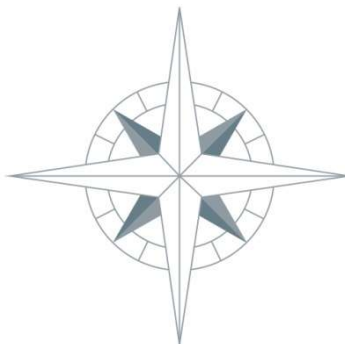
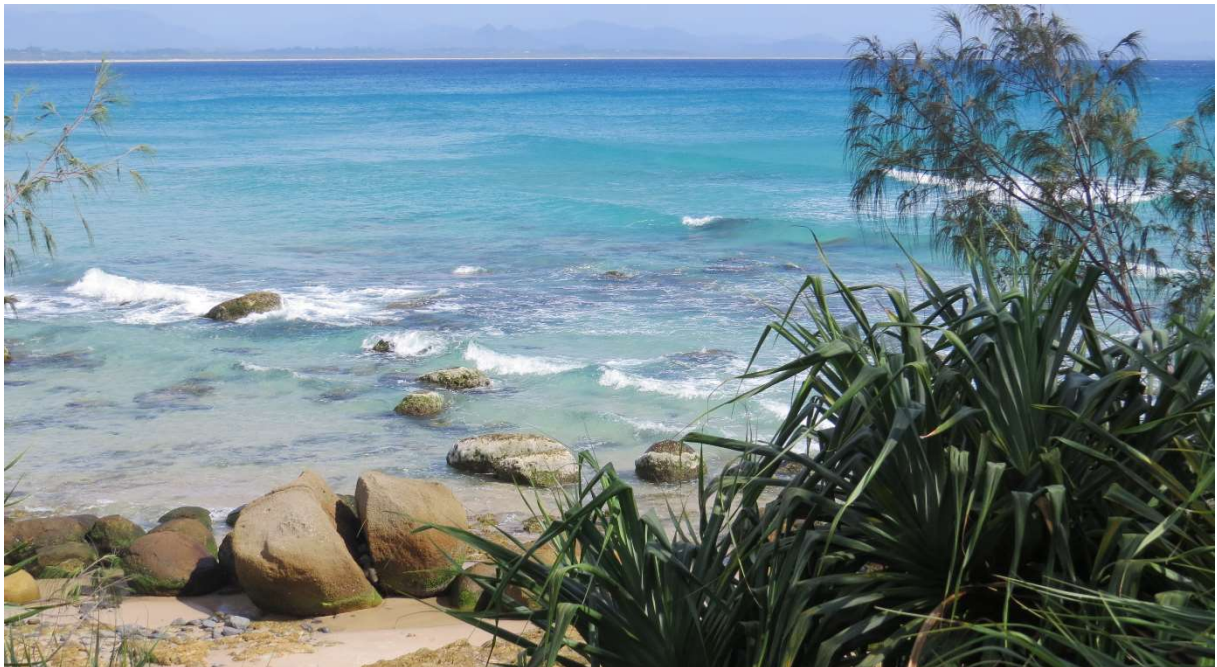


Detailed Site Investigation

Sellicks Dip
44 Bristol Circuit, Goonellabah NSW

June 2023, Ref. 22030



Easterly Point Environmental

www.easterlypoint.com

Report Details

The following report was commissioned by Landcom, on behalf of Lismore City Council:

Detailed Site Investigation

Sellicks Dip

44 Bristol Circuit, Goonellabah NSW 2480

June 2023, Ref. 22030

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This report was prepared in accordance with the scope of work described in Easterly Point Environmental's proposal and the project contract, for the sole use of Landcom, Lismore City Council, their agents in regard to the completion of this project, and the relevant regulatory authorities, including a contaminated land auditor if applicable. It is subject to the Limitations to environmental information, described in Section 1.3 of the report.

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Appendix A – SAQP, including service location plans and photographs

Appendix B – Calibration records

Appendix C – Data usability

Appendix D – Testpit and groundwater monitoring well logs

Appendix E – Laboratory reports

1.0 Introduction

This detailed site investigation (DSI) was conducted by Easterly Point for Landcom, on behalf of Lismore City Council (LCC), for a site located at 44 Bristol Circuit, Goonellabah NSW, identified as Lot 533 DP1162393. The scope of work was described in Easterly Point's proposal to Landcom on 24 August 2022, with their acceptance of the engagement confirmed on 14 September 2022 via execution of a Consultancy Deed (Contract No. 14942).

This report should be read in full and in conjunction with the *Limitations to contaminated land information* in Section 1.3.

1.1 Background

The site is located at 44 Bristol Circuit, Goonellabah, in an area of low-density residential land use. The site consists of approximately 3,653 m² of land which is currently grassed open space. A former cattle dip site, known as Sellicks Dip, was located at the site, and was in use between circa 1958 and 1988. The dip facility is recorded as being demolished by NSW Department of Agriculture, assumed to include the removal of all rails and structures, apart from the in-ground concrete dip bath which remains in-situ.

The site has historically been assessed on various occasions, with elevated concentrations of arsenic and DDT detected in soils. Limited and temporary remediation work was historically undertaken, including the excavation and removal of soil, and the subsequent laying of a geo-textile layer and importation of fill.

Easterly Point was engaged by LCC in December 2021 to conduct a preliminary site investigation (PSI) and to prepare a strategic review letter for the site. The PSI included a comprehensive site history review, including previous contamination assessment reports and historical documentation available for the site. The review identified the presence of contamination associated with the dip bath, although the extent and magnitude of impacts were not clearly defined. While the contamination identified appeared to correlate with historic documentation around the use, location, and temporary remediation of the bath, the information was not considered to be sufficient to allow decisions regarding land use suitability to be made, and further environmental investigations were recommended.

Easterly Point was subsequently engaged by Landcom, on behalf of LCC as the site owners, to conduct a DSI with soil and groundwater sampling, to allow an understanding of the viability of the site to be redeveloped for a multi-dwelling affordable housing development, on behalf of LCC.

1.2 Objectives and scope

As per the Environment Protection Authority (EPA 2020), the objective of a DSI is to provide more complete and definitive information on issues raised in the PSI. The overall objective for this investigation was to collect sufficient information to define the type, extent and level of contamination for the site. Secondary objectives were to:

- assess potential and actual contaminant migration routes, including potential preferential pathways; and
- review and update of the conceptual site model (CSM) from the site investigations.

To meet these objectives, the following scope of work was undertaken:

- Development of investigation design documents, including an environmental and safe work method statement (E&SWMS), a preliminary CSM, the data quality objectives (DQOs) and a sampling, analysis, and quality plan (SAQP).
- Service location using a registered service locator.

- Conducting a site inspection and preliminary dip bath investigation to locate the dip bath.
- Soil investigation across the site using a combined judgemental and systematic sampling program and collection of soil samples for analysis at a NATA accredited laboratory.
- Groundwater investigation, including installation of three groundwater wells and collection of samples for analysis at a NATA accredited laboratory.
- Evaluation of the data, including data analysis and interpretation, and preparation of this report describing the results of the above investigations, including an updated CSM.

This investigation has been conducted in accordance with the following guidance documents, with additional references provided in Section 11.2:

- National Environment Protection Council (NEPC) (2013) *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)*, Schedule A and Schedules B(1) – B(9), National Environment Protection Council, Canberra.
- EPA (2022a) *Contaminated Land Guidelines - Sampling design part 1 – application*.
- EPA (2022b) *Contaminated Land Guidelines - Sampling design part 2 – interpretation*.
- EPA (2020) *Consultants reporting on contaminated land, Contaminated land guidelines*, NSW EPA, Sydney NSW.

1.3 Limitations to environmental information

The findings of this reporting are based on the objectives and scope of the services provided. Easterly Point Environmental performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties or guarantees, expressed or implied, are made.

Easterly Point's review/assessment is strictly limited to identifying the environmental conditions associated with the subject property in regard to site contamination, and does not seek to provide an opinion regarding other aspects of the environment not related to site contamination, or to the suitability of the site in regard to:

- other aspects of the environment not related to site contamination; or
- hazardous building materials in buildings or structures; or
- structures, footings, infrastructure, and the like, whether above or below ground; or
- the suitability of fill materials for any use and any geotechnical considerations; or
- to the suitability of the site in regard to land use planning or legal use of the land; or
- regulatory responsibilities or obligations (for which a legal opinion should be sought); or
- the work health and safety (WHS) legislation; or
- the suitability of any engineering design.

Reviews of such information are only in relation to the contaminated land aspects of any project or site. If specialist technical review of such documents is required, these should be obtained by an appropriate technical or legal specialist.

The reporting and conclusions are based on the information obtained at the time of the assessments. Changes to the subsurface conditions may occur subsequent to the investigation described, through natural processes or through the intentional or accidental addition of contaminants, and these conditions may change with space and time.

Field monitoring, sampling and chemical analysis of environmental media and structures are based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are

based on the sampling and analysis considered appropriate, based on regulatory requirements, site history, and the proposed land use, not on sampling and analysis of all media, at all locations, for all potential contaminants.

Limited field monitoring, and environmental sampling and laboratory analyses, were undertaken as part of the investigations reviewed or conducted by Easterly Point, as described. Ground conditions, contaminants, and material types/composition can vary between sampling locations, and this should be considered when extrapolating between sampling locations. Except at each sampling location, the nature, extent and concentration of contamination is inferred only.

Furthermore, the test methods used to characterise the contamination at each sampling location are subject to limitations and provide only an approximation of the contaminant concentrations. Monitoring and chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

The absence of any identified hazardous or toxic materials at the site should not be interpreted as a warranty or guarantee that such materials do not exist at the site. Therefore, future work at the site which involves subsurface excavation or removal of structures or parts thereof, should be conducted based on appropriate management plans. These should include, *inter alia*, environmental management plans, including unexpected findings protocols, hazardous building materials management plans, and work health and safety plans.

If additional certainty is required, then additional site history information should be obtained, or additional exploration and sampling and analysis should be conducted. This decision should be made by the user of this information based on an appropriate risk management process, and the user should commission additional services if required.

2.0 Site identification and surrounds

2.1 Site identification and land use

The site location is shown in Figure 1, attached. The site identification and land use details are:

Street address:	44 Bristol Circuit, Goonellabah NSW 2480;
Property description:	Lot 533 on DP 1162393;
Property size:	3,653 m ² (approximately);
Local government area:	Lismore City;
Land use – existing:	Former cattle tick dip site that is no longer operational. Currently grassed open space;
Land use – proposed:	Residential, under strata management;
Zoning – existing:	2a – residential; and
Zoning – proposed:	2a - residential.

2.2 Surrounding land use

The site is located in an area of mixed rural, residential and commercial/industrial land use. The surrounding land uses include:

North:	Residential properties, followed by Oliver Avenue and commercial/industrial precinct;
East:	Bristol Circuit, followed by low-density residential properties;
South:	LCC pumping station, Blue Hills Avenue, then stormwater basin/tributary of Tuki Tuki Creek, followed by rural properties and agricultural land; and
West:	Taylor Road, followed by low-density residential properties.

2.3 Surrounding environment

The site is situated on the outskirts of Lismore, with the surrounding environment suburban residential housing, moving into rural land and some agricultural properties. No waterways traverse the site or the immediate vicinity, however, there are several tributaries of Tucki Tucki Creek located within a 1 km range of the site, to the east, south and west.

2.3.1 Environmental values

Water Quality Objectives (WQOs) have been developed for NSW rivers and estuaries and provide guideline levels to assist water quality planning and management. They are the agreed environmental values and long-term goals for NSW's surface waters, and set out:

- the community's values and uses for rivers, creeks, estuaries and lakes (i.e. healthy aquatic life, water suitable for recreational activities like swimming and boating, and drinking water); and
- a range of water quality indicators to help us assess whether the current condition of our waterways supports those values and uses.

The numerical default criteria or trigger values to support the environmental values established by the WQOs are included in ANZG (2018), ANZECC/ARMCANZ (2000) and NHMRC/NRMMC (2011).

The site is located within the Richmond River Catchment, and the following specific WQOs are summarised from the NSW Water Quality and River Flow Objectives (<https://www.environment.nsw.gov.au/ieo/>).

The Richmond River Catchment is shown below in Figure 2.1. As can be seen, the site is in an area of *uncontrolled streams* and *waterways affected by urban development*, with specific WQOs for each shown below:

Uncontrolled streams:

- aquatic ecosystem;
- visual amenity;
- secondary contact recreation;
- primary contact recreation;
- livestock water supply;
- irrigation water supply;
- homestead water supply;
- drinking water at point of supply – disinfection only;
- drinking water at point of supply – clarification and disinfection;
- drinking water at point of supply – groundwater; and
- aquatic foods (cooked).

Waterways affected by urban development:

- aquatic ecosystem;
- visual amenity;
- secondary contact recreation; and
- primary contact recreation.



Figure 2.1: WQOs for the Richmond River Catchment
(Source: [Richmond River catchment map \(nsw.gov.au\)](http://Richmond River catchment map (nsw.gov.au)))

3.0 Environmental setting

The desktop study of the environment at and around the site is summarised, including published soils and geological information.

3.1 Local meteorology

A summary of the climatic data from Lismore Airport, located approximately 10 km south-west of the site, is shown in Table 3.1. Lismore has a subtropical climate, with a wet summer season and mild, drier winters. The temperatures are highest between December to February and coldest in the winter months of July and August, with the highest average rainfall occurring between December and March.

Table 3.1: Climatic summary^{1,2}

	Temperature °C		Rainfall mm		Average number of rain days ³
	Mean minimum	Mean maximum	Mean monthly	Highest monthly	
January	18.7	30.2	147.6	400.4	9.8
February	18.7	29.5	147.2	402.4	11.9
March	17.3	28.2	182.6	806.8	13.3
April	13.9	25.9	111.3	223.8	9.6
May	9.9	23.4	65.4	238.4	6.1
June	8.1	20.8	105.3	335.4	7.5
July	6.2	20.9	35.3	101.4	4.9
August	6.6	22.8	57.9	281	4
September	9.6	25.7	37.6	140.8	5
October	12.7	27.3	88.4	242	8.1
November	15.3	28.8	95	233.6	8.6
December	17.5	29.6	143.7	565.6	9.7

Notes:

1. Data from the Bureau of Meteorology (BOM) climate averages website for Lismore Airport.
2. Data collected from 2002 to 2022.
3. Average number of days with ≥ 1 mm of precipitation.
4. Number of days in a calendar month with ≥ 1 mm of precipitation.

It is noted that in the week prior to the soil investigation, conducted on 2 – 4 November 2022, the site and surrounds received higher than normal rainfall, with Lismore Airport recording over 117 mm of rain falling in a single day (24/10/22), which is higher than the mean monthly rainfall for October. A further 5.4 mm of rain was recorded for the day before the field investigation.

3.2 Topography and hydrology

Based on the Lismore topographic map (topographic-map.com), the site is located between approximately 158 – 168 m Australian Height Datum (AHD). The topography of the surrounding land is at its highest point to the north-east of the site, at approximately 182 m AHD, sloping down towards the south, with the lowest point to the south of the site, beyond Blue Hills Avenue.

The topography of the site generally follows that of the surrounding land, with the highest point along Taylors Road along the western boundary, and falls down to the east, south-east and south, with Bristol Circuit and Blue Hills Avenue being the lowest points. Any runoff would be expected to follow the topography of the site and flow to the south and east.

The topography of the site and the surrounding area is shown in Figure 3.1.

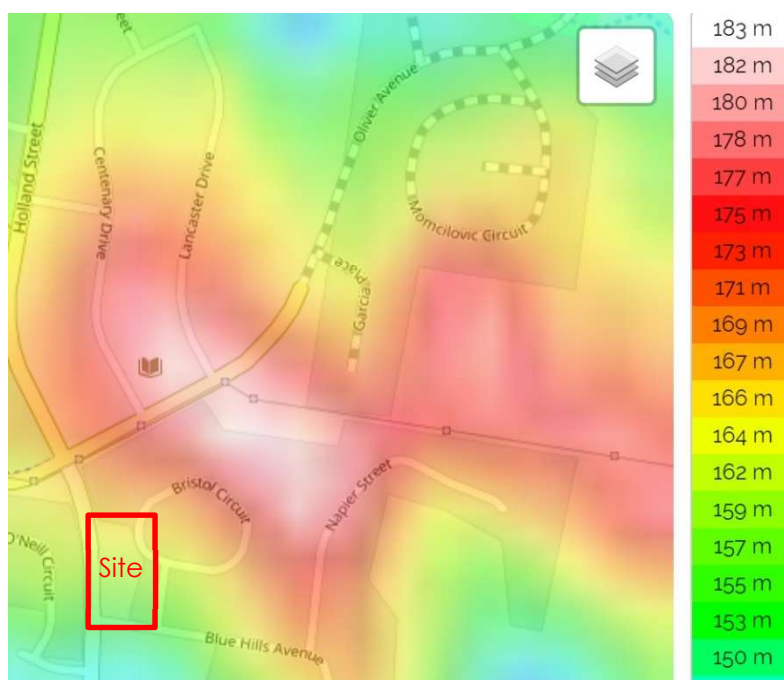


Figure 3.1: Topographic map of the site

(Source: <https://en-au.topographic-map.com/maps/j8cu/Lismore-City-Council/>)

3.3 Geology and soils

3.3.1 Geology

According to the *Lismore 1:100,000 quaternary geology map sheet* (NSW DPI 2008), the bedrock geology is mapped as Tv, described as: Tertiary volcanic rocks: basalt, rhyolite, trachyte, gabbro and syenite.

According to the *Tweed Heads 1:250,000 Geological Series Sheet* (Geological Survey of NSW 1972) the site is underlain by the Lamington Volcanics, specifically mapped as T1b, Lismore Basalt, described as Basalt (agglomerate¹, bole²) of the Cenozoic Era and Tertiary Period.

3.3.2 Soils

The soil landscape at the site is mapped at 1:100,00 as *Wollongbar (Wo)* (Morand 1994). The soil is described as:

- Wollongbar (wo) – Mostly deep (>200cm), well drained Krasnozems (GN3.11, Gn4.11, Uf5.22) on crest/upper slope boundaries. Wet alluvial Krasnozems (Uf5, Uf6) in drainage lines.

¹ Agglomerate: Large, coarse, rock fragments associated with lava flow that are ejected during explosive volcanic eruptions. Although they closely resemble sedimentary conglomerates, agglomerates are pyroclastic igneous rocks that consist almost wholly of angular or rounded lava fragments of varying size and shape (<https://www.britannica.com/science/agglomerate>).

² Inter-flow horizons, most commonly red or brown. Variably interpreted as altered glassy bases of basalt flows, paleosols developed on exposed flow tops, altered volcanic ash beds, or local inter-flow sediments (<https://www.semanticscholar.org/paper/A-simple-recipe-for-red-bole-formation-in-flood-of-Duraiswami-Sheth/1ccd844b21ef6a1f23b0f96f07e0531b39778c8a>).

Soil characteristics for the dominant soil materials included slow to moderate permeability. Approximate hydraulic conductivity (K_{sat}) for the soils ranges from 300 mm/day to 1,000 mm/day, which are in the low to moderate range. These estimates are generally made based on field texture, clay fraction and soil structure grade derived from profile field descriptions and laboratory test results.

The characteristics of the dominant soil materials for these soil landscapes are summarised in Table 3.2. The characteristics include very high clay content and moderate cation exchange capacity. The schematic cross-section of the Wollongbar soil landscape is shown in Figure 3.2.

