°42.446' S 149°41.571' E
SURFACE ELEVATION 678m AHD
LOGGED BY Sirish Baniya
CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
	ST-01-1492-BH10 (0.2m) ST-01-1492-BH10-ASB10(0.2	Y		TOPSOIL. Silty CLAY. Brown. Moist. Termination Depth at:0.2m (Abandonment)	Organic. Roots observed at 0-0.2m BGL.

0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5

K2 CONSULTING GROUP

TEST PIT LOGS BH11

PROJECT NUMBER ST-01-1492
PROJECT NAME Environmental Site Investigation
CLIENT Alimaco Pty Ltd
ADDRESS 515 Crookwell Road, Kingsdale NSW 2580

SAMPLING DATE 27/06/2022
SAMPLING CONTRACTOR Taralga Earth Trembl
OPERATOR Terry
SAMPLING EQUIPMENT Excavator/Hand Auger

COORDINATES 34°42.683' S 149°42.123' E
SURFACE ELEVATION 695m AHD
LOGGED BY Sirish Baniya
CHECKED BY Kannan Kaliappan

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	Material Description	Additional Observations
	ST-01-1492-BH11 (0.2m) ST-01-1492-BH11-ASB11(0.2	Y		TOPSOIL. Silty CLAY. Brown. Moist.	Organic. Roots observed at 0-0.2m BGL.
	ST-01-1492-BH11 (0.4m)			NATURAL. Gravelly silty CLAY. Dark to light Brown. Moist.	
0.5				Termination Depth at:0.4m	
1					
1.5					
2					
2.5					
3					
3.5					
4					
4.5					
5					
5.5					

Appendix IV

Laboratory Results Summary

			Metals and Metalloids								ASLP		TRH						B	
K2 CONSULTING GROUP			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	Chromium III	Chromium VI	TRH C6 - C9	TRH C10-C14	F1 ((C6-C10)- BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene
		LOR	2	0.4	5	5	5	0.1	5	5	0.005	0.005	20	20	20	50	100	100	0.1	0.1
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
HIL A (Residential)			100	20	100	7,000	300	200	400	8,000			-	-	-	-	-	-		
HSL A (Residential)	1m-<2m	Clay													60	330			0.8	560
ESL (Urban residential and public space)		Clay													180	120	1300	5600	65.0	105
EIL(Site specific)			100		750	75	1,100		290	170										
Management Limit													-	-	800	1000	3,500	10,000		
ST-01-1492-BH01	0.2 m	27.06.2022	2.2	<0.4	190	27	9.1	<0.1	100	48	0.35	<0.005	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH01	0.7 m	27.06.2022	2.2	<0.4	150	21	7.8	<0.1	80	43	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH01	1.0 m	27.06.2022	<2	<0.4	250	23	<5	<0.1	120	68	<0.05	<0.005	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH02	0.2 m	27.06.2022	4.3	<0.4	81	17	22	<0.1	30	49	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH02	0.4 m	27.06.2022	4.7	<0.4	110	17	22	<0.1	31	32	0.18	0.010	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH03	0.2 m	27.06.2022	12	<0.4	140	19	28	<0.1	28	39	0.16	<0.005	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH03	0.5 m	27.06.2022	12	<0.4	150	29	25	<0.1	50	38	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH04	0.2 m	27.06.2022	<2	<0.4	170	54	13	<0.1	120	180	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH04	0.4 m	27.06.2022	<2	<0.4	110	38	<5	<0.1	120	63	0.20	0.011	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH07	0.2 m	27.06.2022	7.1	<0.4	76	24	16	<0.1	30	34	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH07	0.4 m	27.06.2022	5.3	<0.54	71	23	15	<0.1	35	38	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH08	0.2 m	27.06.2022	30	<0.4	160	14	31	<0.1	11	21	0.11	0.014	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH08	0.4 m	27.06.2022	3.9	<0.4	48	18	13	<0.1	16	32	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH09	0.2 m	27.06.2022	15	<0.4	52	5.1	31	<0.1	6.2	14	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH10	0.2 m	27.06.2022	6.9	<0.4	32	5.7	19	<0.1	<5	31	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-BH11	0.2 m	27.06.2022	21	<0.4	130	14	34	<0.1	11	130	0.044	0.016	<20	<20	<20	<50	110	<100	<0.1	<0.1
ST-01-1492-BH11	0.4 m	27.06.2022	27	<0.4	190	12	49	<0.1	7.8	59	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
ST-01-1492-SS01	-	27.06.2022	4.7	<0.4	29	23	12	<0.1	5.7	85	-	-	<20	<20	<20	<50	110	<100	<0.1	<0.1
ST-01-1492-SS02	-	27.06.2022	10	<0.4	140	38	37	<0.1	62	220	<0.05	<0.005	<100	<100	<100	<250	<500	710	<0.5	<0.5
ST-01-1492-SS03	-	27.06.2022	5	<0.4	24	28	9.4	<0.1	16	350	-	-	<100	<20	<100	<50	<500	200	<0.5	<0.5
ST-01-1492-BR1	0.2 m	27.06.2022	18	<0.4	130	12	28	<0.1	10	26	-	-	<20	<20	<20	<50	<100	<100	<0.1	<0.1
RPD1 (Duplicate)			50	0	21	15	10	0	10	21	-	-	0	0	0	0	0	0	0	0
UCL calculation			-	-	139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
NAD- No Asbestos Detected
Site Acceptance Criteria - Low Density Residential - as per National Environment Protection (Assessment of Site Contamination) Measure - Schedule B1 and B2

			TEX		PAH														
K2 CONSULTING GROUP			Ethylbenzene	Total Xylenes	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene
		LOR	0.1	0.3	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
HIL A (Residential)														300				
HSL A (Residential)	1m-<2m	Clay	NL	130														5
ESL (Urban residential and public space)		Clay	125	45					1.4									
EIL(Site specific)					170	0.7												170
Management Limit																		
ST-01-1492-BH01	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH01	0.7 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH01	1.0 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH02	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH02	0.4 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH03	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH03	0.5 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH04	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH04	0.4 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH07	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH07	0.4 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH08	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH08	0.4 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH09	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH10	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH11	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BH11	0.4 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-SS01	-	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-SS02	-	27.06.2022	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-SS03	-	27.06.2022	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ST-01-1492-BR1	0.2 m	27.06.2022	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD1 (Duplicate)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UCL calculation			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
NAD- No Asbestos Detected
Site Acceptance Criteria - Low Density Residential - as per National Environment Protection (Assessment of Site Contamination) Mea

							OCP								OPP	Asbestos
K2 CONSULTING GROUP			Phenanthrene	Pyrene	PAH (Total)	Carcinogenic PAHs as B(a)P TEQ	DDT+DDE+DDD	Aldrin & Dieldrin	Total Chlordane	Total Endosulfan	Endrin	Heptachlor	Hexachlorobenze ne	Methoxychlor	Chlorpyriphos	Asbestos (50 g)
		LOR	0.50	0.50	0.50	0.50	0.05	0.05	0.10	0.05	0.05	0.05	0.05	0.05	0.20	N
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
HIL A (Residential)					300	3	260	7	50	300	10	7	10	400	170	
HSL A (Residential)	1m-<2m	Clay														
ESL (Urban residential and public space)		Clay														
EIL(Site specific)							180									
Management Limit																
ST-01-1492-BH01	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH01	0.7 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
ST-01-1492-BH01	1.0 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
ST-01-1492-BH02	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH02	0.4 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
ST-01-1492-BH03	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH03	0.5 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
ST-01-1492-BH04	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH04	0.4 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
ST-01-1492-BH07	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH07	0.4 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
ST-01-1492-BH08	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH08	0.4 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
ST-01-1492-BH09	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH10	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH11	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BH11	0.4 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	
ST-01-1492-SS01	-	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-SS02	-	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
ST-01-1492-SS03	-	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
ST-01-1492-BR1	0.2 m	27.06.2022	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
RPD1 (Duplicate)			0	0	0	0	0	0	0	0	0	0	0	0	0	
UCL calculation			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
NAD- No Asbestos Detected
Site Acceptance Criteria - Low Density Residential - as per National Environment Protection (Assessment of Site Contamination) Me:

Appendix V

Laboratory Reports

K2 Enviro Solutions
Suite 1A, Level 2, 802 Pacific Highway
Gordon
NSW 2768

Attention: **Kannan Kaliappan**

Report **902467-S**
Project name 515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID ST-01-1492
Received Date Jul 01, 2022

Client Sample ID			**ST-01-1492-BH01 (0.2M)**	**ST-01-1492-BH01 (0.7M)**	**ST-01-1492-BH01 (1.0M)**	**ST-01-1492-BH02 (0.2M)**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-Jl0001794**	**S22-Jl0001795**	**S22-Jl0001796**	**S22-Jl0001797**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	116	88	78	82
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			ST-01-1492-BH01 (0.2M)	ST-01-1492-BH01 (0.7M)	ST-01-1492-BH01 (1.0M)	ST-01-1492-BH02 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001794**	**S22-JI0001795**	**S22-JI0001796**	**S22-JI0001797**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	-
2-Fluorobiphenyl (surr.)	1	%	65	56	57	71
p-Terphenyl-d14 (surr.)	1	%	64	54	90	95
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	-
Dibutylchlorendate (surr.)	1	%	89	101	80	93
Tetrachloro-m-xylene (surr.)	1	%	76	103	84	98
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			ST-01-1492-BH01 (0.2M)	ST-01-1492-BH01 (0.7M)	ST-01-1492-BH01 (1.0M)	ST-01-1492-BH02 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001794**	**S22-JI0001795**	**S22-JI0001796**	**S22-JI0001797**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	81	66	52	88
Heavy Metals						
Arsenic	2	mg/kg	2.2	2.2	< 2	4.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	190	150	250	81
Copper	5	mg/kg	27	21	23	17
Lead	5	mg/kg	9.1	7.8	< 5	22
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	100	80	120	30
Zinc	5	mg/kg	48	43	68	49
% Moisture	1	%	16	14	16	19

Client Sample ID			ST-01-1492-BH02 (0.4M)	ST-01-1492-BH03 (0.2M)	ST-01-1492-BH03 (0.5M)	ST-01-1492-BH04 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001798**	**S22-JI0001799**	**S22-JI0001800**	**S22-JI0001801**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			ST-01-1492-BH02 (0.4M)	ST-01-1492-BH03 (0.2M)	ST-01-1492-BH03 (0.5M)	ST-01-1492-BH04 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001798**	**S22-JI0001799**	**S22-JI0001800**	**S22-JI0001801**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	145	103	83	53
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	-
2-Fluorobiphenyl (surr.)	1	%	74	79	54	72
p-Terphenyl-d14 (surr.)	1	%	110	102	91	86
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			ST-01-1492-BH02 (0.4M)	ST-01-1492-BH03 (0.2M)	ST-01-1492-BH03 (0.5M)	ST-01-1492-BH04 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001798**	**S22-JI0001799**	**S22-JI0001800**	**S22-JI0001801**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	-
Dibutylchlorendate (surr.)	1	%	132	106	82	99
Tetrachloro-m-xylene (surr.)	1	%	99	99	84	81
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			ST-01-1492-BH02 (0.4M)	ST-01-1492-BH03 (0.2M)	ST-01-1492-BH03 (0.5M)	ST-01-1492-BH04 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001798**	**S22-JI0001799**	**S22-JI0001800**	**S22-JI0001801**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	103	83	53	85
Heavy Metals						
Arsenic	2	mg/kg	4.7	12	12	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	110	140	150	170
Copper	5	mg/kg	17	19	29	54
Lead	5	mg/kg	22	28	25	13
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	31	28	50	120
Zinc	5	mg/kg	32	39	38	180
% Moisture	1	%	17	14	18	12

Client Sample ID			ST-01-1492-BH04 (0.4M)	ST-01-1492-BH07 (0.2M)	ST-01-1492-BH07 (0.4M)	ST-01-1492-BH08 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001802**	**S22-JI0001803**	**S22-JI0001804**	**S22-JI0001805**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	140	116	76	88

Client Sample ID			ST-01-1492-BH04 (0.4M)	ST-01-1492-BH07 (0.2M)	ST-01-1492-BH07 (0.4M)	ST-01-1492-BH08 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001802**	**S22-JI0001803**	**S22-JI0001804**	**S22-JI0001805**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	-
2-Fluorobiphenyl (surr.)	1	%	71	94	93	77
p-Terphenyl-d14 (surr.)	1	%	111	131	132	95
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	-
Dibutylchlorendate (surr.)	1	%	109	143	150	121
Tetrachloro-m-xylene (surr.)	1	%	106	117	141	88

Client Sample ID			ST-01-1492-BH04 (0.4M)	ST-01-1492-BH07 (0.2M)	ST-01-1492-BH07 (0.4M)	ST-01-1492-BH08 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001802**	**S22-JI0001803**	**S22-JI0001804**	**S22-JI0001805**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	78	91	106	103
Heavy Metals						
Arsenic	2	mg/kg	< 2	7.1	5.3	30
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	110	76	71	160
Copper	5	mg/kg	38	24	23	14
Lead	5	mg/kg	< 5	16	15	31
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	120	30	35	11
Zinc	5	mg/kg	63	34	38	21
% Moisture	1	%	8.8	22	23	13

Client Sample ID			ST-01-1492-BH08 (0.4M)	ST-01-1492-BH09 (0.2M)	ST-01-1492-BH10 (0.2M)	ST-01-1492-BH11 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001806**	**S22-JI0001807**	**S22-JI0001808**	**S22-JI0001809**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	54	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	61	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	115	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	99	81	75	81
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	-
2-Fluorobiphenyl (surr.)	1	%	68	71	69	77
p-Terphenyl-d14 (surr.)	1	%	113	[Q09]INT	144	105
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			ST-01-1492-BH08 (0.4M)	ST-01-1492-BH09 (0.2M)	ST-01-1492-BH10 (0.2M)	ST-01-1492-BH11 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001806**	**S22-JI0001807**	**S22-JI0001808**	**S22-JI0001809**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	-
Dibutylchlorendate (surr.)	1	%	105	[Q09]INT	125	145
Tetrachloro-m-xylene (surr.)	1	%	107	[Q09]INT	142	114
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			ST-01-1492-BH08 (0.4M)	ST-01-1492-BH09 (0.2M)	ST-01-1492-BH10 (0.2M)	ST-01-1492-BH11 (0.2M)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001806**	**S22-JI0001807**	**S22-JI0001808**	**S22-JI0001809**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	94	131	126	107
Heavy Metals						
Arsenic	2	mg/kg	3.9	15	6.9	21
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	48	52	32	130
Copper	5	mg/kg	18	5.1	5.7	14
Lead	5	mg/kg	13	31	19	34
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	16	6.2	< 5	11
Zinc	5	mg/kg	32	14	31	130
% Moisture	1	%	25	15	21	14