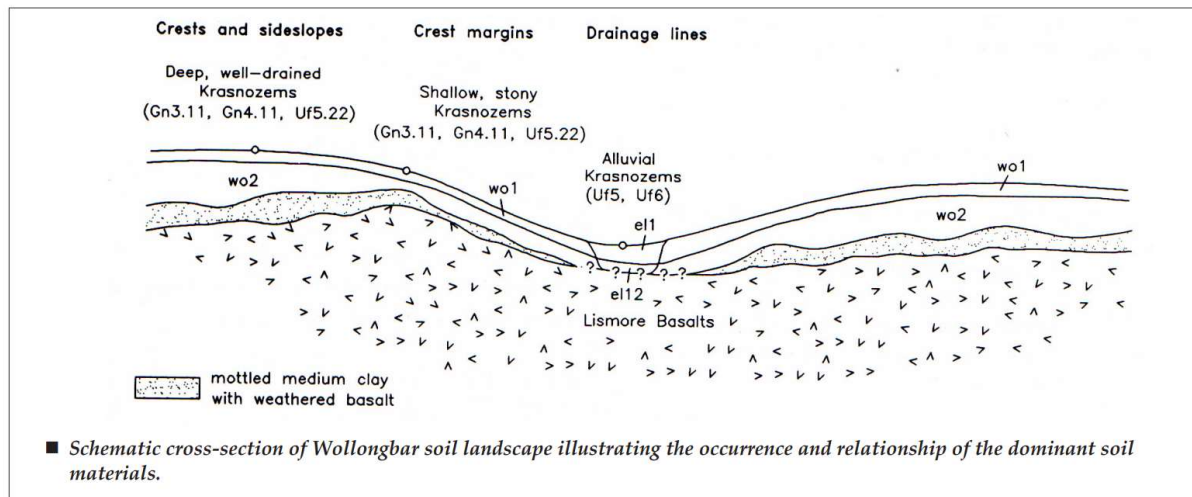


Figure 3.2 Schematic cross-section of Wollongbar soil landscape
(Morand D T, 1994)

Table 3.2: Wollongbar (wo) soil landscape summary

Dominant soil materials		Clay	Silt	Fine sand	Coarse sand	USCS class	pH	Organic matter	Cation exchange capacity
wo1	Self-mulching dark reddish brown clay loam (topsoil- Ap horizon)	60	26	10	4	CL-CH	4.10	6.54	12.60
wo2	Dark red strongly structured light medium clay (topsoil and subsoil- Ap, B horizons)	83	15	1	1	CL-CH	3.90	0.96	17.10

Notes:

- Summary compiled from Morand D.T. (1994) *Soil Landscapes of the Lismore-Ballina 1:100,000 Sheet Report*, Department of Land and Water Conservation, Sydney;
- Fine earth particle size analysis in % from Appendix 7.2.4. Fine earth fraction of a soil is the proportion that is composed of particles < 2 mm in diameter and does not include gravel. Clay < 0.002 mm, silt 0.002-0.02 mm, fine sand 0.02-0.2 mm, coarse sand 0.2-2 mm, and gravel 2-60 mm;
- Unified soil classification system (USCS) from Appendix 7.2.4. CL - inorganic clays of low to medium plasticity, gravely clays, sandy clays, silty clays, lean clays, CH - inorganic clays of high plasticity, fat clays;
- pH in pH units from Appendix 7.2.7. The activity of the negative log of hydrogen ions in a suspension of 1:5 soil:0.01M CaCl₂. 0.75 pH units are added to approximate pH in 1:5 soil:water;

- Organic matter in % from Appendix 7.2.7. Soil organic matter = organic carbon x 1.755. Organic carbon by Walkley-Black method, which measures the amount of carbon in plant and animal remains including soil humus but not charcoal or coal. 0.5-1.0 very low, 1.0-2.0 low, 2.0-3.0 moderate, 3.0-5.0 high, and >5.0 very high. Used as an indicator of potential contamination retention, i.e. higher organic matter higher contaminant retention potential;
- Cation exchange capacity (CEC) in (me/100 g) from Appendix 7.2.9. CEC is an indication of the number of exchange sites within a soil which may temporary hold positively charged ions. It is generally determined by the amount and type of clay and the amount of organic matter. <6 very low, 6-12 low, 12-25 moderate, 25-40 high, and > 40 very high. Used as an indicator of potential contamination retention, i.e. higher CEC higher contaminant retention potential.

3.3.3 Acid sulfate soils

Based on the site's elevation, geology and soil type, acid sulfate soils (ASS) do not exist at the site. This was confirmed by review of the *Acid Sulfate Soil Risk Map* (DPI&E 2011) which describes there are no known occurrences of ASS potential in the nearby area.

3.4 Hydrogeology

Based on a hydrogeology map of Australia (BOM 2020), the site is mapped as belonging in an area with fractured or fissured, extensive aquifers of low to moderate productivity.

A search of licenced groundwater bores within a within a one km radius of the site was conducted as part of the PSI (Easterly Point 2022a), and showed five groundwater bores, wells and/or excavations. These bores have been summarised in Table 3.3 and shown in Figure 3.3. The lithology was generally described as comprising topsoil and clay overlying intermixed layers of shale and basalt, with the water bearing zone occurring within both the shale and basalt.

There is no known potable use of groundwater in the area, noting that NSW Health recommends groundwater is not used for drinking, cooking and personal hygiene (including cleaning teeth and bathing) without testing and appropriate treatment including disinfection (NSW Health 2019).

Table 3.3: Groundwater information from licence bores¹

Well No.	Purpose	Distance from site (m)	Installation date	Depth of bore (m)
GW062304.1.1	Commercial, industrial	441 north	-	-
GW068210.1.1	Unknown	597 north	19/09/1989	65
GW060419.1.1	Exploration	889 north	01/03/1987	43
GW302070.1.1	Unknown	435 west	09/01/1992	106
GW066208.1.1	Water supply	457 west	09/01/1992	106

Table notes:

1. Data collated from BOM (2022).

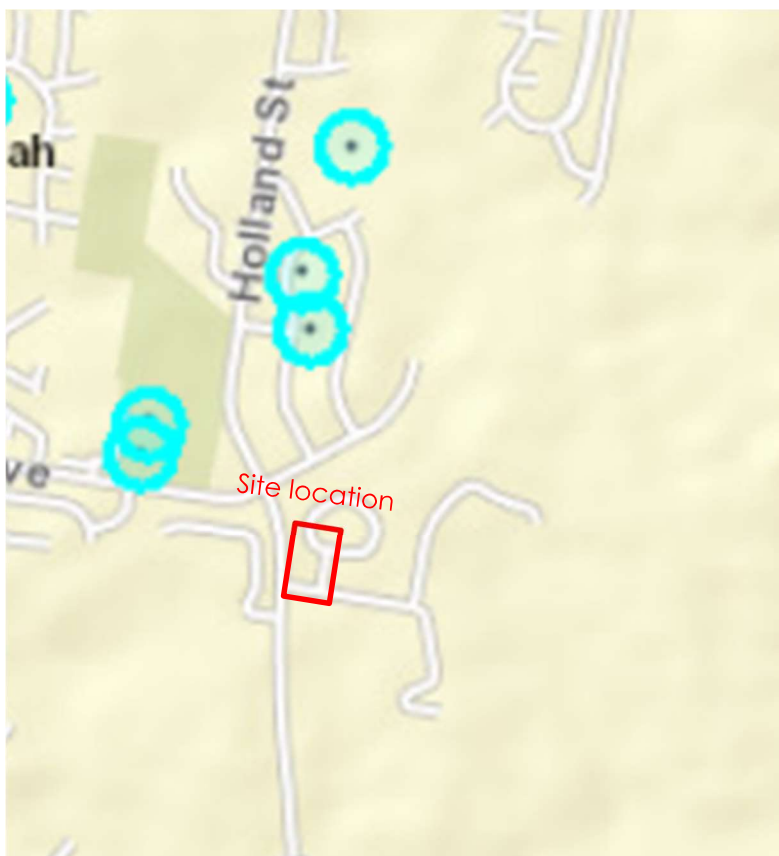


Figure 3.3: Groundwater bore locations within a 1 km radius of the site
(BOM 2022)

4.0 Site history

The site history information is based on that provided in the PSI (Easterly Point 2022a) and has been sourced from the referenced published sources and previous investigations conducted at the site.

4.1 Site history summary

4.1.1 NSW cattle tick dip history

A review of typical cattle dip site operations in NSW is provided for background information, noting that dip baths in NSW were constructed and operated in a consistent manner. The layout for a typical cattle tick dip sites includes:

- a holding yard/forcing yard, including a small shed;
- a force pen and crush, for forcing the cattle into the dip bath;
- the dip bath;
- a draining pen;
- a draining yard; and
- an arsenic pit for disposal of arsenic wastes and a scooping mound, located outside of the dip bath.

A generic cattle tick dip layout is shown below in Figure 4.1.

NSW Agriculture and CMPS&F (1996) describe that the highest concentrations of tickicides are typically found in the following areas:

- adjacent to bath, both in yard and externally (splash area);
- adjacent to the crush; and
- disposal pit and scooping mounds.

These areas are noted to be close to the bath itself, and that the bulk of contamination is typically found within five meters of the edges of the bath and draining pen, although concentrations of concern may extend further. NSW Agriculture and CMPS&F (1996) further describes the following regarding movement and distribution of contamination:

At sites where the slope away from the dip bath exceeds about 5° the contamination can extend down the hill for about 30 m from the dip bath.

The distribution of the residues in the soil profile shows that the residues generally are contained within the top 500 mm of soil in undisturbed areas and away from the splash areas. In splash areas the penetration into the soil could be further and can only be determined by sampling. The same applies to the disposal pit, which runs parallel to the bath and about 600 m out from the bath.

Sandy soils can give a different picture in the profile where arsenic residues can occur at a greater depth. This needs to be taken into account in any assessment of residues at a sandy dip site.

Demolition of dip sites conducted by NSW Agriculture typically involved removal of all associated infrastructure including fence posts and rails, and deposition of the materials within the in-ground dip bath, before 'capping' the bath with a concrete lid. Soil was often placed over the lid and adjoining areas.

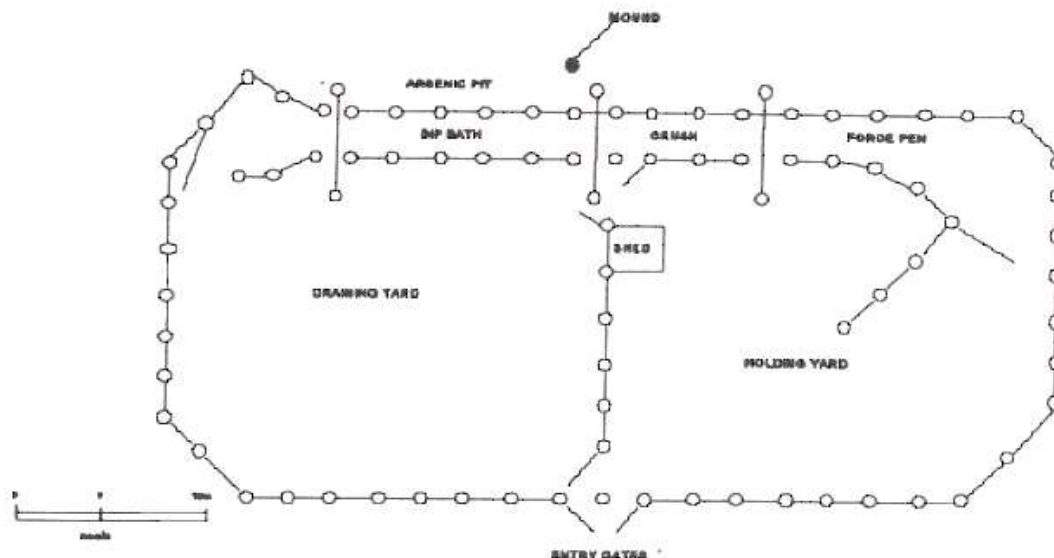


Figure 4.1: Generic dip site layout

4.1.2 Site history

It is understood that the dip site was constructed circa 1958 and operated until 1988 when it was 'demolished' by the Department of Agriculture, noting that it is understood that the concrete dip bath remains in situ.

Limited soil remediation work took place in 1988, when soils with elevated concentrations were excavated from either side of the dip bath. Temporary remediation measures were again reportedly conducted between 1993 – 2006, although specific details are unknown.

The site has remained vacant and is currently grassed open space and is surrounded by residential development.

4.2 Land use information

4.2.1 Council records

No council records were obtained as part of this investigation. Noting anecdotal information³ suggests that Council did not hold any relevant records other than a 2006 investigation report, as discussed below.

A survey plan was provided by Council showing the approximate location of the contaminated fill area and easements, and is included in Appendix A.

4.2.2 Department of Primary Industries records

A hard-copy file of documents relating to Sellicks Dip site was viewed by Hailey Spry of Easterly Point, at the Wollongbar Primary Industries Institute on 16 February 2022, as part of the PSI (Easterly Point 2022a).

Information relating to the historic investigation and remediation of the dip was available, including documentation from Department of Primary Industries (DPI), NSW EPA and LCC. A

³ As discussed with Mr. Andy Parks, LCC.

summary of the germane points is provided below, with a detailed summary of all documentation provided in the PSI (Easterly Point 2022a), including relevant maps and figures.

- The Department of Agriculture conducted an investigation at the site in 1988, and identified elevated concentrations of arsenic and DDT. Based on the results, impacted soil in the area of the scooping mound and pit, and drainage yard was reportedly removed and reinstated with imported fill.
- Additional sampling was conducted at the site by NSW Agriculture & Fisheries in 1991. Samples appear to have been collected from outside of the dip area down the 'gully' adjacent to drainage pen, dip bath and race (towards the current Bristol Circuit). Samples were composited and analysed for arsenic and DDTs. Arsenic concentrations ranged from 6.5 mg/kg – 105 mg/kg and DDTs concentrations ranged from 13 mg/kg – 74 mg/kg.
- Various correspondence between NSW Agriculture, LCC and EPA regarding investigations conducted, land use options and responsibilities for remediation.
- An area designated as "contaminated", as determined by the GeoLink (1993) investigation (described in Section 4.5.1), was overlain with geotextile fabric and approximately 1 m of imported fill. The 'temporary' remediation measures also reportedly included installation of soil and stormwater controls, and erection of a warning sign. A cattle-proof barbed wire fence was also reportedly installed around the site.

A plan dated May 1994 shows the location of the capped area. EPA documentation described that "the fenced area should remain the responsibility of Council and no further development should occur on the site until the dip site has been remediated. Future development and remediation plans should be approved by the EPA".

This information is further to the search results of the NSW DPI register for cattle dip sites, as provided in Section 4.4.

4.2.3 Aerial photograph review

Five historic aerial photographs from 1958 – 1997 were reviewed as part of the PSI (Easterly Point 2022a). Based on the review, the activities visible from historic aerial images support the historical documentation that suggests the dip site was constructed in 1958, and all above ground structures removed prior to 1997; as the area around moves from agricultural to residential use.

A detailed review was provided in Easterly Point 2022a, and should be referenced for further information, including copies of the aerial photographs.

4.3 Activities conducted

The site was used for dipping cattle for ticks between circa 1958 and 1988. Cattle tick control was achieved by dipping cattle in a bath containing chemicals, described as tickicides (NSW Ag and CMPS&F 1996).

The broader site does not appear to have historically been used for anything other than grazing land. The site has recently been grassed open space and is used infrequently as a through-fare by the neighbouring residents/general public.

4.3.1 Chemical use and storage

The NSW DPI web-based Cattle dip site locator, shows the following chemical usage for the Sellicks Dip⁴, as summary of which is provided in Table 4.1:

Table 4.1: Chemical use at Sellicks Dip

Chemicals used	Date first used
Arsenic	4/58
DDT	12/60
Dioxathion	10/62
Dioxathion Ethion	9/72
Ethion	9/73
Ethion Chlordimeform	11/73
Ethion	11/76

Most of the chemicals were discontinued because of resistance by the cattle tick causing loss of control (NSW Ag and CMPS&F 1996). No specific information was available in relation to chemical storage on-site, however a chemical storage shed that was located to the west of the dip bath⁵, is considered the likely storage area, as well as tickicides within the bath.

The ASC NEPM (2013, B5c) describes the following regarding DDT:

DDT is the abbreviation used for dichloro-diphenyl-trichloroethane (C₁₄H₉Cl₅). Technical grade DDT (the form used in pesticide formulations) consists of 14 compounds (ATSDR 2002). The active ingredient and the main constituent of DDT is p,p'-DDT (approx 87% of DDT). Other compounds present include o,p'-DDT (15% of DDT), dichloro-diphenyl-dichloroethylene (DDE) and dichloro-diphenyl-dichloroethane (DDD), which are also metabolites and breakdown products of DDT.

4.3.2 Incidents and spills

No site-specific information is known regarding incidents or spills, although by definition chemicals were “splashed” about at dip sites, either incidentally or intentionally, including:

- splashing of the liquid in the bath as the cattle were ‘dipped’;
- dripping of excess liquid following dipping, in the drainage pen and yard; and
- disposal of the spent liquid/chemicals via either burial or pumping, as discussed further below.

4.3.3 Waste management

The dip bath was oriented in a north-east to south-west direction, with the draining and holding yards, and chemical storage shed located to the west of the dip bath and the arsenic pit and mound on the east side of the dip bath.

NSW Ag and CMPS&F (1996) describes the following general waste disposal practices:

Disposal of arsenic generally was by burial next to the dip, although some was pumped onto the yards. DDT was disposed of in a similar manner. Most other

⁴ Accessed 15/02/2022.

⁵ The shed was denoted on a figure provided in the GeoLink 1993 report. Refer to Section 4.5.

chemicals were pumped onto the soil and the water allowed to soak in. It is possible that amounts in the order of 60 kg DDT and 25 kg arsenic have been disposed at each dip site.

Further to the above, DPI (2017) also describe the following regarding common waste disposal practices:

Scooping of sediment from the bath into the fenced area outside the dip yard has deposited residues in this area.

In 1955, when the arsenic dips were changed to DDT, the arsenic was first separated from the dip bath fluid by adding lime. An insoluble arsenic compound settled to the bottom of the bath, the liquid was pumped out and the solid arsenic compound buried beside the dip bath. At some yards, the arsenic dipping fluid was pumped into the yard. In 1962, similar procedures were used for DDT disposal.

No site-specific information regarding waste disposal at Sellicks Dip is known.

4.3.4 Filling

It is reported that limited fill was imported to the site in 1988 following the excavation and removed of impacted soil adjacent to the bath, as reported by the Department of Agriculture. Further, it was reported that the dip site area was overlain with imported fill, as described by Walker+Newton (1994):

The contaminated area was overlayed with 1 meters of soil, being quarry overburden, and the soil was then battered back down to natural surface. 230 m³ of soil was imported to carry out this work.

It is also assumed that there was some filling associated with the original construction of the dip bath.

A Google 'street-view' image, dated February 2010, shows a large stockpile of red clay-like material stockpiled on the site, as shown in Figure 4.2, below. This stockpile was not evident during the site works, as described in Section 5.

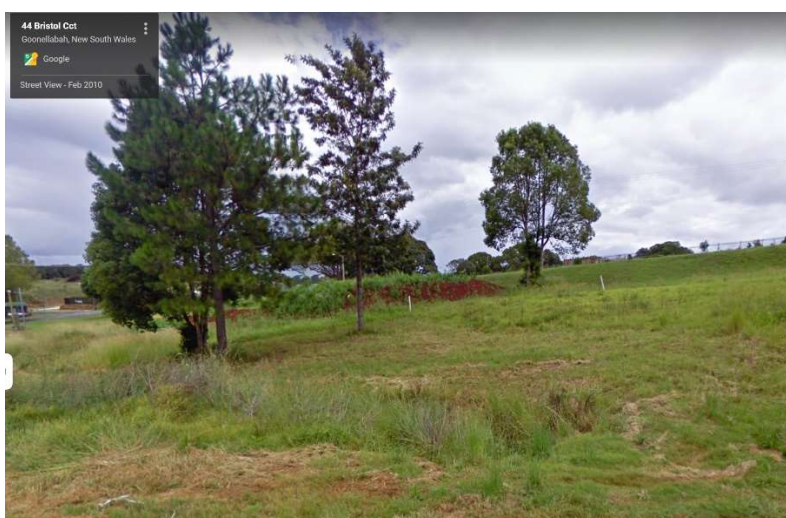


Figure 4.2: 2010 Google image showing stockpile on the site

4.3.5 Services

A services search was conducted through Before You Dig Australia on 20 September 2022, which showed that services on or near the site include Essential Energy electricity, Telstra networks, NBN networks and LCC assets. The LCC assets on the site include:

- a sewer line traverses the site, including three pits located along the length of the line;
- an abandoned sewer line traverses the south-eastern corner of the site; and
- water pipes are present along Bristol Circuit, with water connections into the site.

It is noted that sewer lines connect to the underground sewerage pump station, located off-site, on the adjoining lot south of the site, being Lot 30 DP1000619.

The Essential Energy electricity plan shows there are low voltage underground cables running adjacent to the site along Bristol Circuit, including a cubicle and two pits. No power lines traverse or run along the bounds of the site.

Telstra lines and pits are present along the bounds of the site along Bristol circuit and Taylors Road, including 50 mm PVC conduits, labelled as Other Carrier Telecommunications Cable/Asset with various cable joining pits.

NBN cables and pits are located along Bristol Circuit and Taylor Road, although no cables were identified to be entering the site.

The above service locations were confirmed by a service locator during inspection of the site on 5 October 2022. Before You Dig Australia and service location plans are provided in Appendix A.

4.4 Licences, permits and notices

Table 4.2 outlines a list of online data bases pertaining to licences, permits and notices for the site, reviewed on 23 February 2022.

Table 4.2: Database searches for contaminated land

Data base	Use of data base	Result
NSW EPA Contaminated Land Record	The register lists sites that present a significant risk of harm to human health and/or the environment under the CLM Act 1997. The register shows all current and former remediation orders issued on sites in NSW.	The site and the surrounding area up to 250 m are not listed on the register.
NSW EPA List of Contaminated Sites	The register lists contaminated sites in NSW that have been notified to the EPA under the duty to report obligations. Sites appearing on this list indicate the contamination may or may not be significant enough to warrant further investigation, remediation, or regulatory intervention by EPA.	At the time of this search, the site is not listed on the register.
Licensed Activities under the Protection of the Environment Operations (POEO) Act 1997	Current and former licensed activities under the POEO Act 1997.	There are no current licences that exist for the site under the POEO Act 1997.

Data base	Use of data base	Result
NSW Department of Primary Industries register for cattle dip sites.	The register lists the known cattle dip sites in the Northern Rivers Region that the NSW Government was involved with.	The site appears on the register as 'Sellicks Dip', under the status of 'demolished' after the licence expired 17/01/1989. The current dip bath status/ contents labelled as 'cover'.

4.5 Previous investigations

Several contaminated land investigations were historically conducted at the site, including:

- GeoLink (1993) Re: *Sellicks Dip, Goonellabah*, (Ref. 156-92/282); and
- Environmental Analysis Laboratory (EAL) (April 2006) *Preliminary Contaminated Land Assessment, 44 Bristol Circuit, Goonellabah, NSW*, (Ref. E5235, E5357).

A summary of these investigations is provided below.

4.5.1 GeoLink, 1993

The GeoLink Group conducted a site assessment in January 1992 which included the drilling of 126 soil bores to a maximum depth of 0.3 m on a grid-based sampling pattern. Four soil bores were also advanced to a maximum depth of 1 m, targeted to either side of the dip bath.

Soil samples were collected from the shallow soil bores and analysed as composite samples, comprising three or four sub-samples. Three samples from various depths were analysed as discrete samples from each of the deep boreholes. Samples were analysed for DDT⁶ and arsenic by the NSW Agriculture, Regional Veterinary Laboratory (Wollongbar).

A summary of the data is provided in Table 4.3, noting that no specific sampling, analytical or data verification details were provided.

Table 4.3: GeoLink summary data

	4,4'-DDE	4,4'-DDD	4,4'-DDT	Arsenic
<i>Statistics</i>				
Number of detects	24	8	26	42
Percentage non-detect	43%	81%	38%	0%
Maximum	14	18	500	680
Median	0.4	1.275	0.765	13
Minimum	nd	nd	nd	nd
<i>Criteria</i>				
Low-density residential land use - HIL-A	200			100
High-density residential land use - HIL-B	600			500

⁶ Includes DDT + DDD + DDE.

Table notes:

Bold: Exceeds highlighted criteria.

Includes composite and individual samples

Elevated DDT was only detected in two samples:

- one composite sample (samples 5, 6, 7, 8) collected from within the drainage yard, adjacent to the dip bath, near BH1; and
- BH1 at 0.7 m depth.

Based on the results, GeoLink described the following:

The board of Tick Control has advised that previous remediation work undertaken by the Department of Agriculture involved soil removal in a localised area adjacent to the bath to depths of 0.3 metre inside the yard and 1.5 m outside the yard. Our site investigation included deep coring to a depth of up to 1 m in the vicinity of the dip bath (core holes 1 and 2) which uncovered high levels of arsenic and DDT at depths greater than 0.3 metre. It would appear therefore that the previous remediation work was only partially effective and based on the limited coring information it is estimated that an additional 100 to 150 cubic metres of material may need to be removed from the dip bath area.

Further to that reported by GeoLink, a review of arsenic data collected from the deeper boreholes showed that the arsenic concentrations increased from the surface to the depth of investigation, as shown in Table 4.4.

This data is consistent with historical documentation and the conclusions provided by GeoLink, which describes that soil immediately adjacent to the dip bath (BH1 and BH2) was removed and reinstated with fill. The other two boreholes, BH3 and BH4, collected to the east of the bath returned concentrations as would be expected from an undisturbed area, with elevated concentrations at the surface, and decreasing with depth. Composite samples that returned elevated concentrations of arsenic and DDT were generally collected from areas adjacent to the bath within the drainage yard, and to the east of the bath (downhill topography).

The elevated concentrations of DDT also supported this understanding, where composites 5, 6, 7, 8 were collected from 0.3 m depth further out from the dip bath, assumed to be beyond the area excavated by NSW Agriculture.

Table 4.4: GeoLink concentrations at borehole locations (mg/kg)

Location	Depth (m)	Arsenic	DDTs
BH1	0.3	2	0.22
	0.5	21	69.4
	0.7	680	383.9
BH2	0.3	7	2.5
	0.6	22	0.76
	0.9	430	0.2
BH3	0.35	61	0.28
	0.55	22	0.12
	0.8	8	0.07
BH4	0.3	63	0.35
	0.8	3	0.02
	1.1	2	<0.02

Table notes:

Bold – exceeds adopted HIL-A criteria.

While the data is generally consistent with expected findings, Easterly Point considers the data should be considered as estimates only, further noting some ambiguity about depth of excavation by NSW Agriculture. This is based on the lack of reporting regarding sampling methods, use of composite sampling, description of encountered site conditions (e.g. no borelogs) and quality control.

Regarding the use of composite samples, EPA (1995) *Sampling Design Guidelines*, describe that composite samples can only be used for limited, and very specific purposes depending on the site and contaminant characteristics, including:

- composite sampling is not appropriate for semi-volatile compounds, including OCPs, i.e. DDT; and
- composite sampling is not appropriate for clay-type soils.

Further noting that NSW Ag & CMPS&F (1996) describes that while compositing may be undertaken initially, in order to confirm the extent of contamination, subsequent sampling and analysis programs should concentrate on discrete analysis.

4.5.2 EAL, 2006

EAL conducted a soil investigation at the site in 2006, after 'temporary' remediation works were conducted, including laying a geotextile marker layer over the dip bath area, followed by approximately 1 m of imported fill.

The objective of the preliminary contaminated land assessment was described as to "determine if land contamination has occurred from past land usage". Based on this, the following scope of work was conducted:

- limited desk-top site history review, including review of site topography, local meteorology, etc.;
- collection of soil samples across the site;
- compositing of selected samples for analysis; and
- analysis of samples at the laboratory for potential contaminants of concern (PCoCs).

EAL described that soil samples were collected using a systematic grid-based sampling pattern. A total of 36 surface soil samples were collected and composited into nine samples for analysis, with each sample comprising of four sub-samples, collected from locations adjacent to each other. EAL described that samples were specifically targeted to the topsoil layer:

as it is these soils that members of the public are likely to come into contact with and are most likely to contain site contamination, i.e. from site runoff and greatest exposure to agricultural practices.

A further 20 samples were collected from boreholes from approximately 0.5 m depth, for individual analysis.

All composite samples were analysed at the laboratory (EAL) for heavy metals, organophosphorus pesticides (OPPs) and organochlorine pesticides (OCPs), while discrete samples were analysed for arsenic only.

Based on the analytical results, EAL described:

The results indicate no soil contamination of the site by any of the broad range of metals or organochlorine and organophosphate pesticides analysed... Arsenic is extremely low and well below background guidelines for assessment of contamination. No spikes in arsenic concentrations were identified which was expected from the previous dip site activities on the site. No DDT/ DDD or DDE were located in the samples analysed.

EAL provided the following conclusions and recommendations:

The soil analysis confirmed the background site history of remediated dip site with no significant metal or pesticide contamination of the soil.

It is considered that the site can be classified as uncontaminated for the proposed future land usage of residential subdivision. It is important to note that the remediated dip site is still located on Lot 531 and this area has restricted use and is covered with approximately 1 m of clean fill.

All composite and individual analysis results had contaminant levels well below the modified Column 1 HBIL and therefore a detailed investigation or further site remediation is not required.

The main findings identified from a review of the EAL report are presented below:

- All samples were collected from shallow soils to a maximum depth of 0.5 m. No samples were targeted to specific features of the former dip bath, as outlined in Section 4.1, nor collected from a depth representative of the former site surface.
- No geological bore logs nor sample descriptions of the material sampled was provided.
- The use of composite samples was not conducted in accordance with regulatory guidance, as described above.
- EAL described that "the site remediation was proposed for 1 m of fill over the site and the 50 cm depth sampling confirmed that clean fill is over the site". Based on this, the sample locations, depth of sampling and analytical results, it appears that EAL have sampled the imported fill only, and not the former site surface. As such, areas of concern associated with the dip have not been investigated.
- The data should be considered as estimates only, and not representative of potential contamination associated with the dip bath.

4.6 Anecdotal information

The following information was obtained from Mr. Andy Parks, Acting Strategic Planning Coordinator (LCC), during a site inspection on 16 February 2022:

- as far as Mr. Parks was aware, a warning sign or fencing had not been erected at the site; and
- during previous inspections at the site, when the ground surface was visible after mowing, no evidence of the dip structure, including fencing, posts, etc. was visible.

4.7 Site history summary

Based on the information obtained during the site history review, a summary timeline is presented below. Further information is provided in Easterly Point 2022a, including historic figures and plans.

Table 4.5: Summary timeline

Date	Activity
1958	Dip constructed at the site.
1988	Department of Agriculture (Dept. Ag) sampled the site and analysed composited samples for arsenic and DDT. Concentrations of arsenic ranged from non-detect to 110 mg/kg and DDT ranged from non-detect to 888 mg/kg. Based on arsenic and DDT concentrations detected, Dept. Ag recommended the removal of soil around the scooping mound, pit, and drainage yard.
1988	Dept. Ag confirm removal of impacted soil adjacent to the bath and replacement with clean soil.
1991	Additional sampling conducted at the site by NSW Agriculture & Fisheries, including sampling from outside of the dip area down the 'gully'. Marginally elevated concentrations of arsenic and DDT detected.
1992 - 1993	Various correspondence between EPA, Department of Agriculture, and Walker+Newton regarding containment of the dip on-site.
1993	GeoLink soil investigation. Elevated concentrations of DDT and arsenic detected, including up to 680 mg/kg of arsenic and 500 mg/kg DDT.
1993 - 2006	Various correspondence between NSW Agriculture, Walker+Newton, LCC, and the EPA. Information suggests the dip bath area was subject to 'temporary' remediation works, including the placement of a geotextile fabric marker layer of the former dip site surface and importation of approximately 1 m of fill over the area. The temporary remediation measures also reportedly included installation of soil and stormwater controls, and erection of a warning sign. A cattle-proof barbed wire fence was also reportedly installed around the site.
2006	EAL investigation. Included assessment of surface soils. Contamination associated with the dip bath does not appear to have been assessed.
2021	LCC survey plan of "approximate locations of contaminated fill area and easements". The location of the <i>contaminated fill area</i> appears based on that of the Walker+Newton 1994 plan.

5.0 Site features and condition

The site condition described below is based on inspections conducted as part of this investigation. It is highlighted that the site inspection did not constitute an environmental site audit or hazardous materials survey.

5.1 Site features and conditions

The site features and conditions described are based on inspections conducted by Hailey Spry of Easterly Point on 5 October 2022 and 2 – 4 November 2022. Photographs are provided in Appendix A.

- The site is currently vacant open space and easily accessible to the public, with no fencing or visible evidence of use.
- The site was covered in grass with sparse trees along the boundaries, and two large trees located in the centre of the site.
- The topography of the site generally follows that of the surrounding land, with the highest point along Taylors Road along the western boundary, and falls down to the east, south-east and south, with Bristol Circuit and Blue Hills Avenue being the lowest points.
- A raised area was observed in the north-eastern portion of the site, in the approximate location of the capped area, as shown on the LCC survey plan. The area was covered in grass, similar to that of the remainder of the site, and no other distinguishable features associated with the dip bath or previous remediation work, e.g., stake posts, barbed wire fencing, etc., were visible.
- The site was surrounded by low-density residential houses.
- There is no separation between the site and an underground pumping station, located on the adjacent lot.

5.2 Integrity assessment

Based on the historical information available for review, there is generally good agreement between the various sources of information in regard to site history and usage. The site history information documented in Section 4, including anecdotal information, is generally consistent with the physical findings of the site, as discussed above.

5.3 Preliminary conceptual site model

CSMs are four 4-dimensional representations (x, y, z + time) of site-related information regarding contamination sources, receptors, and the exposure pathways between those sources and receptors. They provide the framework for identifying how the site became contaminated and predict how potential receptors may be exposed to contamination, either now or in the future.

A preliminary CSM was developed for the site based on information obtained from the site history review (Easterly Point 2022a) and the preliminary dip bath investigation, as presented in the SAQP (Easterly Point 2022b).

The source-pathway-receptor summary includes:

Sources

Known and potential sources of contamination include:

- impacted soil with elevated concentrations of arsenic and DDTs, associated with use of the site as a cattle tick dip. Expected to be limited to the areas surrounding the dip bath;
- dip bath with unknown contents;
- potentially impacted fill, including heavy metals, organics (TRHs, BTEX, PAHs⁷), OPPs/OCPs and asbestos fibres/fragments. Expected to be limited to the areas of importation, as evident on the historic maps and survey plan.

Receptors

Potential current and future receptors include:

- maintenance workers during current maintenance activities including lawn mowing, and the-like;
- children and adults currently using the land as open space/playing fields;
- construction workers during future development;
- future children and adults as residents and visitors, considered to be residential receptors with minimal opportunities for soil access (HIL-B) in accordance with the ASC NEPM (2013, B1);
- adult future site workers or maintenance staff; and
- on-site and off-site plants and animals, including domestic pets.

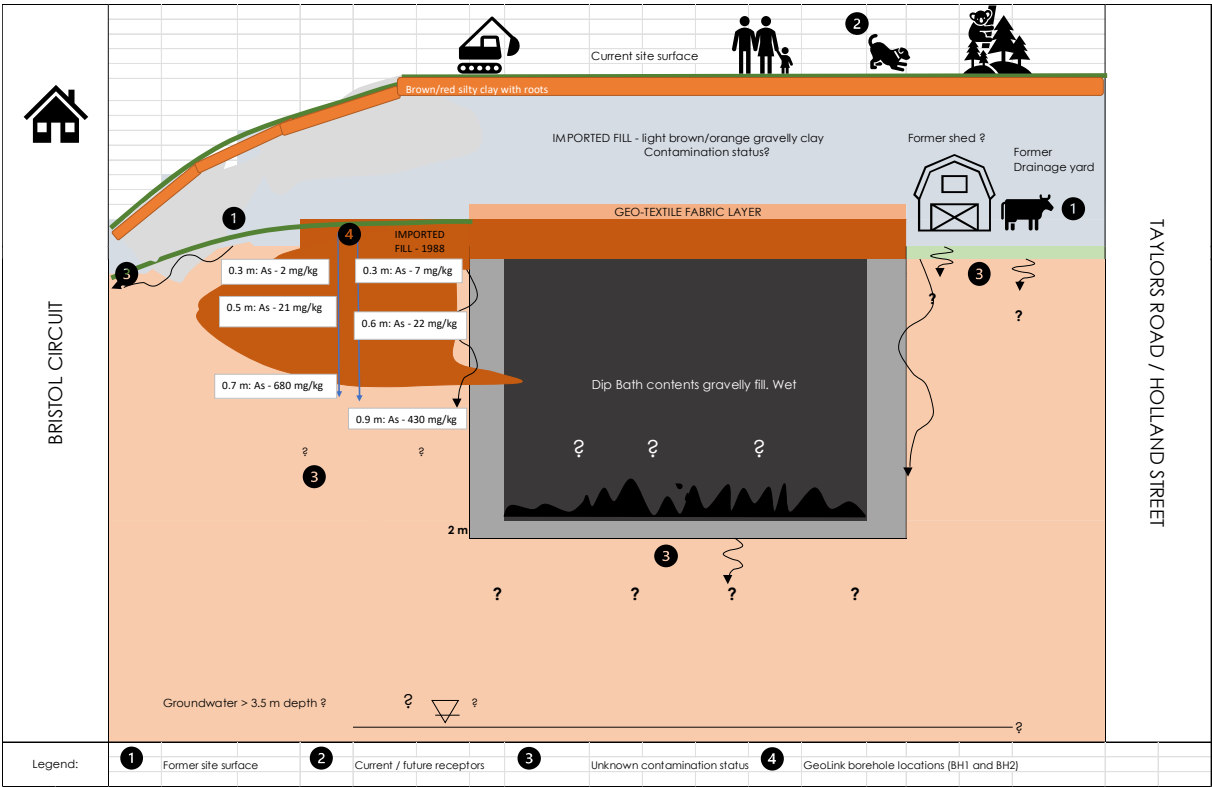
Pathways

Pathways of concern for the current and proposed land uses include:

- migration of contamination vertically through the soil profile to groundwater;
- migration and deposition via erosion of impacted soil particulate matter following the topography of the site;
- dermal contact, inhalation of dust and ingestion of soil by both adults (maintenance/development workers and future residential) and children;
- migration of contaminated groundwater off-site; and
- dermal contact or ingestion of contaminated groundwater.

A graphical cross-sectional CSM was developed, and is provided as Figure 5.1.

⁷ Total recoverable hydrocarbons; benzene, toluene, ethyl-benzene, xylenes, naphthalene; polycyclic aromatic hydrocarbons.



6.0 Contaminants, media and assessment criteria

This section discusses the potential contaminants of concern, (PCoCs), environmental media of interest and adopted assessment criteria.

6.1 Potential contaminants of concern

The PCoCs on the site are primarily related to the use of the site as a cattle tick dip, limited to arsenic and organochlorine pesticides (OCPs). While organophosphorus pesticides (OPPs) were used at the site from 1962, they were not considered a primary PCoC due to their rapid half-life degradation (less than a year) (DEC 2005).

As such, primary PCoCs were considered to be arsenic and OCPs, while secondary contaminants were considered to include heavy metals and OPPs.

Other PCoCs were considered to relate to the possible use and storage of herbicides and pesticides in the chemical storage shed and during general historical agricultural activities, as well as the importation of fill, either historically or as part of temporary remediation works, and were considered to include heavy metals, organics (TRHs, BTEX, PAHs⁸), OPPs/OCPs and asbestos fibres/fragments. No signs of contamination were identified in the field, including building and demolition waste, odours or staining (not related to the dip site), and therefore no samples were analysed for TRHs, BTEX, PAHs and asbestos.

A review of Appendix B of the PFAS NEMP⁹ was undertaken to determine if activities including PFAS were relevant to the site. No potentially applicable activities were identified for the site, with the exception of the following listed in Table B2, *Activities associated with PFAS contamination more broadly*:

Agriculture:	Potentially used as an adjuvant or active ingredient in fertilisers and pesticides, firefighting foam used in the poultry industry to destroy infected flocks.
Manufacturing of chemicals, fertilisers and pesticides:	Equipment and fittings including pipes, tanks and valves, use as an intermediate in the production of other substances, potentially used as an adjuvant in fertilisers and pesticides

As no chemical manufacturing occurred at the site, no information could be found to suggest that the insecticides used contained PFAS, no bulk chemical storage occurred at the site, and no activities occurred on the site associated with point sources of PFAS contamination, PFAS are not considered to be PCoCs.

Further, a PFAS investigation database search was conducted for the site and surrounding area, for sites that may pose a potential off-site source of PFAS, as shown in Table 6.1.

⁸ Total recoverable hydrocarbons; benzene, toluene, ethyl-benzene, xylenes, naphthalene; polycyclic aromatic hydrocarbons.

⁹ Heads of EPA (January 2018) *PFAS National Environmental Management Plan*, HEPA.

Table 6.1: Database searches for PFAS investigations

Data base	Use of data base	Result
EPA and Defence PFAS Investigation Programs ¹⁰	Sites that are part of the EPA PFAS investigation program and sites that are being investigated by the Department of Defence for PFAS.	There are no records for the site and surrounding area within 2 km.
NSW rural fire service website ¹¹	The NSW Rural Fire Service (RFS), in conjunction with NSW EPA and local councils are working to investigate the presence of PFAS at locations across NSW, with sites under investigation listed on the website.	There are no Fire and Rescue NSW or RFS stations located within a 2 km radius of the site.

Based on the information available, analysis for PFAS was not considered to be required as part of the DSI.

6.2 Media

The environmental media of interest was soils, including both fill and natural soils, and groundwater.

6.3 Criteria

6.3.1 Soil

The ASC NEPM (2013) provides a range of criteria for the protection of human health, referred to as health investigation levels (HILs). The HILs have been developed for a broad range of metals, organic substances, and asbestos.

The HILs are designed to be used in the first stage, or Tier 1 screening, of an assessment of potential risks to human health from chronic exposure to contaminants. They are intentionally conservative and are based on reasonable worst-case scenarios for four generic land use settings of:

- HIL A – residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry)), also includes children's day care centres, preschools and primary schools.
- HIL B – residential with minimal opportunities for soil access includes dwellings with fully and permanently paved yard space such as high-rise buildings and flats.
- HIL C – public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. It does not include undeveloped public open space (such as urban bushland and reserves) which should be subject to a site-specific assessment where appropriate.
- HIL D – commercial/industrial such as shops, offices, factories and industrial sites.

The HILs apply to the different land use scenarios, are generic to all soil types, and apply generally to a depth of 3 m below the surface for residential use, with the ASC NEPM (2013, B1)

¹⁰ <https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program>.

¹¹ <https://www.rfs.nsw.gov.au/news-and-media/pfas-environmental-investigation>, accessed 17/05/23.

noting that site-specific conditions should determine the depth to which HILs apply for other land uses.

As the HIL-B criteria is based on fully and permanent paved yards, the HIL-A criteria was adopted for this investigation, therefore allowing a broader range of options for site development.

Ecological criteria

Schedule B(1) of NEPM (2013) provides a range of investigation levels for the protection of ecosystems, referred to as ecologically-based investigation levels (EILs) and ecological screening levels (ESLs), which are applicable for assessment of risk to terrestrial ecosystems.

Based on the sites location and proposed land use, the EILs for urban residential and public open space (80% species protection level) will be referred to. It is noted that Schedule B1 of the ASC NEPM (2013, B1) describes that the EILs principally apply to the top 2 m of soil which corresponds to the root zone and habitat zone of many species.

EILs are generally derived based on summing the ambient background concentration (ABC) (measured at an appropriate reference site) with the added contaminant limit (ACL), calculated based on site-specific soil characteristic properties. Based on the preliminary nature of this investigation, background samples and site-specific soil characteristics are not proposed to be investigated, and as such, generic ACLs will be referred to, where available for aged contaminants.