Client Sample ID			ST-01-1492-BH11 (0.4M)	ST-01-1492-SS01	[G01]ST-01-1492-SS02	[G01]ST-01-1492-SS03
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001810**	**S22-JI0001811**	**S22-JI0001812**	**S22-JI0001813**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 100	< 100
TRH C10-C14	20	mg/kg	< 20	< 20	< 100	< 20
TRH C15-C28	50	mg/kg	< 50	54	< 250	260
TRH C29-C36	50	mg/kg	< 50	70	< 250	540
TRH C10-C36 (Total)	50	mg/kg	< 50	124	< 250	800
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 2.5	< 2.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 100	< 100
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 100	< 100
TRH >C10-C16	50	mg/kg	< 50	< 50	< 250	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 250	< 50
TRH >C16-C34	100	mg/kg	< 100	110	< 500	710
TRH >C34-C40	100	mg/kg	< 100	< 100	< 500	200
TRH >C10-C40 (total)*	100	mg/kg	< 100	110	< 500	910
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.5	< 0.5
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.5	< 0.5
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.5	< 0.5
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 1	< 1
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.5	< 0.5

Client Sample ID			ST-01-1492-BH11 (0.4M)	ST-01-1492-SS01	G01ST-01-1492-SS02	G01ST-01-1492-SS03
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-Jl0001810**	**S22-Jl0001811**	**S22-Jl0001812**	**S22-Jl0001813**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	114	95	118	91
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	-
2-Fluorobiphenyl (surr.)	1	%	70	80	108	99
p-Terphenyl-d14 (surr.)	1	%	83	78	76	91
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	-

Client Sample ID			ST-01-1492-BH11 (0.4M)	ST-01-1492-SS01	G01 ST-01-1492-SS02	G01 ST-01-1492-SS03
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001810**	**S22-JI0001811**	**S22-JI0001812**	**S22-JI0001813**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	-
Dibutylchlorendate (surr.)	1	%	103	105	64	93
Tetrachloro-m-xylene (surr.)	1	%	89	70	63	86
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 5	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 5	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 5	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
Triphenylphosphate (surr.)	1	%	79	87	76	90
Heavy Metals						
Arsenic	2	mg/kg	27	4.7	10	5.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	190	29	140	24
Copper	5	mg/kg	12	23	38	28
Lead	5	mg/kg	49	12	37	9.4
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	7.8	5.7	62	16
Zinc	5	mg/kg	59	85	220	350

Client Sample ID			ST-01-1492-BH11 (0.4M)	ST-01-1492-SS01	[G01]ST-01-1492-SS02	[G01]ST-01-1492-SS03
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S22-JI0001810**	**S22-JI0001811**	**S22-JI0001812**	**S22-JI0001813**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
% Moisture	1	%	12	26	28	26

Client Sample ID			ST-01-1492-BR1
Sample Matrix			**Soil**
Eurofins Sample No.			**S22-JI0001814**
Date Sampled			**May 26, 2022**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	89
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5

Client Sample ID			ST-01-1492-BR1
Sample Matrix			**Soil**
Eurofins Sample No.			**S22-JI0001814**
Date Sampled			**May 26, 2022**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	127
p-Terphenyl-d14 (surr.)	1	%	[Q09]INT
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-HCH	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-HCH	0.05	mg/kg	< 0.05
d-HCH	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxaphene	0.5	mg/kg	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1
Dibutylchlorendate (surr.)	1	%	1.7
Tetrachloro-m-xylene (surr.)	1	%	134
Organophosphorus Pesticides			
Azinphos-methyl	0.2	mg/kg	< 0.2
Bolstar	0.2	mg/kg	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2
Coumaphos	2	mg/kg	< 2
Demeton-S	0.2	mg/kg	< 0.2
Demeton-O	0.2	mg/kg	< 0.2
Diazinon	0.2	mg/kg	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2
Dimethoate	0.2	mg/kg	< 0.2
Disulfoton	0.2	mg/kg	< 0.2
EPN	0.2	mg/kg	< 0.2
Ethion	0.2	mg/kg	< 0.2
Ethoprop	0.2	mg/kg	< 0.2

Client Sample ID			ST-01-1492-BR1
Sample Matrix			**Soil**
Eurofins Sample No.			**S22-Jl0001814**
Date Sampled			**May 26, 2022**
Test/Reference	LOR	Unit	
Organophosphorus Pesticides			
Ethyl parathion	0.2	mg/kg	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2
Fenthion	0.2	mg/kg	< 0.2
Malathion	0.2	mg/kg	< 0.2
Merphos	0.2	mg/kg	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2
Mevinphos	0.2	mg/kg	< 0.2
Monocrotophos	2	mg/kg	< 2
Naled	0.2	mg/kg	< 0.2
Omethoate	2	mg/kg	< 2
Phorate	0.2	mg/kg	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2
Ronnel	0.2	mg/kg	< 0.2
Terbufos	0.2	mg/kg	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2
Tokuthion	0.2	mg/kg	< 0.2
Trichloronate	0.2	mg/kg	< 0.2
Triphenylphosphate (surr.)	1	%	139
Heavy Metals			
Arsenic	2	mg/kg	18
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	130
Copper	5	mg/kg	12
Lead	5	mg/kg	28
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	10.0
Zinc	5	mg/kg	26
% Moisture	1	%	12

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
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Jul 06, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 06, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 06, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jul 06, 2022	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Sydney	Jul 06, 2022	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Jul 06, 2022	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Jul 06, 2022	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Metals M8	Sydney	Jul 06, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Jul 01, 2022	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: 515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID: ST-01-1492

Order No.:
Report #: 902467
Phone: 0449 669 559
Fax:

Received: Jul 1, 2022 12:36 PM
Due: Jul 8, 2022
Priority: 5 Day
Contact Name: Kannan Kaliappan

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						Moisture Set	Eurofins Suite B10
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	ST-01-1492-BH01 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001794	X	X
2	ST-01-1492-BH01 (0.7M)	Jun 27, 2022		Soil	S22-Jl0001795	X	X
3	ST-01-1492-BH01 (1.0M)	Jun 27, 2022		Soil	S22-Jl0001796	X	X
4	ST-01-1492-BH02 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001797	X	X
5	ST-01-1492-BH02 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001798	X	X
6	ST-01-1492-BH03 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001799	X	X
7	ST-01-1492-BH03 (0.5M)	Jun 27, 2022		Soil	S22-Jl0001800	X	X
8	ST-01-1492-BH04 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001801	X	X

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Project Name: 515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID: ST-01-1492

Order No.:
Report #: 902467
Phone: 0449 669 559
Fax:

Received: Jul 1, 2022 12:36 PM
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Sample Detail						Moisture Set	Eurofins Suite B10
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
9	ST-01-1492-BH04 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001802	X	X
10	ST-01-1492-BH07 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001803	X	X
11	ST-01-1492-BH07 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001804	X	X
12	ST-01-1492-BH08 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001805	X	X
13	ST-01-1492-BH08 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001806	X	X
14	ST-01-1492-BH09 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001807	X	X
15	ST-01-1492-BH10 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001808	X	X
16	ST-01-1492-BH11 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001809	X	X
17	ST-01-1492-BH11 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001810	X	X
18	ST-01-1492-	Jun 27, 2022		Soil	S22-Jl0001811	X	X

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Sample Detail						Moisture Set	Eurofins Suite B10
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
18	ST-01-1492-SS01	Jun 27, 2022		Soil	S22-Jl0001811		
19	ST-01-1492-SS02	Jun 27, 2022		Soil	S22-Jl0001812	X	X
20	ST-01-1492-SS03	Jun 27, 2022		Soil	S22-Jl0001813	X	X
21	ST-01-1492-BR1	May 26, 2022		Soil	S22-Jl0001814	X	X
Test Counts						21	21