6.3.2 Groundwater

To evaluate groundwaters, the appropriate groundwater investigation levels (GILs) are from:

- drinking water criteria from National Health and Medical Research Council (NHMRC) & Natural Resource Management Ministerial Council (NRMMC) (2011) *Australian Drinking Water Guidelines*; and
- freshwater aquatic ecosystem investigation levels from the Australian and New Zealand Environment and Australian State and Territory Governments (ANZAST) (2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Water Quality Australia, available online at: <http://www.waterquality.gov.au/anz-guidelines>.

Investigation levels in waters are relevant for surface waters and groundwaters. These include common metals and a range of organics for protection of aquatic ecosystems in fresh waters.

For ecosystems, the EPA specify that the 95% species protection levels are to be applied for slightly to moderately-disturbed ecosystems (most urban catchments) and the 99% species protection levels for pristine or vulnerable ecosystems or where the contaminants are intractable (e.g. bioaccumulative).

The fresh waters and drinking water GILs have been adopted for assessment of groundwater at the site, using 95% species protection levels. The environmental values identified for the site also include primary and secondary recreation, as well as irrigation, stock water, etc. Evaluation of the groundwater data against the drinking water GILs is considered to be protective of the additional environmental values.

6.3.3 Aesthetic criteria

There are no specific numeric aesthetic criteria, however site assessments require balanced consideration of the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity. For example, higher expectations for soil quality would apply to residential properties with gardens compared with industrial settings (ASC NEPM 2013, B1). Issues considered include odours, staining, monolithic deposits, and potentially dangerous material such as rubble with steel, sharps and the like.

6.3.4 Application of criteria

It should be noted that the criteria described above principally relate to land use. EPA (2014) describes that:

In NSW, these investigation and screening levels, and site-specific risk assessments are supported by the contaminated land framework and the Contaminated Land Management Act 1997. They are used to assess if a site presents a risk to human health and the environment in relation to land use.

When assessing the suitability of waste materials for land application in the context of resource recovery, the EPA cautions against relying solely on health-based investigation levels (HILs), health-screening levels (HSLs), ecological investigation levels (EILs), ecological screening levels (ESLs), and site-specific risk assessments to demonstrate a waste is suitable for reuse in the context of resource recovery.

This approach is also relevant in regard to waste classification for legal disposal to licenced waste facilities. That is, contaminated land assessments principally relate to land use, both at the site and for potential off-site impacts, rather than to waste characterisation. Unless specifically addressed as waste characterisation, land use criteria should not be conflated with waste classification.

The ASC NEPM (2013, B1) describes that:

The selection of the most appropriate investigation levels for use in a range of environmental settings and land use scenarios should consider factors including the protection of human health, ecosystems, groundwater resources and aesthetics.

And that "A balance between the use of generic soil, soil vapour and groundwater criteria and site-specific considerations is essential practice in site assessment". Noting that the ASC NEPM (2013), describes that "Human health should be a primary concern when assessing land use and exposure scenarios".

7.0 Easterly Point Investigation

The assessment of site contamination (ASC) investigation was conducted in general accordance with a SAQP developed by Easterly Point, which included the development of a preliminary CSM and project-specific DQOs (Easterly Point 2022b). The SAQP is provided in Appendix A.

7.1 Preliminary dip bath investigation

As part of this investigation, a site inspection and preliminary investigation of the dip bath was conducted on 5 October 2022, by Hailey Spry of Easterly Point Environmental. As part of this investigation the dip bath was located with the aid of a representative from DPI, and the overlying soil was excavated to uncover the dip bath to allow a visual assessment of the top of the dip bath infrastructure and contents. No samples were collected as part of this preliminary investigation.

7.2 Sampling and analytical strategy

Given the very specific use of dip sites, and relatively well-known extent of contamination from that use, the investigation design was based on the process outlined in the ASC NEPM, as well as the guidance related specifically to dip sites:

- NSW Agricultural/CMPS&F (1996) *Guidelines for the Assessment and Clean Up of Cattle Tick Dip Sites for Residential Purposes*, NSW Agricultural and CMPS&F Environmental, Canberra; and
- Kimber et.al. (2002) *Is there evidence of arsenic movement at cattle dip sites?* CSIRO, Australian Journal of Soil Research, Volume 40. Wollongbar NSW.

7.2.1 Soil

Based on the site history and use of the site, the site was stratified, denoted the 'Northern Portion' which encompasses the dip bath, and the 'Southern Portion', where no contaminating activities had been identified. The stratified areas are shown in Figure 2, attached.

The soil sampling program consisted of a combination of systematic and judgemental sampling. The objective of the grid-based sampling plan was to define the type, extent and level of contamination of the site, while the objective of the targeted sampling plan was to ensure that the areas of highest potential impact were assessed and documented.

Northern portion

A systematic grid sampling pattern was used to assess the area covering the former cattle tick dip, and immediate surrounds, which was estimated to be approximately 1,450 m². A grid of approximately 7 m was selected based on previous published documentation (CMPF&S 1996 and Kimber et al. 2002) regarding the investigation of dip sites, which equated to approximately 30 test pit locations on a 7 m grid, theoretically capable of detecting a hotspot with a diameter of 7.8 m at a 95% confidence limit. Based on the site's geometry, 33 sample locations were investigated across this portion of the site, as summarised in Table 7.2.

As per NSW EPA (2022), it was determined that a minimum of eight sample locations would be required for site characterisation, equating to a grid of 13.5 m, and allowing a hotspot of 15.9 m in diameter to be detected at a 95% confidence limit. A hotspot is defined as a localised area where the level of contamination within that area is noticeably greater than that in surrounding areas, noting that this definition defines hotspots only as relatively high in contamination. As such, the chosen grid of 7 m exceeds the minimum sampling density for site characterisation.

Targeted sampling locations were targeted to areas affected by activities associated with the cattle dip yard, including drainage pen, chemical storage shed and 'splash' areas immediately adjacent to the bath, and are detailed in Table 7.1.

Table 7.1: Justification for targeted sampling locations

Sample ID	Justification
TP101	Positioned immediately down-gradient of the drip pad.
TP102	Positioned adjacent to, and down-gradient of the dip bath in the area of the former arsenic scooping mound and pit.
TP103	Positioned adjacent to, and down-gradient of the dip bath in the area of the former arsenic scooping mound and pit.
TP104A and B	Positioned adjacent to the crush, as well as down-gradient of the dip bath. On excavation, TP104 had two different profiles on each wall and so the testpit was extended (east to west), and investigated/logged as TP104A and TP104B.
TP105	Positioned adjacent to, and up-gradient of the dip bath within the holding yard. Also located proximate to former GeoLink borehole location, BH01.
TP106	Positioned to approximate location of former chemical storage shed.
TP107	Positioned to the immediate north of the drip pad, aimed at identifying any contamination adjacent to the neighbouring property.

Southern Portion

No potentially contaminating activities had been identified in the southern portion of the site, and as such, investigation of soils in this area was conducted on a broad, grid-based sampling pattern. This area is estimated to be approximately 2,203 m² and based on the site history, six testpits were proposed to be investigated. However, based on the geometry of this area, a total of 10 sample locations were investigated across the southern portion of the site, equating to an approximate 14.8 m grid. The number of sampling points is greater than the minimum number of sampling points required for site characterisation.

Summary of adopted strategy

The field program was based on that proposed in the SAQP, with minimal changes made based on field conditions encountered, including:

- TP13 was not investigated due to access restrains and being located too close to the retaining wall; and
- TP104 was extended (east to west) based on different profiles encountered on each wall, and investigated as TP104A and TP104B; and
- TP107 was opportunistically positioned to the immediate north of the drip pad.

The combined sampling strategy is shown in Table 7.2.

Table 7.2: Soil sampling strategy

Area	Site area (m ²)	Sample locations	Grid (m)	Diameter of hotspot (m)
Dip site area - grid	1,450	33	6.6	7.8
Dip site area - targeted		7	-	-
Outside of dip site - grid	2203	10	14.8	17.5
<i>Whole site</i>		50	-	-

Testpits were excavated to a maximum depth of 3.5 m, which was considered to be sufficient to identify the vertical extent of contamination, and providing a sufficient understanding of historical surface and subsurface conditions, taking into account the presence of fill across the site. Further, this depth is considered to be below the invert of the base of the dip, taking into account dip baths are 2 m deep, plus approximately 1 m of capping/topsoil overlying the bath. In general, testpits were excavated to depth in the areas immediately adjacent to the dip bath, and shallower as the sample locations extended away from the bath, taking into account the site topography and services on the site.

7.2.2 Groundwater

After consideration of the data obtained from the soil investigation and resultant data gaps, including depth to groundwater, contamination status of the groundwater and contamination status under the bath, as well as consultation with the site auditor and client, a groundwater investigation was deemed to be required.

Three groundwater wells were installed on 25 February 2023, in an approximate triangle shape around the dip bath targeting surficial groundwater. The wells were positioned in targeted locations, based on the assumption that groundwater flow direction is to the south / south-east. The groundwater flow direction was assumed to be to the south/south-east, based on the general topography of the site and surrounding area and the presence of a stormwater basin and tributary of Tuki Tuki Creek to the south of the site, to the immediate south of Blue Hills Avenue.

MW01: Up-gradient. Positioned to determine background conditions.

MW02: Down-gradient. Positioned to determine any migration of contamination away from the dip bath area.

MW03: Down-gradient. Positioned in close proximity to the bath to target groundwater immediately down-gradient of impacted soil.

7.3 Sampling and analytical methodology

The investigation was undertaken in accordance with Easterly Point's standard operating procedures, which are consistent with EPA made and approved guidelines and industry standards, which were described within, and attached to the SAQP. A general overview of the sampling methodology is provided below.

7.3.1 Soil

Samples were collected from the testpits, from either the excavator bucket or directly from the wall of the test pit by a gloved hand. To avoid cross contamination, care was taken to ensure samples were not collected directly from material attached to the excavator bucket. A new pair of disposable gloves was used to collect each sample.

All soil samples were immediately collected into laboratory supplied glass jars and filled to the top to minimise headspace. Samples were then be placed directly into chilled eskies for transportation to the laboratory under chain of custody (COC) documentation.

7.3.2 Groundwater

Groundwater monitoring wells were installed on 25 February 2023 using the following methodology:

- Soil bores were drilled by Proactive Drilling using solid flight augers attached to a GeoProbe drill rig. Drilling was advanced until refusal on a confining basalt layer commonly found in *Lismore Basalt* geology, where wet soils were encountered above the basalt layer. Boreholes were drilled to a maximum depth of 7.8 m.
- Groundwater monitoring wells were installed in general accordance with NEPM and other relevant guidance¹², using 50 mm Class 18 blank pipe with threaded connections, 50 mm Class 18 slotted pipe with threaded connections, bottom caps and top well plugs. Graded gravel was used for the filter pack around the slotted pipe, placed to 0.5 m above the slotted screen. A bentonite plug, of approximately 0.5 m thick, was then placed to seal the void above the slotted pipe in accordance with industry standards. Concrete was used to seal the annulus between the surface and the bentonite plug, and the wells were finished with a monument cover.
- After placement of the filter pack but prior to the installation of bentonite and concrete, attempts were made to develop the wells using a combination of air and surging, using a disposal bailer. At the time, only a small volume of water had accumulated in MW01 and MW02 which was removed; however, no water had accumulated within MW03.

The wells were sampled approximately one week after installation on 3 March 2023. A summary of the methodology is presented below:

- MW01 was sampled first and measurement of the standing water level (SWL) using an interface probe prior to sampling identified sufficient water to enable sampling using a low-flow peristaltic pump. Continued groundwater level measurements were taken during the sampling process to ensure that the standing water level remained static i.e. the pump was drawing fresh ingress rather than depleting the water within the well void. However, due to the tight clay formation, some drawdown was observed. A calibrated water quality meter was used to measure pH, electrical conductivity (EC), temperature, redox and dissolved oxygen, with sampling continuing until measurements for three consecutive readings were within 10%.
- MW02 only contained minimal water (11 cm) and it was determined that sampling via low-flow sampling techniques would not be viable. As such, groundwater samples were collected using a disposable bailer. All water was purged from the well using a bailer and the well was left to recharge for approximately 2 hours before samples were collected. Prior to sample collection, field parameters were measured using a water quality meter.
- MW03 was dry and therefore no samples were collected.
- Collection of samples for submission to the laboratory in appropriately preserved laboratory supplied bottles. Samples for dissolved metal analyses were field filtered using disposable 0.45 µm filters.

¹² Including National Uniform Drillers Licensing Committee (2020) *Minimum Construction Requirements for Water Bores in Australia*. Fourth edition.

- All groundwater samples were immediately collected into laboratory supplied glass bottles and filled to the top to minimise headspace. Samples were then be placed directly into chilled eskies for transportation to the laboratory under COC documentation.

The water quality meter calibration record is provided in Appendix B.

7.3.3 Laboratory analysis

The primary laboratory was Eurofins Brisbane. The secondary laboratory was ALS, Brisbane. Both Eurofins and ALS are NATA accredited for the tests performed.

Quality control samples, including field and inter-laboratory duplicates, were analysed at a rate between 2% and 17%, variably less than 10%, as required by ASC NEPM (2013, B2). Soil samples were selectively analysed for metals, OCPs and OPPs. Groundwater samples were analysed for arsenic and OCPs, with field and inter-laboratory duplicates collected at a rate of 50%.

A summary of the soil sampling analysis undertaken is provided in Table 7.3, noting that total have been split based on the various material types encountered (described in Section 8.1). It is highlighted that laboratory analysis was undertaken over two rounds, with the second round of analysis determined based on the results of the initial results, allowing for targeted delineation of elevated results. Samples were also retrospectively chosen for analysis of Australian Standard Leaching Procedure (ASLP) for arsenic and DDTs.

Table 7.3: Summary of soil sampling analysis

Material type	Metals	Arsenic	OCPs	OPP's	Leachate - ASLP As	Leachate - ASLP DDT's
<i>Analysis summary</i>						
Capping layer	4	4	4	0	0	0
Disturbed natural	2	2	3	0	0	0
Fill	1	9	10	3	0	0
Fill. Re-worked natural	13	13	15	1	1	1
Natural	11	57	59	2	1	1
<i>Totals</i>						
Number of samples analysed	30	85	91	6	2	2

7.4 Data usability

Information generated from environmental investigations requires some statement in regard to the usability of the data¹³, and therefore quality assurance (QA) and quality control (QC) are an integral part of the analysis and interpretation of environmental data.

¹³ To avoid confusion with the data quality objectives (DQOs) process, the term data usability is used rather than data quality.

All site work was completed in accordance with standard Easterly Point sampling protocols, including a QA/QC program, standard operating procedures and a set of data quality indicators (DQIs). A data usability assessment was performed on the soil and groundwater data collected by Easterly Point, which is summarised in Appendix C, and includes background information to data usability.

Soil Summary

While a lower rate of duplicates and inter-laboratory duplicates were collected for some analytes, based on the number of samples collected, RPD results and concentrations reported, i.e. no marginal results in comparison to the adopted criteria, this is not considered significant enough to impact the reproducibility of the results.

In summary, while some minor outliers were reported, overall, the data is considered to be of an acceptable quality and to be suitable to support the results of the investigation.

Groundwater summary

In summary, while some minor outliers were reported, overall, the data is considered to be of an acceptable quality and to be suitable to support the results of the investigation.

8.0 Results

This section presents the sub-surface conditions encountered and the analytical results. Discussion and interpretation of the results is provided in Section 9.

8.1 Subsurface conditions

The subsurface conditions encountered are summarised below by media, with site observations documented in the geological logs in Appendix D, including field observations, material descriptions, notation of samples analysed and photographs.

8.1.1 Soil

The following summarises the subsurface conditions related to the dip bath, as observed during the preliminary dip bath investigation, with photographs shown in Plates 8.1 and 8.2:

- The dip bath did not have a concrete 'lid' over the bath, but rather the concrete sides of the bath were encountered immediately below imported fill, as described below. This corresponds to the classification by DPI, *Cattle dip site locator*¹⁴, which lists the site as 'demolished'.
- The walls of the bath were approximately 0.1 m thick, and the bath was approximately 12.5 m in length and 1.2 m wide.
- The bath was full of saturated dark grey gravel, with the water level approximately 30 cm below the top of the bath. It is highlighted that a thorough inspection of the whole bath was not conducted, and the intrusive investigation into the bath contents was limited to the northern end of the bath. The limited investigation was conducted, in part, due to concerns regarding disturbance and spreading of the material on the surface. The material within the bath did not appear to be natural soils, but rather uniform (assumed to be imported) gravel. The fact that the bath was full of water indicates that the concrete structure remains in sound condition, i.e. no major cracks allowing loss of water.
- A ramp for livestock to get out of the bath was observed in the northern end of the bath, along with the concrete drip pad. The edge of the concrete drip pad was not completely uncovered during the preliminary investigation.
- The dip bath was located approximately 12 m west of Bristol Circuit, measured from the from road gutter.

¹⁴ https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site_locator?sq_content_src=%2BdXJsPWh0dHBzJTnBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGRGlwJTJGRGV0YWlscyUyRjUwMSZhbGw9MQ%3D%3D



Plate 8.1: Top of the dip bath. The imported fill/cap profile is visible above.



Plate 8.2: Northern end of dip bath showing exposed saturated gravel contents

The site observations and subsurface conditions encountered during the testpitting investigation are summarised below.

Distinctive layers and material types were encountered across the site, as summarised below. These broad-suite classifications¹⁵ have been adopted to enable separation and evaluation of the various material types encountered. A photograph showing the general profile of the various layers encountered in the area of the dip bath is shown in Plate 8.3.

1. Fill, Re-worked natural: Soil of similar characteristics to wo1/wo2¹⁶ but have been removed and used as fill. This material type was commonly encountered above the imported 'capping layer' and geofabric marker layer.
2. Capping layer: Capping material, assumed to be that imported circa 1994 over the dip bath area, broadly described as a tan gravelly clay. The capping layer was distinctively different to the natural soils.
3. Geofabric marker layer: Generally encountered immediately below the capping layer.
4. Natural: Natural soils, including former surface. Generally described as wo1 (dark red/brown clay loam) and/or (often grading to) wo2 (Dark red strongly structured light - medium clay).
- Disturbed natural: Natural soils that appear to have been disturbed, e.g. anthropogenic inclusions at depth, but not completely removed/filled.
- Fill: All other material types.

¹⁵ The language used, e.g. Re-worked natural, disturbed natural, fill, etc. was not defined as such on the borelogs but categorised following evaluation of the subsurface conditions.

¹⁶ Wollongbar soils as described in Section 3.3.



Plate 8.3: General profile across dip bath area, TP04

Further to the above, a summary of subsurface conditions encountered across the site is provided below:

- The capping layer was observed over the dip bath area, covering an area of approximately 600 m². The capping layer was immediately underlain by a geofabric marker layer at all locations, and was encountered to depths of between 0.6 – 1.2 m depth. The approximate extent of the capping layer is shown in Figure 4, attached.
- The natural soils were generally consistent with the mapped soils, consisting of a dark red/brown clay, transitioning to a heavier red clay.
- Weathered basalt was encountered across the site, at depths ranging from approximately 2 m in the north-western portion of the site, to 0.5 m in the central-eastern and south-eastern portions of the site, e.g. encountered at 1.9 m at TP21, 1.5 m at TP25, 0.5 m at TP26. Large basalt 'floaters' (boulders) were encountered, ranging from depths of approximately 1 m at TP29 to 0.7 m at TP43 and TP44. Porphyritic basalt with orange/red phenocrysts in a grey basalt matrix was also encountered at TP28 at 1.5 m.
- Odours were observed to the east of the drip pad at TP101, described as a strong earthy/cattle odour. No odours were observed in any other test-pits.
- There was approximately 1.7 m between the end of the concrete dip pad and the neighbouring property fence line to the north. At the northern end of the concrete drip pad a large, decomposing Camphor Laurel root ball was encountered at approximately 1.2 m, depth.
- Minor anthropogenic inclusions were encountered at a number of locations, including an old shirt at TP07, round fence post and crushed beer can at TP15, a small piece of concrete at TP33, a piece of degraded tarpaulin at TP37, and redundant plastic piping at TP32. These inclusions were primarily encountered within the top 0.5 m (of natural soils) and were not considered to be extensive, and were not found to be associated with any odours, staining, etc. A plastic pipe and degraded, blackened wood was encountered at 1.5 m depth at TP29, suggesting that there has been some historical disturbance across portions of the site.

- Redundant metal pipes, approximately 3 - 10 cm in diameter, were encountered in testpits located immediately adjacent to the dip bath, including TP101 and TP103. The pipes were located at the approximate depth of the top of the dip bath but did not appear to be connected to anything (at the time of excavation) and were filled with material from the surrounding soil profile.
- Groundwater was encountered during the test-pitting event, at the topographically low point in the south-eastern portion of the site. Saturated soils and water ingress was noted at TP40, TP41 and TP44 at depths of 1.4 – 1.5 m, 0.8 – 0.9 m and 0.5 – 0.6 m, respectively. The difference in water level is considered to be related to the sloping topography, measured from the ground surface. The saturated soils were generally associated with orange/grey mottled clay and various basalt floaters.

8.1.2 Groundwater

Moist to very moist conditions were encountered within non-uniform weathered basalt gravel of varying sizes, within the natural brown/red clays, located immediately above a hard basalt layer. At the time of drilling groundwater wells, moist-wet soil conditions were encountered at MW01 from 6 m depth, moist soils were encountered from 4.2 m at MW02 and wet conditions encountered at MW03 from 4.5 m depth.

Following the installation of the three monitoring wells, only MW01 and MW02 had accumulated a sufficient volume of water to enable the collection of water samples. While moist to wet soil conditions were encountered in MW03, groundwater was not detected either immediately following drilling, or during the groundwater sampling event. The measured SWLs and field parameters are shown in Tables 8.2 and 8.3.

Table 8.2: Groundwater conditions

Well	SWL (m)	Depth of well (m)
MW01	7.42	8.29
MW02	5.28	5.39
MW03	-	5.46

Table notes:

1. Measurements taken from the top of the groundwater well casing.

Table 8.3: Groundwater field parameters

Sample	pH	EC ($\mu\text{S}/\text{cm}^2$)	Temp ($^{\circ}\text{C}$)	DO (%)	Redox (mV)	Observations
MW01	6.38	4.7	22.3	6.41	333	Clear, no odours
MW02	6.83	353	26.1	3.56	13.2	Turbid, no odours
MW03	-	-	-	-	-	-

As shown above, other than pH, the conditions in each well was varied, reflecting the different field conditions encountered. The pH of the groundwater was slightly acidic to neutral, and may be attributed to the naturally acidic soil conditions at the site. The EC within the groundwater indicated fresh waters conditions, which was expected due to the location of the site and surficial nature of the water. The DO indicates an oxygenated environment that is not under stress.

8.2 Soil analytical results

The analytical results from the Easterly Point sampling program are summarised below, and presented in data tables attached. Evaluation of the results, in combination with the site history information and limitations of the investigations are described in Section 9, along with an updated CSM. Laboratory reports are provided in Appendix E.

To evaluate the analytical data, the data has been segregated based on the various material types encountered, as described in Section 8.1.1, and NSW EPA (2022a) which describes:

each fill layer must be sampled discretely and separately from underlying natural materials. This is because both fill and natural soils should be sampled as part of site characterisation, with care taken to collect discrete samples from each specific target stratum. Identified fill material should be appropriately described and logged during site investigations, and data analysis should be conducted by material type, rather than different soils and fills being analysed as one material, which can result in interpretation errors.

Statistical analysis of the data has been conducted, and shown in the attached data tables, noting that quartiles were determined (rather than confidence intervals) as grid and targeted sample locations were combined.

8.2.1 Metals

The majority of samples returned concentrations of heavy metals either below the LORs or below the HIL-A criteria.

Chromium was detected in a number of samples above the HIL-A criteria of 100 mg/kg, at a maximum concentration of 130 mg/kg.

Arsenic was detected above the HIL-A criteria of 100 mg/kg in eight samples, at a maximum concentration of 350 mg/kg. Elevated arsenic was primarily detected at locations adjacent to the bath and drip pad, including:

- TP101 at 0.7 – 0.8 m depth at 140 mg/kg;
- TP101 at 1.3 – 1.4 m depth at 260 mg/kg;
- TP101 within fill from within in a former drain line at 110 mg/kg;
- TP104A at 0.7 – 0.8 m depth at 110 mg/kg;
- TP104B at 2.0 – 2.1 m depth at 200 mg/kg;
- TP104B at 3.0 – 3.1 m depth at 120 mg/kg;
- TP11 at 1.3 – 1.4 m depth at 230 mg/kg; and
- TP16 at 0.6 – 0.7 m at 350 mg/kg.

The arsenic concentrations detected are presented in Figure 8.1, as the range, median and interquartile range (25th quartile to 75th quartile). The data has been separated based on the different material types encountered to evaluate contaminant concentrations within each material type. As can be seen, the bulk of the data is below the HIL-A criteria, with a limited number of elevated samples within the natural soils.

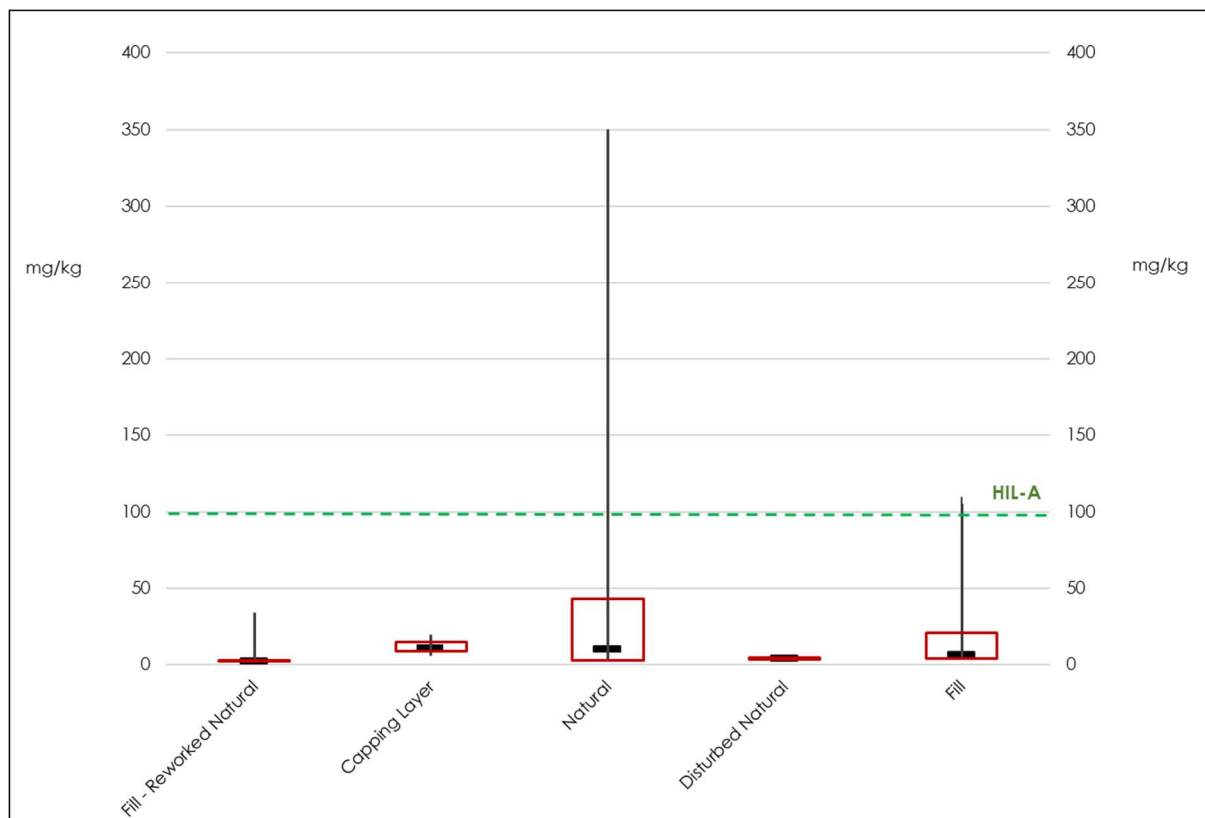


Figure 8.1: Arsenic in various material types (mg/kg)

— range — median inter-quartile range

8.2.2 Pesticides

All concentrations of OCPs were either below the LORs or the adopted criteria. Where DDTs were detected above the LOR, the majority of concentrations were low, being below 2 mg/kg. Elevated DDT¹⁷ was detected at two locations adjacent to the bath/crush, at:

- TP103 at 2.7 – 2.8 m depth at 11 mg/kg;
- TP104B at 2.0 – 2.1 m depth at 20 mg/kg; and
- TP104B at 3.0 – 3.1 m depth at 123 mg/kg.

All concentrations of OPPs were below the LORs.

Summary

A summary of the arsenic and DDTs results is presented in Table 8.4, separated by material type, and shown against both the HIL-A and HIL-B criteria.

¹⁷ Total DDTs, including DDD + DDE + DDT

Table 8.4: Summary of arsenic (As) and DDT results (mg/kg)

Summary statistics	Capping Layer		Fill		Fill, Re-worked natural		Natural		Disturbed natural	
	As	DDTs	As	DDTs	As	DDTs	As	DDTs	As	DDTs
No. samples	4	3	9	10	13	15	57	59	2	3
No. detects	4	0	9	3	10	1	36	18	2	0
% non detects	0%	100%	0%	70%	23%	93%	37%	69%	0%	100%
Minimum	6.0	-	3.3	0.1	2.0	-	2.0	0.1	2.8	-
Maximum	20	nd	110	0.3	34	0.30	350	123	5.6	nd
<i>Criteria</i>										
HIL-A	100	240	100	240	100	240	100	240	100	240
HIL-B	500	600	500	600	500	600	500	600	500	600
EILs - ACLs	160	180	160	180	160	180	160	180	160	180

8.2.3 Leachate

Two samples were analysed for ASLP arsenic and ASLP DDT, the results of which are shown in Table 8.5.

Table 8.5: Summary of arsenic and DDT leachate results (µg/L)

Test pit	Depth (m)	Arsenic	DDT
<i>ASLP Leachate</i>			
TP16	0.6 - 0.7	10	-
TP101	1.3 - 1.4	2,500	<1
TP106	0.6 - 0.7	-	<1

8.3 Groundwater analytical results

Groundwater samples from MW01 and MW02 were analysed for arsenic and OCPs. Both samples returned non-detect concentrations at the laboratories LORs. It is highlighted that some OCPs LORs were greater than the freshwater ecological protection criteria, however, all LORs were below the drinking water criteria.

9.0 Discussion and updated CSM

9.1 Discussion

9.1.1 Soil

The elevated concentrations of chromium, marginally above the HIL-A criteria, are considered to be natural in origin, associated with the basalt geology, where concentrations of up to 200 mg/kg are expected in mafic igneous rocks¹⁸. As such, these exceedances are not considered significant or to require further investigation and/or remediation.

To delineate the vertical extent of arsenic and DDT impacts, a review of the locations where elevated concentrations were detected is provided in Tables 9.1 and 9.2.

Table 9.1: Delineation of elevated arsenic concentrations (mg/kg)

Testpit	Depth (m)	As (mg/kg)	Comment
TP101	Drain	110	Collected from fill located within a metal drainpipe that was located approximately 20 cm from the top of the concrete bath.
	0.7 – 0.8	140	Natural soils, assumed to be the former surface, where cattle-like odours were observed.
	1.3 – 1.4	260	Natural soils.
	1.8 – 1.9	10	Delineated at depth. Approximately 1 m below the top of bath. Samples collected at depths of 2.7 - 2.8 and 3.1 - 3.2 returned concentrations of <2 and 5 mg/kg, respectively.
TP104A	0.7 – 0.8	110	Natural soils, assumed to be the former surface.
	2.0 – 2.1	10	Delineated at depth in natural soils.
TP104B	2.0 – 2.1	200	Natural soils. Assumed to be approximately 1.3 m below the former (original) site surface.
	3.0 – 3.1	120	Concentration shown to be decreasing with depth, although no deeper samples analysed. Natural soils. Assumed to be approximately 2.3 m below the former (original) surface levels.
TP11	1.3 – 1.4	230	Natural soils. Assumed to be approximately 0.4 m below the former (original site surface).
	2.0 – 2.1	3	Delineated at depth in natural soils.
TP16	0.6 – 0.7	350	Former surface.
	1.4 – 1.5	31	Delineated at depth.

¹⁸ Gray J. M. and Murphy B.W. (1999) *Parent Material and Soils, A Guide to the Influence of Parent Material on Soil distribution in Eastern Australia*, Technical Report No. 45. NSW Department of Land and Water Conservation, Sydney.

Table 9.2: Delineation of elevated DDT concentrations (mg/kg)

Testpit	Depth (m)	DDTs	Comment
TP103	0.7 – 0.8	nd	Fill, Dk brown silty clay, assumed to be soils imported by Dept. Ag in 1988 following removal of soils. Assumed former surface level. Geofabric and imported fill above this layer.
	1.2 – 1.3	nd	Light brown sandy silty clay. Assumed to be soils imported by Dept. Ag in 1988.
	1.9 – 2.0	nd	Assumed to be natural soils. Estimated to be 1.2 m depth based on former site surface. Similar depth to the GeoLink BH2 location where elevated arsenic was detected.
	2.7 – 2.8	11.35	Natural soils. Approx 2 m below top of bath. Similar depth to the GeoLink BH2 location where elevated arsenic was detected. Soil up to 1.5 m depth reportedly removed in this area (based on former site surface).
TP104B	0.7 – 0.8	nd	Fill, Dk brown silty clay, assumed to be soils imported by Dept. Ag in 1988 following removal of soils. Assumed former surface level.
	1.0 – 1.1	0.31	Natural soils.
	2.0 – 2.1	20.04	Natural soils.
	3.0 – 3.1	123.42	Natural soils. Based on former (original) surface levels, assumed to be approximately 2.3 m depth, i.e. approximate depth of the bath. No deeper samples analysed. Not delineated.

In regard to arsenic, almost all locations with elevated concentrations were delineated at depth, suggesting that there has not been significant leaching of contamination through the profile. This was further confirmed by the assessment of groundwater, as discussed below. No elevated concentrations were detected within the surface soils, including within the top re-worked natural soils and capping layer. Elevated concentrations of the primary contaminants were detected from 0.6 m depth, primarily associated with the former surface, indicating that there are currently no direct exposure pathways to receptors on the surface, assuming this layer is not disturbed.

While no concentrations of DDT were detected above the HIL-A criteria, elevated concentrations were detected at the approximate depth of the dip bath¹⁹. Based on the information available, the DDT impacts are considered to show either:

- DDT has leached through the natural soils, with increasing concentrations with depth; and/or
- migration and leaching of DDT has occurred from the base of the bath.

¹⁹ Taking into considering that the dip bath is 2 m deep, plus the addition of the imported capping layer and topsoil of approximately 0.7 m.

Regardless of the mechanism, the concentrations detected are at depth and do not exceed the HIL-A criteria. Based on this, and combined with the leachate and groundwater data, the DDT impacts do not require specific remediation. However, it is highlighted that the extent of contamination beneath the bath, if any, has not yet been investigated, and the requirements of the Chemical Control Order (CCO) need to be considered, as discussed further below.

The data collected by Easterly Point as part of this investigation is generally consistent with historical documentation and the conclusions provided by GeoLink, in particular those relating the removal and reinstatement of fill in locations adjacent to the dip bath.

While a composite sample collected by GeoLink to the immediate west of the dip bath²⁰ returned a concentration of 500 mg/kg of DDT, samples collected by Easterly Point in this area, including TP11 and TP105, did not replicate these results. As such, that historical data/exceedances are no longer considered to be representative of current conditions.

CMPS&F (1996) describes that the bulk of contamination at dip sites is usually seen within 5 m of the edges of the bath and draining pen, although note that concentrations can extend further, especially where there is a slope away from the dip that exceeds 5°. CMPS&F also describes that residues are generally contained in the top 500 mm in undisturbed areas and away from the splash areas, although in the splash areas the penetration can be deeper.

These observations have similarly been observed at Sellicks Dip, where elevated arsenic and DDT have been detected at depths up to 3 m (from current surface level) in the locations immediately adjacent to and down-gradient of the bath, including TP103 and TP104A and B, and shallower impacts in the up-gradient locations away from the bath, i.e. TP11 and TP16. It is also highlighted that the elevated concentrations detected at TP104B may be associated with the scooping mound, which was located in this approximate location.

The ASC NEPM (2013, B1) describes that the health investigation levels apply to the top 3 m of soils. Therefore, as contamination exists at depth, generally below 0.6 m, further management and/or remediation will be required.

Data analysis and sampling limitations

The number of samples theoretically required for analysis, as opposed to the appropriate sampling density has been calculated, based on the available soil data²¹ for each material type²², and using the maximum probable error method (MPE) (EPA 2022). The results are shown in Table 4, attached.

This method, while not absolute, shows that, for arsenic in natural soils, a sufficient number of samples have been collected, with the number of samples calculated via MPE being 55, compared to 57 samples collected. For the remaining calculations, it was determined that a greater number of samples is theoretically required to estimate the arithmetic mean based on the MPE method. While the MPE method recommends a higher number of samples for the remaining material types (arsenic) and DDTs in natural soils, based on the spread of the data as shown in Figure 8.1, and the generally low maximum concentrations, additional sampling and analysis is not considered to be warranted.

It is highlighted that ground conditions, contaminants, and material types/composition can vary between sampling locations, and this should be considered when extrapolating between sampling locations. Except at each specific sampling location, the nature, extent and

²⁰ Surface samples from GeoLink locations 5, 6, 7 and 8.

²¹ Based on probabilistic and judgemental samples and calculated relative standard deviation (%) using the MPE method, at an MPE of 45% (See EPA 2022).

²² The MPE was only calculated for DDTs in natural soils given the primarily non-detect results in the other material types.

concentration of contamination is inferred only. *Scheduled chemical wastes and waste disposal*

While DDT concentrations were found to be below the HIL-A criteria, a number of samples reported concentrations above 2 mg/kg. This means that the material at these locations is classified as a Scheduled Chemical Waste (SCW), in accordance with the 2004 Chemical Control Order (CCO)²³. The CCO defines SCWs as any solid waste with concentrations of the chemicals listed in Schedule A (including DDT/DDD/DDE) above 2 mg/kg.

The CCO specifies that the 'use' of SCWs 'manufactured' by works associated with remediation of contaminated sites is permitted on-site in an environmentally sensitive area where the EPA or consent authority (Council) provides approval. The site is considered to be an environmentally sensitive area due to it being located within 250 m of a residential zone.

Further, there are specific waste disposal requirements for SCWs, in particular, soil with concentrations of SCWs exceeding 50 mg/kg cannot be disposed of to landfill in NSW. There are, however, options for disposal in Queensland but require an application for a Soil Disposal Permit (SDP) to the Department of Environment and Science (DES).

As concentrations of DDTs were detected above 50 mg/kg during this investigation, the CCO will need to be considered in the development of a remedial strategy for the site.

Aesthetics

The presence of minor anthropogenic inclusions encountered across the site is not considered to present a significant aesthetic issue. This is based on the type of waste observed, together with the minor quantities of inclusions noted, and the ASC NEPM (2013, B1) which describes that the presence of small quantities of non-hazardous inert material should not be a cause of concern or limit the use of a site in most circumstances.

This, of course, excludes the presence of the dip bath structure, including the bath and drip pad, which is currently present at approximately 1 m depth below the current surface. The concrete bath is full of gravel and water, noting that the chemical concentrations of the contents has not been assessed.

9.1.2 Leachate

Leachate results cannot be compared directly to groundwater investigation levels; they are rather a measure of what is in the soil pore water, and not a direct measurement of what will leach to groundwater. As such, the leachate results can be used and compared with total concentration for each sample, taking into account the dilution applied in the test (i.e. 1:20 for ASLP) to determine the percentage leachable for each sample. It is highlighted that this is a 'crude' assessment and is only useful for evaluating the mobility of the contaminants in soils and cannot estimate the actual biological absorption.

$$\text{BF (bioavailability factor)} = \frac{\text{ASLP ug/L}}{1,000} \times \frac{20}{\text{TC mg/kg}}$$

An estimate of site-specific distribution coefficients can also be calculated between the sorbed and dissolved phases (TC mg/kg/ ASLP ug/L/ 1000), which can help in understanding leaching to groundwater.

$$\text{Partition (or Distribution) coefficient (Kd)} = \frac{\text{TC mg/kg}}{\text{ASLP ug/L} / 1,000}$$

²³ Made under the *Environmentally Hazardous Chemicals (EHC) Act 1985*.

As described in the ASC NEPM (2013, B5c), the two key considerations in determining the most important exposure pathways for inorganic contaminants such as arsenic, is whether they biomagnify and whether they have the potential to leach to groundwater. As discussed above, a surrogate measure of the potential for a contaminant to leach is its water-soil partition coefficient (K_d). The ASC NEPM (2013, B5c) describes that:

If the logarithm of the K_d ($\log K_d$) of an inorganic contaminant is less than 3 then it is considered to have the potential to leach to groundwater (Schedule B5b). The $\log K_d$ reported by Crommentuijn et al. (2000) was 2.28, so As has the potential in some soils to leach to groundwater.

Evaluation of the leachate data is provided in Table 9.3 and discussed below.

Table 9.3: Evaluation of ASLP data ($\mu\text{g/L}$)

	Arsenic	DDT
<i>ASLP Leachate</i>		
TP16_06-0.7	10	-
TP101_1.3-1.4	2,500	<1
TP106_0.6-0.7	-	<1
<i>Soil data (mg/kg)</i>		
Maximum ¹	350	0.91
<i>Calculated Bioavailability Factor (BF)</i>		
BFmax ²	14.29%	2.20%
<i>Calculated distribution coefficient (k_d)</i>		
K_d (L/kg)	140	910
$\log K_d$	2.15	2.96

Table notes:

1. Maximum concentration of samples analysed for ASLP.
2. DDT BFmax calculated using LOR of 1 $\mu\text{g/L}$

The calculated K_d based on site data for arsenic was 2.15, which is similar to that referenced in the ASC NEPM (2013, B5c), which describes that "The $\log K_d$ reported by Crommentuijn et al. (2000) was 2.28, so As has the potential in some soils to leach to groundwater".