Internal Quality Control Review and Glossary

General

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

Holding Times

Please refer to '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 prior to sample receipt deadlines as stated on the SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
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

Terms

APHA	American Public Health Association
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 a moisture has been determined on a solid sample the result is expressed on a dry 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 is representative of 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 like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-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 5.4
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 be used as a guide only 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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

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QC Data General Comments

1. Where a result is reported as a 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 is 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							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Total PAH*	mg/kg	-			0.5	N/A	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	98			70-130	Pass	
TRH C10-C14	%	82			70-130	Pass	
Naphthalene	%	76			70-130	Pass	
TRH C6-C10	%	90			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	99			70-130	Pass	
Toluene	%	117			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	94			70-130	Pass	
o-Xylene	%	88			70-130	Pass	
Xylenes - Total*	%	92			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	102			70-130	Pass	
Anthracene	%	92			70-130	Pass	
Benz(a)anthracene	%	83			70-130	Pass	
Benzo(a)pyrene	%	99			70-130	Pass	
Benzo(b&j)fluoranthene	%	82			70-130	Pass	
Benzo(g.h.i)perylene	%	95			70-130	Pass	
Benzo(k)fluoranthene	%	89			70-130	Pass	
Chrysene	%	104			70-130	Pass	
Dibenz(a.h)anthracene	%	95			70-130	Pass	
Fluoranthene	%	94			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	91			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	103			70-130	Pass	
Pyrene	%	96			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	108			70-130	Pass	
4.4'-DDD	%	104			70-130	Pass	
4.4'-DDE	%	107			70-130	Pass	
4.4'-DDT	%	108			70-130	Pass	
a-HCH	%	109			70-130	Pass	
Aldrin	%	102			70-130	Pass	
b-HCH	%	112			70-130	Pass	
d-HCH	%	118			70-130	Pass	
Dieldrin	%	111			70-130	Pass	
Endosulfan I	%	102			70-130	Pass	
Endosulfan II	%	121			70-130	Pass	
Endosulfan sulphate	%	96			70-130	Pass	
Endrin	%	112			70-130	Pass	
Endrin aldehyde	%	86			70-130	Pass	
Endrin ketone	%	97			70-130	Pass	
g-HCH (Lindane)	%	108			70-130	Pass	
Heptachlor	%	119			70-130	Pass	
Heptachlor epoxide	%	106			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene			%	110			70-130	Pass	
Methoxychlor			%	114			70-130	Pass	
LCS - % Recovery									
Organophosphorus Pesticides									
Diazinon			%	121			70-130	Pass	
Dimethoate			%	117			70-130	Pass	
Ethion			%	130			70-130	Pass	
Fenitrothion			%	122			70-130	Pass	
Methyl parathion			%	93			70-130	Pass	
Mevinphos			%	126			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	100			80-120	Pass	
Cadmium			%	99			80-120	Pass	
Chromium			%	92			80-120	Pass	
Copper			%	93			80-120	Pass	
Lead			%	100			80-120	Pass	
Mercury			%	100			80-120	Pass	
Nickel			%	92			80-120	Pass	
Zinc			%	99			80-120	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	R22-Jn0069172	NCP	%	116			70-130	Pass	
TRH C10-C14	N22-Jl0004441	NCP	%	109			70-130	Pass	
Naphthalene	R22-Jn0069172	NCP	%	71			70-130	Pass	
TRH C6-C10	R22-Jn0069172	NCP	%	104			70-130	Pass	
TRH >C10-C16	N22-Jl0004441	NCP	%	108			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	R22-Jn0069172	NCP	%	108			70-130	Pass	
Toluene	R22-Jn0069158	NCP	%	114			70-130	Pass	
Ethylbenzene	R22-Jn0069172	NCP	%	97			70-130	Pass	
m&p-Xylenes	R22-Jn0069172	NCP	%	100			70-130	Pass	
o-Xylene	R22-Jn0069172	NCP	%	92			70-130	Pass	
Xylenes - Total*	R22-Jn0069172	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S22-Jl0007100	NCP	%	116			75-125	Pass	
Cadmium	S22-Jl0007100	NCP	%	97			75-125	Pass	
Chromium	S22-Jl0007100	NCP	%	118			75-125	Pass	
Copper	S22-Jl0007100	NCP	%	111			75-125	Pass	
Lead	S22-Jl0007100	NCP	%	113			75-125	Pass	
Mercury	S22-Jl0007100	NCP	%	98			75-125	Pass	
Nickel	S22-Jl0007100	NCP	%	99			75-125	Pass	
Zinc	S22-Jl0007100	NCP	%	100			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S22-Jl0001814	CP	%	97			70-130	Pass	
4.4'-DDD	S22-Jl0001814	CP	%	76			70-130	Pass	
4.4'-DDE	S22-Jl0001814	CP	%	96			70-130	Pass	
4.4'-DDT	S22-Jn0066206	NCP	%	118			70-130	Pass	
a-HCH	S22-Jl0001814	CP	%	91			70-130	Pass	
Aldrin	S22-Jl0001814	CP	%	87			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
b-HCH	S22-Jn0066206	NCP	%	114			70-130	Pass	
d-HCH	S22-Jl0001814	CP	%	85			70-130	Pass	
Dieldrin	S22-Jl0001814	CP	%	98			70-130	Pass	
Endosulfan I	S22-Jl0001814	CP	%	86			70-130	Pass	
Endosulfan II	S22-Jl0001814	CP	%	102			70-130	Pass	
Endosulfan sulphate	S22-Jl0001814	CP	%	70			70-130	Pass	
Endrin	S22-Jl0001814	CP	%	83			70-130	Pass	
Endrin aldehyde	S22-Jl0001814	CP	%	75			70-130	Pass	
Endrin ketone	S22-Jl0001814	CP	%	93			70-130	Pass	
g-HCH (Lindane)	S22-Jn0066206	NCP	%	99			70-130	Pass	
Heptachlor	S22-Jl0001814	CP	%	93			70-130	Pass	
Heptachlor epoxide	S22-Jl0001814	CP	%	93			70-130	Pass	
Hexachlorobenzene	S22-Jl0001814	CP	%	96			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S22-Jn0066206	NCP	%	123			70-130	Pass	
Fenitrothion	S22-Jn0066206	NCP	%	126			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Zinc	S22-Jl0001555	NCP	mg/kg	95	82	15	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S22-Jl0001795	CP	mg/kg	2.2	3.5	45	30%	Fail	Q15
Cadmium	S22-Jl0001795	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S22-Jl0001795	CP	mg/kg	150	230	42	30%	Fail	Q15
Copper	S22-Jl0001795	CP	mg/kg	21	30	35	30%	Fail	Q15
Lead	S22-Jl0001795	CP	mg/kg	7.8	11	32	30%	Fail	Q15
Mercury	S22-Jl0001795	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S22-Jl0001795	CP	mg/kg	80	120	41	30%	Fail	Q15
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S22-Jl0001795	CP	%	14	15	1.7	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S22-Jl0001798	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S22-Jl0001798	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S22-Jl0001798	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S22-Jl0001798	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S22-Jl0001798	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S22-Jl0001798	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Tokuthion	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S22-Jl0001798	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-Jl0001800	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Naphthalene	S22-Jl0001800	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S22-Jl0001800	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-Jl0001800	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S22-Jl0001800	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S22-Jl0001800	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S22-Jl0001800	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S22-Jl0001800	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S22-Jl0001800	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S22-Jl0001801	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S22-Jl0001801	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S22-Jl0001801	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S22-Jl0001801	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S22-Jl0001801	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S22-Jl0001801	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S22-Jl0001805	CP	%	13	16	18	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-Jl0001811	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Naphthalene	S22-Jl0001811	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S22-Jl0001811	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-Jl0001811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S22-Jl0001811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S22-Jl0001811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S22-Jl0001811	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S22-Jl0001811	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S22-Jl0001811	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S22-Jl0002435	NCP	mg/kg	1.2	0.7	58	30%	Fail	Q15
Benzo(a)pyrene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S22-Jl0002435	NCP	mg/kg	0.6	< 0.5	65	30%	Fail	Q15
Benzo(g.h.i)perylene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S22-Jl0002435	NCP	mg/kg	0.7	< 0.5	63	30%	Fail	Q15
Chrysene	S22-Jl0002435	NCP	mg/kg	1.5	0.8	64	30%	Fail	Q15
Dibenz(a.h)anthracene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S22-Jl0002435	NCP	mg/kg	4.2	1.8	60	30%	Fail	Q15
Fluorene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	S22-Jl0002435	NCP	mg/kg	0.6	< 0.5	71	30%	Fail	Q15
Phenanthrene	S22-Jl0002435	NCP	mg/kg	4.1	1.6	64	30%	Fail	Q15
Pyrene	S22-Jl0002435	NCP	mg/kg	2.4	1.0	65	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S22-Jl0002435	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S22-Jl0002435	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S22-Jl0002435	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S22-Jl0002435	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S22-Jl0002435	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S22-Jl0002435	NCP	mg/kg	< 2	< 2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Phorate	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S22-Jl0002435	NCP	mg/kg	< 0.2	< 0.2	<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
G01	The LORs have been raised due to matrix interference
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.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC
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:

Hannah Mawbey	Analytical Services Manager
Charl Du Preez	Senior Analyst-Organic
Gabriele Cordero	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile

Glenn Jackson
General Manager

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.

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IANZ# 1290

Company Name: K2 Enviro Solutions
Address: Suite 1A, Level 2, 802 Pacific Highway
Gordon
NSW 2768

Project Name: 515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID: ST-01-1492

Order No.:
Report #: 902467
Phone: 0449 669 559
Fax:

Received: Jul 1, 2022 12:36 PM
Due: Jul 8, 2022
Priority: 5 Day
Contact Name: Kannan Kaliappan

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						Moisture Set	Eurofins Suite B10
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	ST-01-1492-BH01 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001794	X	X
2	ST-01-1492-BH01 (0.7M)	Jun 27, 2022		Soil	S22-Jl0001795	X	X
3	ST-01-1492-BH01 (1.0M)	Jun 27, 2022		Soil	S22-Jl0001796	X	X
4	ST-01-1492-BH02 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001797	X	X
5	ST-01-1492-BH02 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001798	X	X
6	ST-01-1492-BH03 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001799	X	X
7	ST-01-1492-BH03 (0.5M)	Jun 27, 2022		Soil	S22-Jl0001800	X	X
8	ST-01-1492-BH04 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001801	X	X

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Company Name: K2 Enviro Solutions
Address: Suite 1A, Level 2, 802 Pacific Highway
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NSW 2768

Project Name: 515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID: ST-01-1492

Order No.:
Report #: 902467
Phone: 0449 669 559
Fax:

Received: Jul 1, 2022 12:36 PM
Due: Jul 8, 2022
Priority: 5 Day
Contact Name: Kannan Kaliappan

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						Moisture Set	Eurofins Suite B10
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
9	ST-01-1492-BH04 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001802	X	X
10	ST-01-1492-BH07 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001803	X	X
11	ST-01-1492-BH07 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001804	X	X
12	ST-01-1492-BH08 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001805	X	X
13	ST-01-1492-BH08 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001806	X	X
14	ST-01-1492-BH09 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001807	X	X
15	ST-01-1492-BH10 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001808	X	X
16	ST-01-1492-BH11 (0.2M)	Jun 27, 2022		Soil	S22-Jl0001809	X	X
17	ST-01-1492-BH11 (0.4M)	Jun 27, 2022		Soil	S22-Jl0001810	X	X
18	ST-01-1492-	Jun 27, 2022		Soil	S22-Jl0001811	X	X

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Project Name: 515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID: ST-01-1492

Order No.:
Report #: 902467
Phone: 0449 669 559
Fax:

Received: Jul 1, 2022 12:36 PM
Due: Jul 8, 2022
Priority: 5 Day
Contact Name: Kannan Kaliappan

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						Moisture Set	Eurofins Suite B10
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
18	ST-01-1492-SS01	Jun 27, 2022		Soil	S22-Jl0001811		
19	ST-01-1492-SS02	Jun 27, 2022		Soil	S22-Jl0001812	X	X
20	ST-01-1492-SS03	Jun 27, 2022		Soil	S22-Jl0001813	X	X
21	ST-01-1492-BR1	May 26, 2022		Soil	S22-Jl0001814	X	X
Test Counts						21	21

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Sample Receipt Advice

Company name:	K2 Enviro Solutions
Contact name:	Kannan Kaliappan
Project name:	515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID:	ST-01-1492
Turnaround time:	5 Day
Date/Time received	Jul 1, 2022 12:36 PM
Eurofins reference	902467

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.
X	Split sample sent to requested external lab.
X	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:

Hannah Mawbey on phone : or by email: HannahMawbey@eurofins.com

Results will be delivered electronically via email to Kannan Kaliappan - kannan@k2envirosolutions.com.au.

Global Leader - Results you can trust

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☑ Sydney Laboratory — Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066 — 02 9900 8400 — EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory — Unit 1 21 Smallwood Place Murarrie QLD 4172 — 07 3902 4600 — EnviroSampleQLD@eurofins.com

☐ Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105 — 08 9251 9600 — EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory — 6 Monterey Road Dandenong South VIC 3175 — 03 8564 5000 — EnviroSampleVic@eurofins.com

Company	K2 CONSULTING GROUP	Project №	ST-01-1492	Project Manager	KANNAN KALIAPPAN
Address	SUITE 222 LEVEL 2, 20B LEXINGTON DRIVE, BELLA VISTA NSW 2153	Project Name	515 Crookwell Road, Kingsdale NSW 2580	EDD Format (Excel Equis etc)	
Contact Name	KANNAN KALIAPPAN				
Phone №	61449669559				
Special Directions					
Purchase Order					
Quote ID №					

Sampler(s)	KANNAN KALIAPPAN	
Handed over by		
Email for Invoice	kannan@k2consultinggroup.com.au	
Email for Results	kannan@k2consultinggroup.com.au	

Containers (Change container type & size if necessary)

Required Turnaround Time (TAT) (Default will be 5 days if not ticked)

*Surcharge will apply

☐ Overnight (reporting by 9am)* ☐ Same day* ☐ 1 day* ☐ 2 days* ☐ 3 days* ☑ 5 days (Standard) ☐ Other( )