The calculated K_d for DDT was 2.96, although noting that the leachate assessment for DDT was conducted on a sample that contained low concentrations of DDT (0.91 mg/kg as opposed to a maximum of 123 mg/kg).

This data suggests that while arsenic has the potential to leach to groundwater, DDT has a low potential.

9.1.3 Groundwater

Although the groundwater investigation was limited in extent, it confirms that while perched groundwater exists above a confining basalt layer, it appears intermittent and limited in extent. As such, and based on this and the results of the investigation that showed no concentrations of PCoCs above the laboratories LORs at the down-gradient location (MW02), it does not

appear that the groundwater is impacted as a result of the historical use of the site as a dip site.

9.1.4 Site characterisation and data gaps

While the primary aim of the sampling program was to characterise the site, the grid applied also complies with the requirements for site validation, where NSW Ag/CMPS&F (1996) describe that “validation sampling should be conducted on a 7 m grid”. This is further supported by NSW EPA (2022), where it is described that “there is no practical distinction between a final characterisation sample and a final, post-remediation, validation sample, when they are both taken as the final sample which concludes that a sample location is below any specific criterion or action level at the required confidence level”.

As such, the soil sampling program is considered to be sufficient to map the contamination for the purposes of leaving the material in-situ with ongoing management, should this remedial option be chosen, as well as determining land use suitability for areas found not to be impacted.

Based on this, and taking into account the existing capping and geofabric marker layer present across the dip bath area (as shown in Figure 4) which provides sufficient demarcation, it is considered that the area outside of this capping layer is suitable for low-density residential land use. This area could theoretically be discretised from the dip site and will not be required to be subject to any management requirements. This will aid development, especially during construction phases.

Data gaps

In order to develop an updated CSM, any data gaps should be identified and evaluated, noting NSW EPA (2022) describes that “a CSM should identify uncertainties and data gaps relating to the contamination and potential exposure pathways”.

Based on the investigation undertaken, the majority of data gaps identified at the outset of this DSI, as stated in the SAQP, have been closed-out, including:

- The lateral and vertical extent of contamination associated with the use of the land as a dip site has been determined.
- The contents of the dip bath were investigated.
- The extent of the drip pad to the north has been determined and confirmed that the concrete pad does not extend across the neighbouring property boundary.
- Sampling and analysis of the material reportedly imported for use as fill in 1988 and 1994 confirms that it is suitable for low-density residential land use.
- Sampling and analysis conducted across the site provides sufficient information to characterise the site.
- The depth to groundwater and contamination status has been determined.
- The subsurface conditions have been investigated and documented, including geology, depth to and aquifer type, allowing assessment against the identified water quality objectives (WQOs), including aquatic ecosystems and drinking water.

Notwithstanding this, there are still a number of data gaps, including:

- Contamination status under bath. Based on previous experience at dip sites, contamination is often identified below the actual dip bath. While there is currently data

available regarding soil concentrations adjacent to and in the area surrounding the dip bath, there is no data for the material under the bath.

- Contamination status of dip bath contents. While the contents of the dip bath were investigated, sampling and analysis was not conducted.
- Contamination status between the end of the drip pad and neighbouring property to the north. While the extent of the concrete drip pad was delineated, analytical data is not available to confirm the extent of impacts, if any, between the drip pad and the site's northern boundary.
- Delineation of elevated arsenic detected at TP104B at 3 m depth.

While these data gaps exist, based on the information obtained, they are not considered to be significant enough to halt the development of a remedial strategy for the site. This is based on the following:

- if any contamination does exist under the bath, the lateral extent (m²) of impacted soil is not expected to be extensive based on current analytical results;
- no significant migration of contamination was determined based on the groundwater investigation, confirming that even if contamination exists under the bath, migration of contamination off-site via groundwater is not a likely pathway;
- the soils under the dip bath, and at depth at TP104B, are considered suitable to remain in-situ, where on-site retention of the bath and management via a long-term management plan is the chosen remedial strategy; and
- the contamination status of the dip bath contents will not drive the chosen remedial strategy and will likely require sampling and analysis for off-site disposal purposes regardless of the option chosen, and can be assessed to meet the needs of the project, once determined. Sampling and analysis of material within the dip bath should also be conducted to enable residual contamination to be understood and effective management procedures to be prepared.

9.2 Updated conceptual site model

A CSM is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors, with each source-pathway-receptor having to form a complete pathway for there to be a potential risk of harm.

The preliminary CSM developed by Easterly Point prior to the field investigations has been updated based on the findings of the current investigation. The updated CSM has been developed based on the current known information, obtained from the site history review, site inspection, anecdotal information and sampling program, and is described below.

A graphical cross-section is shown in Figure 9.1, showing the subsurface conditions to the immediate east (down-gradient) of the bath, with data gaps represented as question marks. This cross-section feeds into the CSM below, outlining the sources, pathways and receptors.

Sources

Sources of contamination include:

- impacted soil with elevated concentrations of arsenic above the HIL-A criteria. Limited to the areas surrounding the dip bath; and
- dip bath structure and contents (unknown contamination status).

Receptors

Potential current and future receptors include:

- maintenance workers during current maintenance activities including lawn mowing, and the-like;

- children and adults currently using the land as open space/playing fields;
- construction workers during future development;
- future children and adults as residents and visitors, considered to be residential receptors with access to soil (HIL-A) in accordance with the ASC NEPM (2013, B1);
- adult future site workers or maintenance staff; and
- on-site and off-site plants and animals, including domestic pets.

Pathways

Pathways of concern for the current and proposed land uses include:

- dermal contact, inhalation of dust and ingestion of soil by both adults (maintenance/development workers and future residential) and children where soils at depth are exposed; and
- dermal contact and ingestion of solid and liquid materials by both adults (maintenance/development workers and future residential) and children where material within the dip bath is exposed.

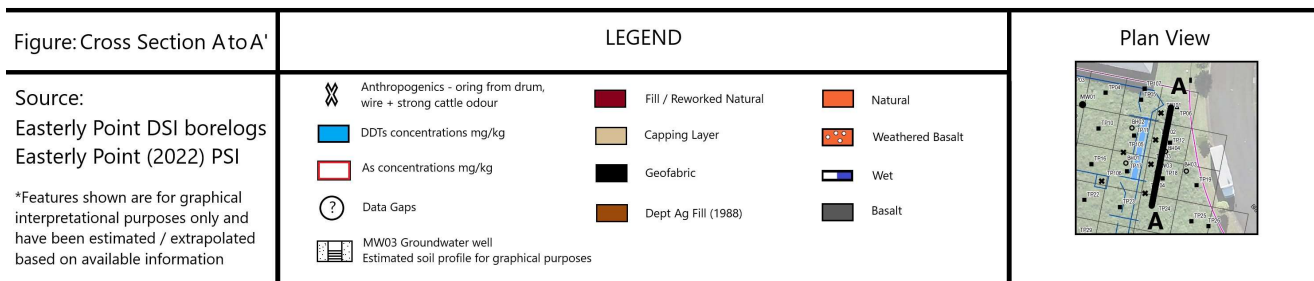
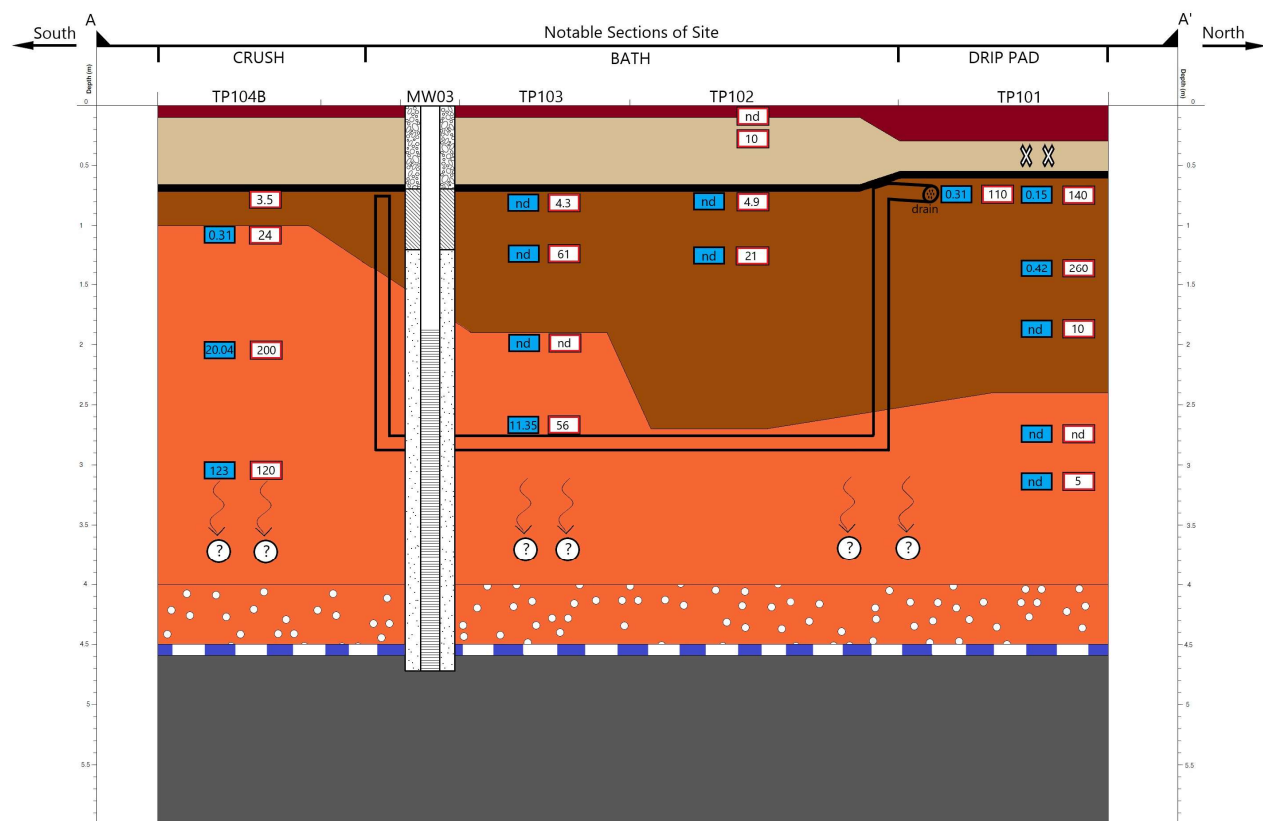


Figure 9.1: Updated CSM – cross-section
All materials, features and depths unconfirmed estimate

10.0 Conclusions and recommendations

These investigation conclusions and recommendations are based on the information described in this report and appendices and should be read in conjunction with the complete report, including Section 1.3, Limitations.

The information obtained from the DSI has provided sufficient information to define the type, extent and level of contamination at the site. Elevated concentrations of arsenic and DDT have been detected at depth, associated with the historic use of the site as a cattle tick dip site. However, the soil, leachate and groundwater data confirms that the impacts are limited to the area immediately surrounding the dip bath structure that remains in-situ, and does not appear to have migrated, either via erosion, leaching, or migration through groundwater.

The impacts were primarily detected at or below the depth of the former surface, noting that historical remedial included the installation of a geofabric marker layer and capping layer over the dip bath area.

The area outside of the historic dip bath structure was not found to be impacted, and is considered to be suitable for low-density residential land use.

Based on concentrations of arsenic exceeding the criteria for low-density residential land use, and the presence of the dip bath structure, remediation and/or management is required to ensure the site can be made suitable for low-density residential land use. The impacted area that will require remediation and/or management is considered to generally correlate with the capped area, as shown on Figure 4.

At this stage, two broad remedial strategies are considered viable, including:

1. Excavation of the dip bath structure and surrounding impacted soil for off-disposal to landfill, followed by validation of the resulting excavation. This will allow the site to be developed for residential land use with no land use restrictions or management requirements; or
2. Development of a long-term environmental management plan (EMP) to manage the dip bath structure and impacted soils in-situ. Some remedial works will be required, however, are not considered to be extensive. Segregation of the site may be an option and development and management restrictions could therefore apply to the area surrounding the dip bath only. The EMP must be legally enforceable and may include notation of the EMP on the certificate of title and planning certificate.

Once the final land use and broad remedial strategy is chosen by the relevant stakeholders, it is recommended that a remediation action plan (RAP) and/or EMP be developed, in consultation with the site auditor.

11.0 Glossary and references

11.1 Glossary

ASC	Assessment of site contamination
BTEXN	Benzene, toluene, ethyl benzene, xylenes and naphthalene
CLM	Contaminated land management
CSM	Conceptual site model
DSI	Detailed site investigation
DQOs	Data quality objectives
EIL	Ecological investigation level
ESL	Ecological screening level
HIL	Health Investigation Level
HMSR	Heavy Mineral Sand Residues
HSL	Health based screening level
LOR	Laboratory of Reporting
NATA	National Association of Testing Authorities
NEPM/C	National Environmental Protection Measure/Council
OCPs	Organochlorine pesticides
OPPs	Organophosphorus pesticides
PAHs	Polycyclic aromatic hydrocarbons, including the USEPA 16 priority pollutants: naphthalene; acenaphthylene; acenaphthene; fluorine; phenanthrene; anthracene; fluoranthene; pyrene; benzo(a)anthracene; chrysene; benzo(b)fluoranthene; benzo(k) fluoranthene; benzo(a)pyrene; indeno(1.2.3.cd)pyrene; dibenz (a.h)anthracene; and benzo(g.h.i)perylene
PCoCs	Potential contaminants of concern
PFAS	Per-and poly-fluoroalkyl substances
PID	Photoionisation detector
PSI	Preliminary site investigation
QA/QC	Quality assurance/quality control
SWL	Standing water level

11.2 References

Australian and New Zealand Governments (ANZG) (2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.

Bureau of Meteorology (BOM), *Australian Groundwater Insight* (2020), available online at: <http://www.bom.gov.au>, accessed: 08/03/2022.

Bureau of Meteorology (BOM), *Australian Groundwater Explorer* (2022), available online at: <http://www.bom.gov.au>, accessed: 08/03/2022.

Department of Environment and Conservation (2007) *Guidelines for the Assessment and Management of Groundwater Contamination*. DEC, Sydney.

Department of Primary Industries (2017) *Arsenic and DDT residues at cattle dip yards*. Primefact 1371, third edition, Animal Biosecurity and Welfare, NSW DPI.

Department of Planning, Industry and Environment (DPI&E) (2011) *Acid Sulfate Soils Risk Map*. NSW Government, available online at: https://geo.seed.nsw.gov.au/Public_Viewer/, accessed: 08/03/2022.

Environmental Analysis Laboratory (EAL) (April 2006) *Preliminary Contaminated Land Assessment, 44 Bristol Circuit, Goonellabah, NSW*, (Ref. E5235, E5357).

Easterly Point (March 2022a) *Preliminary Site Investigation, 44 Bristol Circuit, Goonellabah, NSW 2481*, (Ref. 22014.1).

Easterly Point (March 2022b) *Strategic review, 44 Bristol Circuit, Goonellabah, NSW 2481*, (Ref. 22014.2).

EPA (1995) *Contaminated Sites: Sampling Design Guidelines*, (Ref. 95/59), NSW EPA, Sydney.

EPA (2005) *Guidelines for assessing former orchards and market gardens*.

EPA (2017) *Contaminated Land Management - Guidelines for the NSW Site Auditor Scheme* (3rd edition), NSW EPA, Sydney.

EPA (2020) *Consultants reporting on contaminated land: contaminated land guidelines*.

EPA (2022a) *Contaminated Land Guidelines - Sampling design part 1 – application*.

EPA (2022b) *Contaminated Land Guidelines - Sampling design part 2 – interpretation*.

GeoLink (1993) *Re: Sellicks Dip, Goonellabah*, (Ref. 156-92/282).

Heads of EPA Australia and New Zealand (January 2020) *PFAS National Environmental Management Plan*, Version 2.0, HEPA.

Geological Survey of NSW (1972) *Tweed Heads 1:250,000 Geological Series Sheet*, (Ref. SH56-3).

Kimber et.al. (2002) *Is there evidence of arsenic movement at cattle dip sites?* CSIRO, Australian Journal of Soil Research, Volume 40. Wollongbar NSW.

National Environment Protection Council (NEPC) (2013) *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), Schedule A and Schedules B(1) – B(9)*, National Environment Protection Council, Canberra.

National Uniform Drillers Licensing Committee (2011) *Minimum Construction Requirements for Water Bores in Australia*.

NHMRC/Natural Resource Management Ministerial Council (NRMMC) (2011) *Australian Drinking Water Guidelines*, NHMRC/ NRMMC, Canberra.

NSW Agricultural/CMPS&F (1996) *Guidelines for the Assessment and Clean Up of Cattle Tick Dip Sites for Residential Purposes*, NSW Agricultural and CMPS&F Environmental, Canberra.

New South Wales Department of Finance and Services (2020) *Spatial Information Exchange (SIX) Maps*, NSW Department of Finance and Services, Sydney NSW.

New South Wales Office of Environment and Heritage (2020) *eSPADE 2.0 New South Wales Soil and Land Information*, NSW and Office of Environment and Heritage, Sydney NSW.

NSW Department of Planning and Environment (2006) *Water Quality and River Flow Objectives*, available online at: <https://www.environment.nsw.gov.au/ieo/>, NSW Government, accessed 18/03/22.

NSW Health (2019) *Groundwater in urban areas (cities and towns)*, available online at: [Groundwater - Water quality \(nsw.gov.au\)](https://www.nsw.gov.au/groundwater-water-quality), accessed 23/03/22.

Standards Australia (1997) *Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds (AS 4482.1-1997)*.

Standards Australia (1999) *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile substances (AS 4482.2-1999)*.

USEPA (2006, G-4) *Guidance on Systematic Planning Using the Data Quality Objectives Process*, EPA QA/G-4, (Ref. EPA/240/B-06/001).

USEPA (2006, G-9R) *Data Quality Assessment: A Reviewer's Guide*, EPA QA/G-9R, (Ref. EPA/240/B-06/002).

USEPA (2006, G-9S) *Data Quality Assessment: Statistical Methods for Practitioners*, EPA QA/G-9S, (Ref. EPA/240/B-06/003).

Figures

Figure 1
Site location



44 BRISTOL CIRCUIT | GOONELLABAH | NSW
DETAILED SITE INVESTIGATION



Figure 2
Site layout and stratification

44 BRISTOL CIRCUIT | GOONELLABAH | NSW
DETAILED SITE INVESTIGATION



Figure 3
Soil and groundwater sample locations

44 BRISTOL CIRCUIT | GOONELLABAH | NSW
DETAILED SITE INVESTIGATION



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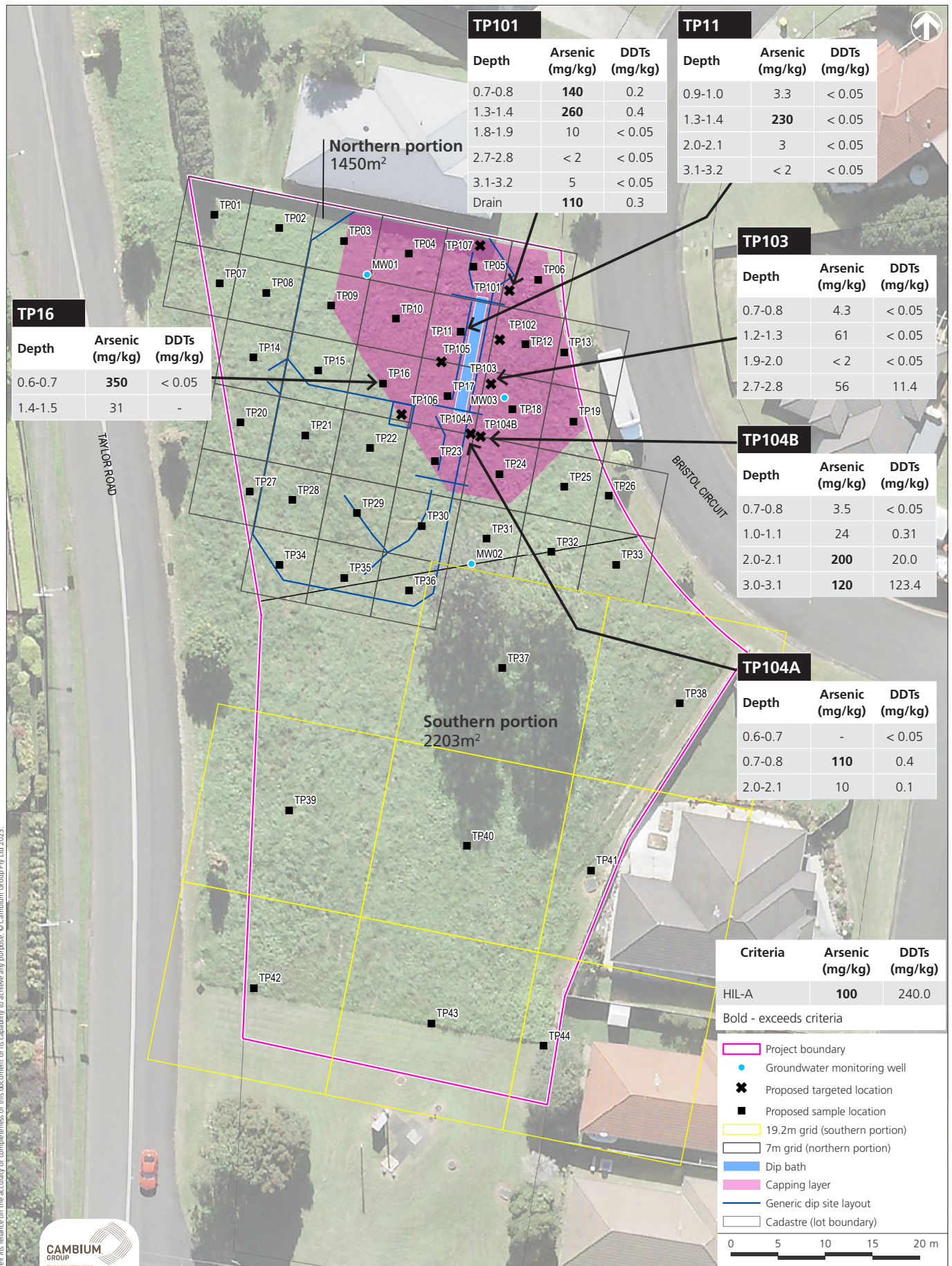


Source: LPI (2022), Aerometrex (2022), Easterly Point Environmental (2023), Camium Group (2023).

031258_EPE_DSI_44BC_(G)_F3_Soil_and_groundwater_sample_locations_230614_v01

Figure 4
Exceedances of soil analytical results and approximate extent of capping layer

44 BRISTOL CIRCUIT | GOONELLABA | NSW
DETAILED SITE INVESTIGATION



Tables

Table 1: Soil Analytical Summary
Heavy metals in soils (mg/kg)

Test pit	Depth	Material Type	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
LORs			2	0.5	5	5	5	0.1	5	5
<i>Analytical</i>										
TP01	0-0.1	Natural	< 2							
	0.5-0.6	Natural	2.2							
	1.0-1.1	Natural	< 2							
TP02	0-0.1	Natural	2.8							
TP03B	0.0-0.1	Fill. Re-worked natural	2.9							
TP03	0-0.1	Fill. Re-worked natural	2.8							
TP04	0-0.1	Fill. Re-worked natural	2.6							
	0.8-0.9	Natural	85							
TP05	0-0.1	Fill. Re-worked natural	2.3	< 0.5	70	15	6.1	0.1	19	52
	0.4-0.5	Capping layer	13	< 0.5	5.8	15	17	< 0.1	< 5	42
	1.3-1.4	Natural	< 2							
	1.9-2.0	Natural	< 2							
	3.0-3.1	Natural								
TP06	0.7-0.8	Fill. Re-worked natural	34	< 0.5	28	15	11	< 0.1	17	77
	0.8-0.9	Natural	33	< 0.5	44	13	6.5	< 0.1	14	49
TP07	0.1-0.2	Disturbed natural	2.8	< 0.5	61	7.7	12	< 0.1	13	44
	0.7-0.8	Disturbed natural								
TP08	0.0-0.1	Natural	2.7							
TP09	0.5-0.6	Natural	8.7							
TP10	1.1-1.2	Natural	10							
TP11	0.9-1.0	Fill	3.3							
	1.3-1.4	Natural	230							
	2.0-2.1	Natural	3							
	3.1-3.2	Natural	< 2							
TP12	0.0-0.1	Fill. Re-worked natural	2.9	< 0.5	61	15	5.3	< 0.1	20	38
	0.3-0.4	Capping layer	20	< 0.5	10	15	20	< 0.1	5.2	44
	0.8-0.9	Natural	31							
	1.5-1.6	Natural	7.8							
	2.4-2.5	Natural	< 2							
TP15	0.2-0.3	Disturbed natural	5.6	< 0.5	59	15	7.1	< 0.1	16	54
	0.7-0.8	Natural	< 2							
TP16	0.6-0.7	Natural	350							
	1.4-1.5	Natural	31							
TP17	0.7-0.8	Fill	7							
	1.6-1.7	Natural	< 2							
	2.4-2.5	Natural	< 2							
TP18	0.9-1.0	Natural	8.9							
	0.6-0.7	Natural	6.7							
TP20	0.1-0.2	Fill. Re-worked natural	2.6	< 0.5	64	8.3	13	< 0.1	12	53
TP21	0.0-0.1	Fill. Re-worked natural	< 2	< 0.5	73	9.4	< 5	< 0.1	27	46
	0.2-0.3	Fill. Re-worked natural								
TP22	0.1-0.2	Fill. Re-worked natural	2.3	< 0.5	54	13	6.6	< 0.1	15	43
	0.4-0.5	Natural								
TP23	0.7-0.8	Natural	8.4							
TP24	0.9-1.0	Natural	18							
TP27	0.0-0.1	Fill. Re-worked natural								
TP28	0.0-0.1	Natural	< 2							
TP29	0.1-0.2	natural	2.6	< 0.5	67	11	7.3	< 0.1	16	46
	0.4-0.5	Natural	< 2	< 0.5	59	12	6.1	< 0.1	15	46
	1.5-1.6	Natural	2.4	< 0.5	58	19	7.1	< 0.1	17	71
TP30	0.1-0.2	Capping layer	6	< 0.5	< 5	13	9.7	< 0.1	< 5	40
	0.8-0.9	Natural	3.3	< 0.5	74	13	10	0.1	20	59
	1.4-1.5	Natural								
TP31	0.3-0.4	Natural	9.9							
TP32	0.5-0.6	Fill. Re-worked natural	2.8	< 0.5	59	15	5.3	0.1	19	45
TP33	0.3-0.4	Fill. Re-worked natural								
TP35	0.0-0.1	Natural	< 2							
TP37	0.0-0.1	Natural	2.5							
TP38	0.4-0.5	Fill. Re-worked natural	< 2	< 0.5	51	15	5.6	0.1	19	45
TP39	0.4-0.5	Natural	3.2	< 0.5	57	7.4	12	< 0.1	13	46
TP40	1.4 - 1.5	Natural	< 2	< 0.5	110	8.3	< 5	< 0.1	45	50

Table 1: Soil Analytical Summary
Heavy metals in soils (mg/kg)

Test pit	Depth	Material Type	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
LORs			2	0.5	5	5	5	0.1	5	5
<i>Analytical</i>										
	0.4-0.5	Fill, Re-worked natural								
	0.8-0.9	Natural	< 2	< 0.5	64	18	6.3	< 0.1	21	75
TP43	0.0-0.1	Natural	< 2	< 0.5	77	12	7.8	0.1	21	53
TP44	0.0-0.1	Natural	2.3	< 0.5	94	20	8.4	0.1	30	86
	0.5-0.6	Natural								
TP101	0.7-0.8	Natural	140	< 0.5	29	16	9.5	< 0.1	18	100
	1.3-1.4	Natural	260	< 0.5	85	14	7.5	0.1	23	65
	1.8-1.9	Natural	10	< 0.5	130	20	9.8	< 0.1	32	74
	2.7-2.8	Natural	< 2							
	3.1-3.2	Natural	5							
	drain	Fill	110	< 0.5	13	12	< 5	< 0.1	17	150
TP102	0.0-0.1	Fill, Re-worked natural	< 2	< 0.5	62	19	7.2	< 0.1	25	60
	0.2-0.3	Capping layer	10	< 0.5	5.4	15	15	< 0.1	< 5	39
	0.7-0.8	Fill	4.9							
	1.2-1.3	Fill	21							
TP103	0.7-0.8	Fill	4.3							
	1.2-1.3	Fill	61							
	1.9-2.0	Natural	< 2							
	2.7-2.8	Natural	56							
TP104A	0.6-0.7	Fill								
	0.7-0.8	Natural	110							
	2.0-2.1	Natural	10							
TP104B	0.7-0.8	Fill	3.5							
	1.0-1.1	Natural	24							
	2.0-2.1	Natural	200							
	3.0-3.1	Natural	120							
TP105	1.0-1.1	Fill	18							
	1.4-1.5	Natural	< 2							
	1.9-2.0	Natural	< 2							
	2.9-3.0	Natural	< 2							
TP106	0.6-0.7	Natural	39							
	1.0-1.1	Natural	< 2							
TP107	1.2-1.3	Fill, Re-worked natural	5.5	< 0.5	51	22	12	< 0.1	32	100
TP108	-	Natural	2.4							

Table 1: Soil Analytical Summary
Heavy metals in soils (mg/kg)

Test pit	Depth	Material Type	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
LORs			2	0.5	5	5	5	0.1	5	5
<i>Analytical</i>										
<i>Data evaluation - all data</i>										
Number of samples			85	30	30	30	30	30	30	30
Number of detects			61	0	29	30	27	7	27	30
Percentage non detects			28%	100%	3%	0%	10%	77%	10%	0%
Maximum			350	nd	130	22	20	0.1	45	150
<i>Capping Layer - Summary statistics, Quartiles</i>										
Number of samples			4	4	4	4	4	4	4	4
Number of detects			4	0	3	4	4	0	1	4
Percentage non detects			0%	100%	25%	0%	0%	100%	75%	0%
Maximum			20	nd	10	15	20	nd	5.2	44
Third quartile			15	-	8	15	18	-	5.2	43
Arithmetic average			12	-	7	15	15	-	5.2	41
Geometric average			11	-	7	14	15	-	5.2	41
Median value			12	-	6	15	16	-	5.2	41
First quartile			9	-	6	15	14	-	5.2	40
Minimum			6	-	5	13	10	-	5.2	39
Standard deviation			6	-	3	1	4	-	-	2
Coefficient of variation			0.5	-	0.4	0.1	0.3	-	-	0.1
<i>Fill - Summary statistics, Quartiles</i>										
Number of samples			9	1	1	1	1	1	1	1
Number of detects			9	0	1	1	0	0	1	1
Percentage non detects			0%	100%	0%	0%	100%	100%	0%	0%
Maximum			110	nd	13	12	nd	nd	17	150
Third quartile			21	-	13	12	-	-	17	150
Arithmetic average			26	-	13	12	-	-	17	150
Geometric average			12	-	13	12	-	-	17	150
Median value			7	-	13	12	-	-	17	150
First quartile			4	-	13	12	-	-	17	150
Minimum			3	-	13	12	-	-	17	150
Standard deviation			37	-	-	-	-	-	-	-
Coefficient of variation			1.4	-	-	-	-	-	-	-
<i>Fill, Re-worked natural - Summary statistics, Quartiles</i>										
Number of samples			13	13	13	13	13	13	13	13
Number of detects			10	0	10	10	9	3	10	10
Percentage non detects			23%	100%	23%	23%	31%	77%	23%	23%
Maximum			34	-	73	22	13	0	32	100
Third quartile			3	-	64	15	11	0	24	58
Arithmetic average			6	-	57	15	8	0	21	56
Geometric average			3.7	-	55.7	14.2	7.5	0.1	19.8	53.5
Median value			3	-	60	15	7	0	19	49
First quartile			3	-	52	14	6	0	18	45
Minimum			2	-	28	8	5	0	12	38
Standard deviation			10	-	13	4	3	0	6	19
Coefficient of variation			1.6	-	0.2	0.3	0.4	0.0	0.3	0.3
<i>Natural - Summary statistics, Quartiles</i>										
Number of samples			57	11	11	11	11	11	11	11
Number of detects			36	0	11	11	10	3	11	11
Percentage non detects			37%	100%	0%	0%	9%	73%	0%	0%
Maximum			350	nd	130	20	12	0.1	45	86
Third quartile			43	-	86	19	9	0.1	26	73
Arithmetic average			51	-	76	14	8	0.1	22	60
Geometric average			15	-	72	13	8	0.1	21	58
Median value			10	-	67	13	8	0.1	20	53
First quartile			3	-	59	12	7	0.1	16	48
Minimum			2	-	44	7	6	0.1	13	46
Standard deviation			85	-	26	5	2	0.0	10	14
Coefficient of variation			1.7	-	0.3	0.3	0.2	0.0	0.4	0.2

Table 1: Soil Analytical Summary
Heavy metals in soils (mg/kg)

Test pit	Depth	Material Type	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
LORs			2	0.5	5	5	5	0.1	5	5
<i>Analytical</i>										
<i>Disturbed natural - Summary statistic, Quartiles</i>										
Number of samples			2	2	2	2	2	2	2	2
Number of detects			2	0	2	2	2	0	2	2
Percentage non detects			0%	100%	0%	0%	0%	100%	0%	0%
Maximum			6	nd	61	15	12	nd	16	54
Third quartile			5	-	61	13	11	-	15	52
Arithmetic average			4	-	60	11	10	-	15	49
Geometric average			4	-	60	11	9	-	14	49
Median value			4	-	60	11	10	-	15	49
First quartile			4	-	60	10	8	-	14	47
Minimum			3	-	59	8	7	-	13	44
Standard deviation			2.0	-	1.4	5.2	3.5	-	2.1	7.1
Coefficient of variation			0.5	-	0.0	0.5	0.4	-	0.1	0.1
<i>Criteria</i>										
Residential, HIL-A			100	20	100	6,000	300	40	400	7,400
Residential, HIL-B			500	150	500	30,000	1,200	120	1,200	60,000
Parks/open space HIL-C			300	90	300	17,000	600	80	1,200	30,000
Commercial/industrial HIL-D			3,000	900	3,600	240,000	1,500	730	6,000	400,000
EILs - ACLs			160	-	660	190	1,800	-	600	290

Table notes:

Test pit	Depth	Material Type	Aldrin	Dieldrin	Chlordane (s)	Endosulfan (I + II)	Endrin	Heptachlor	Methoxychlor	Toxaphene	4,4'-DDD	4,4'-DDE	4,4'-DDT	DDT + DDE + DDD (Total)*
LORs			0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.5	0.05	0.05	0.05	-
TP01	0-0.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	0.5-0.6	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	1.0-1.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP02	0-0.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP03B	0.0-0.1	Fill, Re-worked natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP3	0-0.1	Fill, Re-worked natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP04	0-0.1	Fill, Re-worked natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	0.8-0.9	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	0.34	0.34
TP05	0-0.1	Fill, Re-worked natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	0.4-0.5	Capping layer	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	1.3-1.4	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	1.9-2.0	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP06	3.0-3.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	0.7-0.8	Fill, Re-worked natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	0.8-0.9	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	0.1	1.9	2
	0.1-0.2	Disturbed natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP07	0.7-0.8	Disturbed natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP08	0.0-0.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP09	0.5-0.6	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	0.1	< 0.05	0.54	0.64
TP10	1.1-1.2	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	0.07	0.06	0.13
TP11	0.9-1.0	Fill	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	1.3-1.4	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	2.0-2.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	3.1-3.2	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05

**Table 2: Soil Analytical Summary
Organochlorine Pesticides (mg/kg)**

Test pit	Depth	Material Type	Aldrin	Dieldrin	Chlordane(s)	Endosulfan (I + II)	Endrin	Heptachlor	Methoxychlor	Toxaphene	4,4'-DDD	4,4'-DDE	4,4'-DDT	DDT + DDE + DDD (Total)*
LORs			0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.5	0.05	0.05	0.05	-
TP105	2.0-2.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	0.61	0.43	19	20.04
	3.0-3.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	2.7	0.72	120	123.42
	1.0-1.1	Fill	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	0.06	0.07	0.13
	1.4-1.5	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	1.9-2.0	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP106	2.9-3.0	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
	0.6-0.7	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	0.91	0.91
	1.0-1.1	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP107	1.2-1.3	Fill, Re-worked natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05
TP108	-	Natural	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	< 0.05

**Table 2: Soil Analytical Summary
Organochlorine Pesticides (mg/kg)**

Test pit	Depth	Material Type	Aldrin	Dieldrin	Chlordane(s)	Endosulfan (I + II)	Endrin	Heptachlor	Methoxychlor	Toxaphene	4,4'-DDD	4,4'-DDE	4,4'-DDT	DDT + DDE + DDD (Total)*
LORs			0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.5	0.05	0.05	0.05	-
<i>Data evaluation - all data</i>														
Number of samples			91	91	91	91	91	91	91	91	91	91	91	91
Number of detects			0	0	0	1	1	0	0	0	6	11	20	22
Percentage non detects			100%	100%	100%	99%	99%	100%	100%	100%	93%	88%	78%	76%
Maximum			nd	nd	nd	0.1	0.05	nd	nd	nd	3	1	120	123
<i>Capping Layer - Summary statistics, Quartiles</i>														
Number of samples			4	4	4	4	4	4	4	4	4	4	4	4
Number of detects			0	0	0	0	0	0	0	0	0	0	0	0
Percentage non detects			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Maximum			nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Third quartile			-	-	-	-	-	-	-	-	-	-	-	-
Arithmetic average			-	-	-	-	-	-	-	-	-	-	-	-
Geometric average			-	-	-	-	-	-	-	-	-	-	-	-
Median value			-	-	-	-	-	-	-	-	-	-	-	-
First quartile			-	-	-	-	-	-	-	-	-	-	-	-
Minimum			-	-	-	-	-	-	-	-	-	-	-	-
Standard deviation			-	-	-	-	-	-	-	-	-	-	-	-
Coefficient of variation			-	-	-	-	-	-	-	-	-	-	-	-
<i>Fill - Summary statistics, Quartiles</i>														
Number of samples			10	10	10	10	10	10	10	10	10	10	10	10
Number of detects			0	0	0	0	0	0	0	0	0	2	2	3
Percentage non detects			100%	100%	100%	100%	100%	100%	100%	100%	100%	80%	80%	70%
Maximum			nd	nd	nd	nd	nd	nd	nd	nd	nd	0.06	0.31	0.31
Third quartile			-	-	-	-	-	-	-	-	-	0.06	0.25	0.22
Arithmetic average			-	-	-	-	-	-	-	-	-	0.06	0.19	0.16
Geometric average			-	-	-	-	-	-	-	-	-	0.05	0.15	0.13
Median value			-	-	-	-	-	-	-	-	-	0.06	0.19	0.13
First quartile			-	-	-	-	-	-	-	-	-	0.05	0.13	0.09
Minimum			-	-	-	-	-	-	-	-	-	0.05	0.07	0.05
Standard deviation			-	-	-	-	-	-	-	-	-	0.01	0.17	0.13
Coefficient of variation			-	-	-	-	-	-	-	-	-	0.13	0.89	0.82
<i>Fill, Re-worked natural- Summary statistics, Quartiles</i>														
Number of samples			15	15	15	15	15	15	15	15	15	15	15	15
Number of detects			0	0	0	0	0	0	0	0	0	0	1	1
Percentage non detects			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	93%	93%
Maximum			-	-	-	-	-	-	-	-	-	-	0.30	0.30
Third quartile			-	-	-	-	-	-	-	-	-	-	-	-
Arithmetic average			-	-	-	-	-	-	-	-	-	-	-	-
Geometric average			-	-	-	-	-	-	-	-	-	-	-	-
Median value			-	-	-	-	-	-	-	-	-	-	-	-
First quartile			-	-	-	-	-	-	-	-	-	-	-	-
Minimum			-	-	-	-	-	-	-	-	-	-	-	-
Standard deviation			-	-	-	-	-	-	-	-	-	-	-	-
Coefficient of variation			-	-	-	-	-	-	-	-	-	-	-	-
<i>Natural - Summary statistics, Quartiles</i>														
Number of samples			59	59	59	59	59	59	59	59	59	59	59	59
Number of detects			0	0	0	1	1	0	0	0	6	9	17	18
Percentage non detects			100%	100%	100%	98%	98%	100%	100%	100%	90%	85%	71%	69%
Maximum			nd	nd	nd	0.1	0.05	nd	nd	nd	3	1	120	123
Third quartile			-	-	-	-	-	-	-	-	0.5	0.4	0.9	1.5
Arithmetic average			-	-	-	-	-	-	-	-	0.6	0.3	9.2	9.0
Geometric average			-	-	-	-	-	-	-	-	0.2	0.2	0.7	0.7
Median value			-	-	-	-	-	-	-	-	0.2	0.1	0.4	0.4
First quartile			-	-	-	-	-	-	-	-	0.1	0.1	0.2	0.2
Minimum			-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1
Standard deviation			-	-	-	-	-	-	-	-	1.0	0.4	29.0	29.0
Coefficient of variation			-	-	-	-	-	-	-	-	1.6	1.2	3.2	3.2
<i>Disturbed natural - Summary statistics, Quartiles</i>														
Number of samples			3	3	3	3	3	3	3	3	3	3	3	3
Number of detects			0	0	0	0	0	0	0	0	0	0	0	0
Percentage non detects			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Maximum			nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Third quartile			-	-	-	-	-	-	-	-	-	-	-	-
Arithmetic average			-	-	-	-	-	-	-	-	-	-	-	-
Geometric average			-	-	-	-	-	-	-	-	-	-	-	-
Median value			-	-	-	-	-	-	-	-	-	-	-	-
First quartile			-	-	-	-	-	-	-	-	-	-	-	-
Minimum			-	-	-	-	-	-	-	-	-	-	-	-
Standard deviation			-	-	-	-	-	-	-	-	-	-	-	-
Coefficient of variation			-	-	-	-	-	-	-	-	-	-	-	-
<i>Criteria</i>														
Residential, HIL-A			6		50	270	10	6	300	20		240		240
Residential, HIL-B			10		90	400	20	10	500	30		600		600
Parks/open space HIL-C			10		70	340	20	10	400	30		400		400
Commercial/industrial HIL-D			45		530	2000	100	50	2500	160		3600		3600
ELs - ACLs			-	-	-	-	-	-	-	-		180		180

Table notes:

Table 3: Summary Analytical, Arsenic and OCPs in Groundwater (µg/L)

Sample location	Sample date	Metals	OCPs																							
		Arsenic	4,4'-DDD	4,4'-DDE	4,4'-DDT	α-HCH	Aldrin	Aldrin and Dieldrin (Total)*	β-HCH	Chlordanes - Total	DDT + DDE + DDD (Total)*	δ-HCH	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	γ-HCH (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	Toxaphene	
LORs		1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	5
Analytical																										
MW01	3/03/2023	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
MW02	3/03/2023	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5
Criteria																										
Freshwaters	24 / 13	-	0.03	0.006 ¹	-	0.001	-	-	0.03 ¹	-	-	0.01	0.03			0.01 ¹	-	-	0.2	0.01 ¹	-	-	0.005	0.1 ¹		
Marine waters	2.3 / 4.5	-	0.0005	0.0004	-	0.003	-	-	0.001	-	-	0.01	0.005			0.004 ¹	-	-	-	-	-	-	0.004	-		
Drinking waters	10	-	-	9	-	3	0.3	-	2	-	-	3	20			-	-	-	10	-	0.3	-	-	-		
Recreational waters	100	-	-	90	-	30	-	-	20	-	-	30	200			1	-	-	-	-	-	-	-	-		

See table notes at end.