№	Client Sample ID	Sampled Date/Time (dd-mm-yy hh:mm)	Matrix Soil (S) Water (W)	As,Cd SUITE B10 TRH, BTEXN, PAH, OCP, OPP, Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	500mL Plastic	250mL Plastic	125mL Plastic	250mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	ST-01-1492-BH01 (0.2m)	27.06.2022/ 10:00	S	X							1		
2	ST-01-1492-BH01 (0.7m)	27.06.2022/ 10:00	S	X							1		HOLD
3	ST-01-1492-BH01 (1.0m)	27.06.2022/ 10:00	S	X							1		HOLD
4	ST-01-1492-BH02 (0.2m)	27.06.2022/ 10:00	S	X							1		
5	ST-01-1492-BH02 (0.4m)	27.06.2022/ 10:00	S	X							1		HOLD
6	ST-01-1492-BH03 (0.2m)	27.06.2022/ 10:00	S	X							1		
7	ST-01-1492-BH03 (0.5m)	27.06.2022/ 10:00	S	X							1		HOLD
8	ST-01-1492-BH04 (0.2m)	27.06.2022/ 10:00	S	X							1		
9	ST-01-1492-BH04 (0.4m)	27.06.2022/ 10:00	S	X							1		HOLD
10	ST-01-1492-BH07 (0.2m)	27.06.2022/ 10:00	S	X							1		
11	ST-01-1492-BH07 (0.4m)	27.06.2022/ 10:00	S	X							1		HOLD
12	ST-01-1492-BH08 (0.2m)	27.06.2022/ 10:00	S	X							1		
13	ST-01-1492-BH08 (0.4m)	27.06.2022/ 10:00	S	X							1		HOLD
14	ST-01-1492-BH09 (0.2m)	27.06.2022/ 10:00	S	X							1		
15	ST-01-1492-BH10 (0.2m)	27.06.2022/ 10:00	S	X							1		
16	ST-01-1492-BH11 (0.2m)	27.06.2022/ 10:00	S	X							1		
17	ST-01-1492-BH11 (0.4m)	27.06.2022/ 10:00	S	X							1		HOLD
18	ST-01-1492-SS01	27.06.2022/ 10:00	S	X							1		
19	ST-01-1492-SS02	27.06.2022/ 10:00	S	X							1		HOLD
20	ST-01-1492-SS03	27.06.2022/ 10:00	S	X							1		
21	ST-01-1492-BR1	26.05.2022/ 09:00	S	X							1		
	Total Counts			10							21		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	KANNAN KALIAPPAN	Signature		Date	30th June 2022	Time	9:45am
Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

Eurofins Environment Testing Australia Pty Ltd

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

e-COC

Email ~~sent~~ received

30/6

10:44 AM

Received

01/07

12:36 PM

Kelun Duong

Courier

chilled.

13.8°C − 1.2°C

= 12.6°C

STD TAT

#902467

eurofins | Environment Testing

Certificate of Analysis

K2 Enviro Solutions
Suite 1A, Level 2, 802 Pacific Highway
Gordon
NSW 2768

NATA Accredited
Accreditation Number 1261
Site Number 18217

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: **Kannan Kaliappan**

Report **908025-S**
Project name ADDITIONAL-515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID ST-01-1492
Received Date Jul 21, 2022

Client Sample ID			**ST-01-1492-BH08 (0.4M)**
Sample Matrix			**Soil**
Eurofins Sample No.			**S22-JI0045903**
Date Sampled			**Jun 27, 2022**
Test/Reference	LOR	Unit	
% Clay	1	%	49
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	830
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	4.5
% Moisture	1	%	24
Cation Exchange Capacity			
Cation Exchange Capacity	0.05	meq/100g	19

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
% Clay	Brisbane	Jul 27, 2022	14 Days
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract at 25 °C as rec.)	Sydney	Jul 22, 2022	7 Days
- Method: LTM-GEN-7090 pH by ISE			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	Melbourne	Jul 26, 2022	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Jul 26, 2022	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
% Moisture	Sydney	Jul 22, 2022	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: K2 Enviro Solutions
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Order No.:
Report #: 908025
Phone: 0449 669 559
Fax:

Received: Jul 21, 2022 3:28 PM
Due: Jul 28, 2022
Priority: 5 Day
Contact Name: Kannan Kaliappan

Project Name: ADDITIONAL-515 CROOKWELL ROAD KINGSDALE NSW 2580
Project ID: ST-01-1492

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						% Clay	pH (1:5 Aqueous extract at 25 °C as rec.)	Moisture Set	Cation Exchange Capacity
Melbourne Laboratory - NATA # 1261 Site # 1254								X	X
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	
Brisbane Laboratory - NATA # 1261 Site # 20794						X			
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	ST-01-1492-BH08 (0.4M)	Jun 27, 2022	10:00AM	Soil	S22-Jl0045903	X	X	X	X
Test Counts						1	1	1	1

Internal Quality Control Review and Glossary

General

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

Holding Times

Please refer to '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 prior to sample receipt deadlines as stated on the SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
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

Terms

APHA	American Public Health Association
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 a moisture has been determined on a solid sample the result is expressed on a dry 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 is representative of 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 like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-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 5.4
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 be used as a guide only 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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

.

QC Data General Comments

1. Where a result is reported as a 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 is 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							
Cation Exchange Capacity							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
% Clay	%	97			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	M22-Jl0050479	NCP	uS/cm	260	270	2.9	30%	Pass	
pH (1:5 Aqueous extract at 25 °C as rec.)	S22-Jl0043773	NCP	pH Units	7.1	7.2	<1	30%	Pass	
% Moisture	S22-Jl0046197	NCP	%	17	16	5.1	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

Authorised by:

Quinn Raw	Analytical Services Manager
Scott Beddoes	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-Inorganic
Ryan Phillips	Senior Analyst-Inorganic
Charl Du Preez	Senior Analyst-Sample Properties
Scott Beddoes	Senior Analyst-Inorganic

Glenn Jackson
General Manager

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.

K2 Enviro Solutions
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NATA Accredited
Accreditation Number 1261
Site Number 18217

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: **-INV'S & STMNTS - Kannan Kaliappan**

Report **907245-L**
Project name ADDITIONAL - 515 CROOKWELL ROAD KINGSDALE
Project ID ADDITIONAL - ST-01-1492
Received Date Jul 18, 2022

Client Sample ID			**ST-01-1492-BH01 (0.2m)**	**ST-01-1492-BH01 (1.0m)**	**ST-01-1492-BH02 (0.4m)**	**ST-01-1492-BH03 (0.2m)**
Sample Matrix			**AUS Leachate**	**AUS Leachate**	**AUS Leachate**	**AUS Leachate**
Eurofins Sample No.			**S22-JI0040102**	**S22-JI0040103**	**S22-JI0040104**	**S22-JI0040105**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Chromium (hexavalent)	0.005	mg/L	< 0.005	< 0.005	0.010	< 0.005
Chromium (trivalent)	0.005	mg/L	0.35	< 0.05	0.18	0.16
Heavy Metals						
Chromium	0.05	mg/L	0.35	< 0.05	0.19	0.16
AUS Leaching Procedure						
Leachate Fluid[C01]		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	6.7	7.0	7.9	7.4
pH (Leachate fluid)	0.1	pH Units	6.0	6.0	6.0	6.0
pH (off)	0.1	pH Units	6.0	4.3	7.1	6.4

Client Sample ID			**ST-01-1492-BH04 (0.4m)**	**ST-01-1492-BH08 (0.2m)**	**ST-01-1492-BH11 (0.2m)**	**ST-01-1492-SS02**
Sample Matrix			**AUS Leachate**	**AUS Leachate**	**AUS Leachate**	**AUS Leachate**
Eurofins Sample No.			**S22-JI0040106**	**S22-JI0040107**	**S22-JI0040108**	**S22-JI0040109**
Date Sampled			**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**	**Jun 27, 2022**
Test/Reference	LOR	Unit				
Chromium (hexavalent)	0.005	mg/L	0.011	0.014	0.016	< 0.005
Chromium (trivalent)	0.005	mg/L	0.20	0.11	0.044	< 0.05
Heavy Metals						
Chromium	0.05	mg/L	0.21	0.12	0.06	< 0.05
AUS Leaching Procedure						
Leachate Fluid[C01]		comment	4.0	4.0	4.0	4.0
pH (initial)	0.1	pH Units	7.7	6.4	7.1	8.0
pH (Leachate fluid)	0.1	pH Units	6.0	6.0	6.0	6.0
pH (off)	0.1	pH Units	6.8	5.0	5.4	4.4

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IANZ# 1290

Company Name: K2 Enviro Solutions
Address: Suite 1A, Level 2, 802 Pacific Highway
Gordon
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Order No.:
Report #: 907245
Phone: 0449 669 559
Fax:

Received: Jul 18, 2022 11:12 AM
Due: Jul 25, 2022
Priority: 5 Day
Contact Name: -INV'S & STMNTS - Kannan

Project Name: ADDITIONAL - 515 CROOKWELL ROAD KINGSDALE
Project ID: ADDITIONAL - ST-01-1492

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						AUS Leaching Procedure	Chromium (speciated)
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	ST-01-1492-BH01 (0.2m)	Jun 27, 2022		AUS Leachate	S22-Jl0040102	X	X
2	ST-01-1492-BH01 (1.0m)	Jun 27, 2022		AUS Leachate	S22-Jl0040103	X	X
3	ST-01-1492-BH02 (0.4m)	Jun 27, 2022		AUS Leachate	S22-Jl0040104	X	X
4	ST-01-1492-BH03 (0.2m)	Jun 27, 2022		AUS Leachate	S22-Jl0040105	X	X
5	ST-01-1492-BH04 (0.4m)	Jun 27, 2022		AUS Leachate	S22-Jl0040106	X	X
6	ST-01-1492-BH08 (0.2m)	Jun 27, 2022		AUS Leachate	S22-Jl0040107	X	X
7	ST-01-1492-BH11 (0.2m)	Jun 27, 2022		AUS Leachate	S22-Jl0040108	X	X
8	ST-01-1492-SS02	Jun 27, 2022		AUS Leachate	S22-Jl0040109	X	X

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Project Name: ADDITIONAL - 515 CROOKWELL ROAD KINGSDALE
Project ID: ADDITIONAL - ST-01-1492

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Priority: 5 Day
Contact Name: -INV'S & STMNTS - Kannan

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail	AUS Leaching Procedure	Chromium (speciated)
Sydney Laboratory - NATA # 1261 Site # 18217	X	X
Test Counts	8	8

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
Chromium (speciated)			
Chromium (hexavalent)	Sydney	Jul 22, 2022	28 Days
- Method: In-house method E057.2			
Chromium (trivalent)	Sydney	Jul 20, 2022	28 Days
- Method: E043 /E057 Total Speciated Chromium			
Heavy Metals	Sydney	Jul 22, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
AUS Leaching Procedure	Sydney	Jul 22, 2022	7 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			

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Project Name: ADDITIONAL - 515 CROOKWELL ROAD KINGSDALE
Project ID: ADDITIONAL - ST-01-1492

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						AUS Leaching Procedure	Chromium (speciated)
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	ST-01-1492-BH01 (0.2m)	Jun 27, 2022		AUS Leachate	S22-Jl0040102	X	X
2	ST-01-1492-BH01 (1.0m)	Jun 27, 2022		AUS Leachate	S22-Jl0040103	X	X
3	ST-01-1492-BH02 (0.4m)	Jun 27, 2022		AUS Leachate	S22-Jl0040104	X	X
4	ST-01-1492-BH03 (0.2m)	Jun 27, 2022		AUS Leachate	S22-Jl0040105	X	X
5	ST-01-1492-BH04 (0.4m)	Jun 27, 2022		AUS Leachate	S22-Jl0040106	X	X
6	ST-01-1492-BH08 (0.2m)	Jun 27, 2022		AUS Leachate	S22-Jl0040107	X	X
7	ST-01-1492-BH11 (0.2m)	Jun 27, 2022		AUS Leachate	S22-Jl0040108	X	X
8	ST-01-1492-SS02	Jun 27, 2022		AUS Leachate	S22-Jl0040109	X	X

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NATA# 1261 Site# 1254	NATA# 1261 Site# 1254	NATA# 1261 Site# 18217		NATA# 1261 Site# 20794	NATA# 1261 Site# 25079

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Project ID: ADDITIONAL - ST-01-1492

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail	AUS Leaching Procedure	Chromium (speciated)
Sydney Laboratory - NATA # 1261 Site # 18217	X	X
Test Counts	8	8

Internal Quality Control Review and Glossary

General

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

Holding Times

Please refer to '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 prior to sample receipt deadlines as stated on the SRA.

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.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
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

Terms

APHA	American Public Health Association
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 a moisture has been determined on a solid sample the result is expressed on a dry 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 is representative of 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 like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-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 5.4
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 be used as a guide only 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

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

.

QC Data General Comments

1. Where a result is reported as a 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 is 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	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Chromium			mg/L	< 0.05			0.05	Pass	
LCS - % Recovery									
Heavy Metals									
Chromium			%	104			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Chromium	S22-Jl0040102	CP	%	114			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	S22-Jl0040105	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Chromium	S22-Jl0040109	CP	mg/L	< 0.05	< 0.05	<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
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Quinn Raw	Analytical Services Manager
Charl Du Preez	Senior Analyst-Metal
Ryan Phillips	Senior Analyst-Inorganic

Glenn Jackson
General Manager

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 | Environment Testing

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Sample Receipt Advice

Company name:	K2 Enviro Solutions
Contact name:	-INV'S & STMNTS - Kannan Kaliappan
Project name:	ADDITIONAL - 515 CROOKWELL ROAD KINGSDALE
Project ID:	ADDITIONAL - ST-01-1492
Turnaround time:	5 Day
Date/Time received	Jul 18, 2022 11:12 AM
Eurofins reference	907245

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.
X	Split sample sent to requested external lab.
X	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:

Hannah Mawbey on phone : or by email: HannahMawbey@eurofins.com

Results will be delivered electronically via email to -INV'S & STMNTS - Kannan Kaliappan - admin@k2envirosolutions.com.au.

Global Leader - Results you can trust

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET102523 / 105703 / 1 - 6
Your ref : ST-01-1492 – 515 Crookwell Road Kingsdale NSW2580
NATA Accreditation No: 14484

30 June 2022

K2 Consulting Group
Suite 1A Level 2 802 Pacific Highway
Gordon NSW 2072

Attn: Mr Kannan Kaliappan

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Kannan

Asbestos Identification
This report presents the results of six samples, forwarded by K2 Enviro Solutions on 30 June 2022, for analysis for asbestos.

1.Introduction: Six samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method **(Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).**

3. Results :

Sample No. 1. ASET102523 / 105703 / 1. ST-01-1492-BH01-ASB1 (0.2m).
Approx dimensions 8.0 cm x 8.0 cm x 1.1 cm
The sample consisted of a mixture of clayish sandy soil, stones, fragments of plastic and plant matter.
No asbestos detected.

Sample No. 2. ASET102523 / 105703 / 2. ST-01-1492-BH03-ASB3 (0.2m).
Approx dimensions 8.0 cm x 8.0 cm x 1.4 cm
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of paint flakes, animal and plant matter.
No asbestos detected.

Sample No. 3. ASET102523 / 105703 / 3. ST-01-1492-BH07-ASB7 (0.2m).
Approx dimensions 8.0 cm x 8.0 cm x 0.9 cm
The sample consisted of a mixture of clayish sandy soil, organic fibres, stones, fragments of sandstone, wood chips and plant matter.
No asbestos detected.

Sample No. 4. ASET102523 / 105703 / 4. ST-01-1492-BH08-ASB8 (0.2m).
Approx dimensions 8.0 cm x 8.0 cm x 1.0 cm
The sample consisted of a mixture of clayish sandy soil, stones, fragments of soft fibrous material containing organic fibres, wood chips and plant matter.
No asbestos detected.

Sample No. 5. ASET102523 / 105703 / 5. ST-01-1492-ASB-BR1.
Approx dimensions 8.0 cm x 8.0 cm x 1.1 cm
The sample consisted of a mixture of sandy soil, stones, fragments of sandstone and plant matter.
No asbestos detected.

Sample No. 6. ASET102523 / 105703 / 6. ST-01-1492-PL-ASB (Rubbish Pile).
Approx dimensions 6.0 cm x 4.1 cm x 0.5 cm
The sample consisted of a fragment of a fibro plaster cement material containing organic fibres.
No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Identifier.
Approved Signatory

Accredited for compliance with ISO/IEC 17025 - Testing.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

ASET102523/105703/1-6

K2 CONSULTING GROUP

CHAIN OF CUSTODY

URGENT

CLIENT: Alimaco Pty Ltd	TURNAROUND REQUIREMENTS: URGENT		
OFFICE:			
PROJECT NO: ST-01-1492	SAMPLED ON: 27.06.2022		
ADDRESS: 515 Crookwell Road, Kingsdale NSW 2580			
PROJECT MANAGER: Kannan Kaliappan	CONTACT PH: 0449669559		
SAMPLER: Sirish Baniya	RELINQUISHED BY: Sirish Baniya	RECEIVED BY:	RELINQUISHED BY:
COC emailed to lab? (YES / NO) Yes	EDD FORMAT (or default):		
Email Reports to: sirish@k2consultinggroup.com.au	DATE/TIME: 06/2022 @ 20 hrs	DATE/TIME:	DATE/TIME:
Email Invoice to: kannan@k2consultinggroup.com.au			30/6/22 10:45am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

	SAMPLE DETAILS (MATRIX: SOIL/ VINYL/ DUST SWAB OR TAPE/ FC)			CONTAINER INFORMATION		ANALYSIS REQUIRED								Additional Information
S no	SAMPLE ID	DATE / TIME	MATRIX	CONTAINER INFORMATION	TOTAL CONTAINERS	Asbestos in soil (presence/absence)	Asbestos Cement Sheet (presence / absence)	Asbestos in Vinyl (presence/absence)	Asbestos Dust (presence/absence)	Asbestos in Bitumen (present / absent)	Asbestos in insulation (Present / absent)	Asbestos in Material		(Comments on likely contaminant levels, dilutions, or samples requiring specific QA/QC analysis etc)
1	ST-01-1492-BH01-ASB1 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								
2	ST-01-1492-BH01-ASB1' (1.0m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
3	ST-01-1492-BH02-ASB2 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
4	ST-01-1492-BH02-ASB2' (0.4m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
5	ST-01-1492-BH03-ASB3 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								
6	ST-01-1492-BH03-ASB3' (0.5m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
7	ST-01-1492-BH04-ASB4 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
8	ST-01-1492-BH04-ASB4' (0.4m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
9	ST-01-1492-BH07-ASB7 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								
10	ST-01-1492-BH07-ASB7' (0.4m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
11	ST-01-1492-BH08-ASB8 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								
12	ST-01-1492-BH08-ASB8' (0.4m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
13	ST-01-1492-BH09-ASB9 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
14	ST-01-1492-BH10-ASB10 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
15	ST-01-1492-BH11-ASB11 (0.2m)	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
16	ST-01-1492-ASB-BR1	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								
17	ST-01-1492-SS01-ASB	27.06.2022; 10:00 hrs	Soil	Zip Lock Bag	1	X								HOLD
18	ST-01-1492-PL-ASB (Rubbish Pile)	27.06.2022; 10:00 hrs	FCS	Zip Lock Bag	1		X							
					TOTAL: 18									

RECEIVED
30 JUN 2022
BY: .....

Appendix VI

Pro-UCL study

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.2 10/08/2022 4:05:35 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Chromium (Total) UCL

General Statistics

Total Number of Observations	20	Number of Distinct Observations	16
		Number of Missing Observations	1
Minimum	24	Mean	115.2
Maximum	250	Median	120
SD	62.47	Std. Error of Mean	13.97
Coefficient of Variation	0.542	Skewness	0.228

Normal GOF Test

Shapiro Wilk Test Statistic	0.959	**Shapiro Wilk GOF Test**
1% Shapiro Wilk Critical Value	0.868	Data appear Normal at 1% Significance Level
Lilliefors Test Statistic	0.108	**Lilliefors GOF Test**
1% Lilliefors Critical Value	0.223	Data appear Normal at 1% Significance Level

Data appear Normal at 1% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	139.3	95% Adjusted-CLT UCL (Chen-1995)	138.9
		95% Modified-t UCL (Johnson-1978)	139.4

Gamma GOF Test

A-D Test Statistic	0.497	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.748	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.158	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.195	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.856	k star (bias corrected MLE)	2.461
Theta hat (MLE)	40.32	Theta star (bias corrected MLE)	46.8
nu hat (MLE)	114.2	nu star (bias corrected)	98.43
MLE Mean (bias corrected)	115.2	MLE Sd (bias corrected)	73.41
		Approximate Chi Square Value (0.05)	76.54
Adjusted Level of Significance	0.038	Adjusted Chi Square Value	75.02

Assuming Gamma Distribution

95% Approximate Gamma UCL	148.1	95% Adjusted Gamma UCL	151.1

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.914	**Shapiro Wilk Lognormal GOF Test**
10% Shapiro Wilk Critical Value	0.92	Data Not Lognormal at 10% Significance Level
Lilliefors Test Statistic	0.181	**Lilliefors Lognormal GOF Test**
10% Lilliefors Critical Value	0.176	Data Not Lognormal at 10% Significance Level

Data Not Lognormal at 10% Significance Level

	A	B	C	D	E	F	G	H	I	J	K	L
57												
58	**Lognormal Statistics**											
59					Minimum of Logged Data	3.178				Mean of logged Data		4.561
60					Maximum of Logged Data	5.521				SD of logged Data		0.682
61												
62	**Assuming Lognormal Distribution**											
63					95% H-UCL	170.8				90% Chebyshev (MVUE) UCL		177.1
64					95% Chebyshev (MVUE) UCL	203.3				97.5% Chebyshev (MVUE) UCL		239.8
65					99% Chebyshev (MVUE) UCL	311.4						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution**											
69												
70	**Nonparametric Distribution Free UCLs**											
71					95% CLT UCL	138.1				95% BCA Bootstrap UCL		138
72					95% Standard Bootstrap UCL	137.4				95% Bootstrap-t UCL		140.2
73					95% Hall's Bootstrap UCL	139.6				95% Percentile Bootstrap UCL		137.8
74					90% Chebyshev(Mean, Sd) UCL	157.1				95% Chebyshev(Mean, Sd) UCL		176
75					97.5% Chebyshev(Mean, Sd) UCL	202.4				99% Chebyshev(Mean, Sd) UCL		254.1
76												
77	**Suggested UCL to Use**											
78					95% Student's-t UCL	139.3						
79												
80	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
81	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.											
82	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
83												