Table 4: MPE method, Arsenic and DDTs (mg/kg)

	Arsenic					DDT
	Fill - reworked natural	Capping layer	Fill	Disturbed natural	Natural	Natural
<i>Analytical</i>						
	2.9	13	3.3	2.8	< 2	< 0.05
	2.8	20	7	5.6	2.2	< 0.05
	2.6	6	110		< 2	< 0.05
	2.3	10	4.9		2.8	< 0.05
	34		21		85	0.34
	2.9		4.3		< 2	< 0.05
	2.6		61		< 2	< 0.05
	< 2		3.5		33	< 0.05
	2.3		18		2.7	2
	2.8				8.7	< 0.05
	< 2				10	0.64
	< 2				230	0.13
	5.5				3	< 0.05
					< 2	< 0.05
					31	< 0.05
					7.8	0.19
					< 2	0.06
					< 2	< 0.05
					350	< 0.05
					31	< 0.05
					< 2	< 0.05
					< 2	0.23
					8.9	< 0.05
					6.7	< 0.05
					8.4	< 0.05
					18	< 0.05
					< 2	< 0.05
					2.6	< 0.05
					< 2	< 0.05
					2.4	< 0.05
					3.3	< 0.05
					9.9	< 0.05
					< 2	1.71
					2.5	< 0.05
					3.2	< 0.05
					< 2	< 0.05
					< 2	< 0.05
					< 2	0.38

Table 4: MPE method, Arsenic and DDTs (mg/kg)

	Arsenic					DDT
	Fill - reworked natural	Capping layer	Fill	Disturbed natural	Natural	Natural
Analytical						
					2.3	< 0.05
					140	< 0.05
					260	< 0.05
					10	0.15
					< 2	0.42
					5	< 0.05
					< 2	< 0.05
					56	< 0.05
					110	< 0.05
					10	11.35
					24	0.36
					200	0.11
					120	0.31
					< 2	20.04
					< 2	123.42
					< 2	< 0.05
					39	< 0.05
					< 2	< 0.05
					2.4	0.91
						< 0.05
						< 0.05
Statistics						
Number of samples	13	4	9	2	57	59
Number of detects	10	4	9	2	36	18
Percentage non detects	23%	0%	0%	0%	37%	69%
Maximum	34	20	110	6	350	123
Third quartile	2.9	14.8	21.0	4.9	43.3	1.5
Arithmetic average	6.1	12.3	25.9	4.2	51.2	9.0
Median value	2.8	11.5	7.0	4.2	10.0	0.4
First quartile	2.6	9.0	4.3	3.5	3.2	0.2
Minimum	2	6	3	3	2	0
Standard deviation	9.9	5.9	36.5	2.0	84.8	29.0
Coefficient of variation	1.6	0.5	1.4	0.5	1.7	3.2
Relative standard deviation	162.4%	48.2%	141.1%	47.1%	165.7%	320.8%
Margin of error	5.96	9.40	28.07	17.79	22.49	7.56
Maximum probable error	98.1%	76.8%	108.4%	423.5%	44.0%	83.6%
Number of samples MPE	52	7	40	7	55	198

See table notes at end

Table Notes

LOR = limits of reporting. (x) LOR for multiple analytes within a category.

nd = non detect at LOR. < x = raised or specific LOR.

- = not analysed, no criteria, not relevant.

Bold value / bolded criteria = value exceeds criteria.

Soil criteria from:

Human health and ecological criteria from National Environment Protection Council (NEPC) (2013) *Schedule B1, Guideline on Investigation Levels for Soil and Groundwater*, from the *National Environment Protection (Assessment of Site Contamination) Measure 1999*, including *Amendment Measure 2013 (No. 1)* (ASC NEPM).

Statistics:

Quartiles are used to break up the data set into four equal parts, providing an indication of the distribution and variance of the data. When observations are ordered in ascending order according to their values:

- the first or lower quartile Q1, is the value of the observation at or below which one-quarter (25%) of observations lie, and is the 25th percentile;
- the second quartile Q2, is the median value at or below which half (50%) of observations lie, and is the 50th percentile; and
- the third or upper quartile Q3, is the value of the observation at or below which three-quarters (75%) of the observations lie, and is the 75th percentile.

Coefficient of variation (CV) is a measure of the relative homogeneity of a distribution ($CV = s/\bar{x}$). Low CV values (≤ 0.5) indicating a fairly homogenous contaminant distribution, and high CV values (> 1) indicating heterogenous distributions and probably skewed to the right. Also known as the relative standard deviation (RSD) and expressed as %.

For environmental data, the margin of error (MOE) is more commonly expressed as the confidence interval, where the MOE can be thought of as the "radius" to, or half the width of, the diameter of the interval. Confidence intervals are constructed as the range between the sample mean ($\bar{x}$) minus the MOE and $\bar{x}$ plus the MOE. The maximum probable error (MPE) is the $MOE/\bar{x}$. The MPE expressed as % along with the RSD can be used in estimating the number of samples required to determine the arithmetic mean.

Soil classification:

These broad-suite classifications are to enable separation of the various material types encountered and interpretation of the data. The language used, e.g. Re-worked natural V disturbed natural is not defined as such on the borelogs.

Capping layer: Capping material imported circa 1994 over the dip bath area, broadly described as tan gravelly clay.

Fill. Re-worked natural: Soil of similar characteristics to W01/W02 but have been removed/used as fill, e.g. commonly encountered above the imported 'capping layer' and geofabric marker layer

Disturbed natural: Natural soils that appear to have been disturbed, e.g. anthropogenic inclusions at depth, but not completely removed/filled.

Natural: Natural soils, including former surface. Generally described as W01 (dark red/brown clay loam) or W02 (Dark red strongly structured light - medium clay).

Fill: All other material types.

Table Notes - WatersGeneral:

LOR = limits of reporting. (x) LOR for multiple analytes within a category.

nd = non detect at LOR. < x = raised or specific LOR.

- = not analysed, no criteria, not relevant.

Bold value / bolded criteria = value exceeds criteria.

Criteria from:

Aquatic ecosystem criteria (freshwaters and marine waters) from Australian and New Zealand Environment and Australian State and Territory Governments (ANZG) (2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Water Quality Australia, available online at: <http://www.waterquality.gov.au/anz-guidelines>.

For some metals (Cd, Cr III, Cu, Pb, Ni and Zn) in freshwater, hardness modified criteria may be appropriate. This requires measurement of CaCO₃, and should be addressed as part of the data quality objectives (DQOs) process. Additional information is available on the Water Quality Guidelines website at: <http://www.waterquality.gov.au/anz-guidelines/guidelinevalues/default/water-quality-toxicants/local-conditions#water-hardness>.

Drinking water criteria from National Health and Medical Research Council (NHMRC) & Natural Resource Management Ministerial Council (NRMMC) (2004) *Australian Drinking Water Guidelines*. The guideline values are health related and are described as the concentration that does not result in any significant risk to the health of the consumer over a lifetime of consumption. Numbers in brackets are aesthetic values, e.g. appearance, taste, and/or odour. The guideline values relate to the quality of water at the point of use, e.g. kitchen or bathroom tap.

While exposure is predominately through ingestion, skin adsorption and/or inhalation are considered in calculating the guideline value (Page 6-7, NHMRC/NRMMC 2004). However, this only addresses consumption/use of drinking water, it does not address inhalation from subsurface, and drinking water criteria should not be used as risk assessment screening values for onsite contaminant concentrations.

Recreational waters from National Health and Medical Research Council (NHMRC) (2008) *Guidelines for Managing Risks in Recreational Water*. This describes that "a substance occurring in recreational water at a concentration of 10 times that stipulated in the drinking water guidelines may merit further consideration".

Table notes:

1. Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZECC & ARMCCANZ (2000) for further guidance.

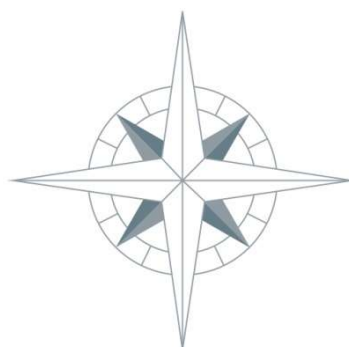
Appendix A

SAQP, including service location plans and photographs

Sampling, Analysis, and Quality Plan

Sellicks Dip
44 Bristol Circuit, Goonellabah NSW

October 2022, Ref. 22030



Easterly Point Environmental

www.easterlypoint.com

Report Details

The following report was commissioned by Landcom, on behalf of Lismore City Council:

Sampling, Analysis, and Quality Plan

Sellicks Dip

44 Bristol Circuit, Goonellabah NSW 2480

October 2022, Ref. 22030

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This sampling plan was prepared in accordance with the scope of work described in Easterly Point Environmental's proposal and the project contract, for the sole use of Landcom, Lismore City Council, their agents in regard to the completion of this project, and the relevant regulatory authorities, including a contaminated land auditor if applicable. It is subject to the Limitations to environmental information, described in Section 1.3 of the report.

This document should not be used or copied by other parties without written authorisation from Easterly Point Environmental Pty Ltd.

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Figure 1: Site Location

Figure 2: Site layout and stratification

Figure 3: Proposed sample locations

Figure 4: Lismore City Council survey plan

Appendices

Appendix A: Before You Dig Australia plans

Appendix B: Data quality objectives

Appendix C: Easterly Point's field work procedures

1.0 Introduction

Easterly Point was commissioned by Landcom, on behalf of Lismore City Council (LCC) to conduct a detailed site investigation (DSI) for a site located at 44 Bristol Circuit, Goonellabah NSW, identified as Lot 533 DP1 162393. This sampling, analysis, and quality plan (SAQP) has been prepared to detail the proposed investigation at the above-mentioned property.

The scope of work was described in Easterly Point's proposal to Landcom on 24 August 2022, with their acceptance of the engagement confirmed on 14 September 2022 via execution of a Consultancy Deed (Contract No. 14942).

This SAQP was prepared in accordance with the scope of work described in Easterly Point's proposal, for the sole use of Landcom, Lismore City Council, their agents in regard to the completion of this project, and the relevant regulatory authorities, including a contaminated land auditor if applicable. It is subject to the *Limitations to environmental information*, described in Section 1.3 of the report.

1.1 Background

The site is located at 44 Bristol Circuit, Goonellabah, in an area of residential development. The site consists of approximately 3,653 m² of land which is currently grassed open space. A former cattle dip site, known as Sellicks Dip, is located at the site, which was in use between circa 1958 and 1988. The dip facility is recorded as being demolished by NSW Department of Agriculture, assumed to include the removal of all rails and structures, apart from the in-ground concrete dip bath which remains in-situ.

Environmental investigations were conducted at the site between 1988 and 2006, with elevated concentrations of arsenic and DDT detected in soils, although noting the investigations ranged in scope and quality. Limited soil remediation works took place in 1988, when soils with elevated concentrations were excavated from either side of the dip bath. Temporary remediation measures were again reportedly conducted between 1993 and 2006, including the importation of approximately 1 m of fill over the 'contaminated' area, although specific details are limited.

The site has remained vacant since closure of the dip, and is currently grassed open space, which is surrounded by low-density residential development.

Easterly Point was engaged by LCC in December 2021 to conduct a preliminary site investigation (PSI) and prepare a strategic review letter for the site. The PSI included a comprehensive review of the site's history, including previous contamination assessment reports and historical documentation available for the site. The review identified the presence of contamination associated with the dip bath, although the extent and magnitude of impacts were not clearly defined in the historic reports. While the contamination identified appeared to correlate with historic documentation around the use, location, and temporary remediation of the bath, the information was not considered to be sufficient to allow decisions to be made in regard to land use suitability, and further environmental investigations were recommended.

The strategic review letter highlighted the technical and regulatory issues that would require further investigation to progress the project for future development, along with recommendations for further work.

Further information in regard to the site and the investigations conducted can be found in:

- Easterly Point (March 2022a) *Preliminary Site Investigation, 44 Bristol Circuit, Goonellabah, NSW 2481*, (Ref. 22014.1); and

- Easterly Point (March 2022b) *Strategic review, 44 Bristol Circuit, Goonellabah, NSW 2481*, (Ref. 22014.2).

It is understood that Landcom are investigating the viability of the site to be redeveloped for a multi-dwelling affordable housing development, on behalf of LCC, as the land owners. While the specific design plans are under development, it is understood the site is proposed to be managed under a strata plan. As such, evaluation of investigation results will include the option of managing any contamination identified via a long-term environmental management plan (EMP).

1.1.1 NSW cattle tick dip history

A review of typical cattle dip site operations in NSW is provided for background information, noting that dip baths in NSW were constructed and operated in a generally consistent manner. The layout for a generic cattle tick dip sites includes:

- An unsealed holding yard/forcing yard, including a small shed;
- a force pen and crush, for forcing the cattle into the dip bath;
- the dip bath, a concrete in-ground structure;
- a draining pen, located on a concrete 'drip pad';
- an unsealed draining yard; and
- an arsenic pit for disposal of arsenic wastes, located adjacent to the dip bath; and
- a scooping mound, located adjacent to the dip bath.

A generic cattle tick dip layout is shown below in Figure 1.1.

NSW Agriculture and CMPS&F (1996) describe that the highest concentrations of tickicides are typically found in the following areas:

- adjacent to bath, both in yard and externally (splash area);
- adjacent to the crush; and
- disposal pit and scooping mounds.

These areas are noted to be close to the bath itself, and that the bulk of contamination is typically found within five meters of the edges of the bath and draining pen, although concentrations of concern may extend further. NSW Agriculture and CMPS&F (1996) further describes the following regarding movement and distribution of contamination, noting it depends on topography and soil type:

At sites where the slope away from the dip bath exceeds about 5° the contamination can extend down the hill for about 30 m from the dip bath.

The distribution of the residues in the soil profile shows that the residues generally are contained within the top 500 mm of soil in undisturbed areas and away from the splash areas. In splash areas the penetration into the soil could be further and can only be determined by sampling. The same applies to the disposal pit, which runs parallel to the bath and about 600 mm out from the bath.

Sandy soils can give a different picture in the profile where arsenic residues can occur at a greater depth. This needs to be taken into account in any assessment of residues at a sandy dip site.

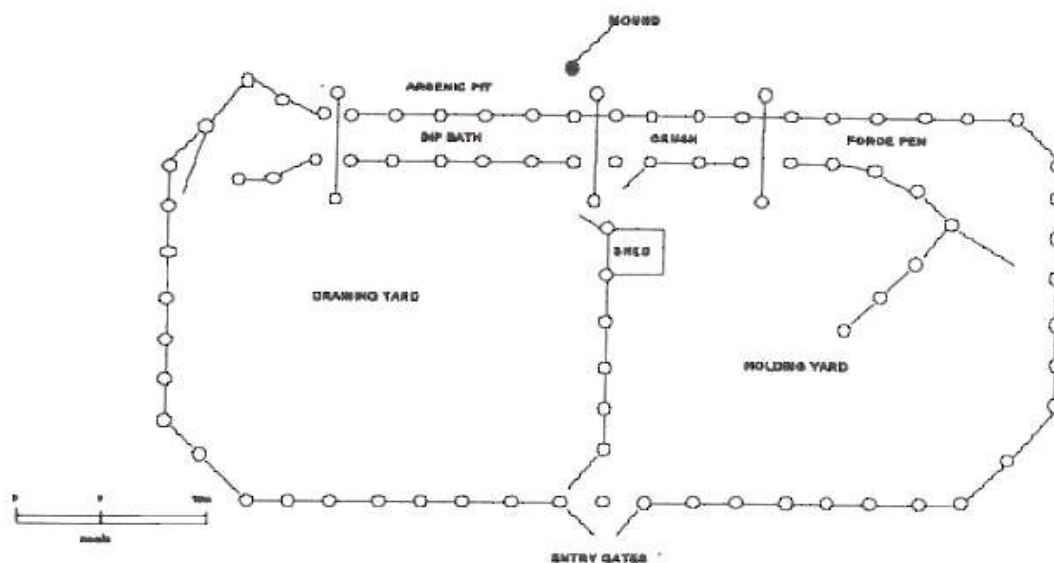


Figure 1.1: Generic dip site layout

1.1.2 Preliminary dip bath investigation

As part of this investigation, a site inspection and preliminary investigation of the dip bath was conducted on 5 October 2022, by Hailey Spry of Easterly Point Environmental. The scope of work conducted included:

- location of the dip bath, with the aid of a representative from the Department of Primary Industries (DPI);
- excavation of overlying soil and uncovering the dip bath using an excavator;
- visual assessment of the top of the dip bath infrastructure and contents (limited in extent); and
- covering the dip bath with the excavated material.

The findings of the preliminary investigation are detailed in Section 2.1, and were used to refine the investigation scope and strategy.

1.2 Objectives and scope

EPA (2020)¹ describes that the objective of a DSI is to provide more complete and definitive information on issues raised in the PSI. The overall objective for this investigation is to collect sufficient information to define the type, extent and level of contamination for the site. Secondary objectives are to:

- assess potential and actual contaminant migration routes, including potential preferential pathways; and
- review and update of the conceptual site model (CSM) from the site investigations.

The following scope of work is proposed:

- develop investigation design documents, including an environmental and safe work method statement (E&SWMS), a preliminary CSM, the data quality objectives (DQOs) and an SAQP (this document);
- soil investigation at the site using a combined judgemental and systematic sampling program;

¹ NSW EPA (2020) *Consultants reporting on contaminated land, Contaminated Land Guidelines*.

- groundwater investigation, where deemed to be required on the basis of the soil investigation results;
- collection of soil and groundwater samples for analysis at NATA accredited laboratories;
- evaluation of the data, including data analysis and interpretation; and
- preparation of a report describing the results of the above investigations, including an updated CSM.

1.3 Limitations to environmental information

The findings of this reporting are based on the objectives and scope of the services provided. Easterly Point Environmental performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties or guarantees, expressed or implied, are made.

Easterly Point's review/assessment is strictly limited to identifying the environmental conditions associated with the subject property in regard to site contamination, and does not seek to provide an opinion regarding other aspects of the environment not related to site contamination, or to the suitability of the site in regard to:

- other aspects of the environment not related to site contamination; or
- hazardous building materials in buildings or structures; or
- structures, footings, infrastructure, and the like, whether above or below ground; or
- the suitability of fill materials for any use and any geotechnical considerations; or
- to the suitability of the site in regard to land use planning or legal use of the land; or
- regulatory responsibilities or obligations (for which a legal opinion should be sought); or
- the work health and safety (WHS) legislation; or
- the suitability of any engineering design.

Reviews of such information are only in relation to the contaminated land aspects of any project or site. If specialist technical review of such documents is required, these should be obtained by an appropriate technical or legal specialist.

The reporting and conclusions are based on the information obtained at the time of the assessments. Changes to the subsurface conditions may occur subsequent to the investigation described, through natural processes or through the intentional or accidental addition of contaminants, and these conditions may change with space and time.

Field monitoring, sampling and chemical analysis of environmental media and structures are based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate, based on regulatory requirements, site history, and the proposed land use, not on sampling and analysis of all media, at all locations, for all potential contaminants.

Limited field monitoring, and environmental sampling and laboratory analyses, were undertaken as part of the investigations reviewed or conducted by Easterly Point, as described. Ground conditions, contaminants, and material types/composition can vary between sampling locations, and this should be considered when extrapolating between sampling locations. Except at each sampling location, the nature, extent and concentration of contamination is inferred only.

Furthermore, the test methods used to characterise the contamination at each sampling location are subject to limitations and provide only an approximation of the contaminant concentrations. Monitoring and chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

The absence of any identified hazardous or toxic materials at the site should not be interpreted as a warranty or guarantee that such materials do not exist at the site. Therefore, future work at the site which involves subsurface excavation or removal of structures or parts thereof, should

be conducted based on appropriate management plans. These should include, *inter alia*, environmental management plans, including unexpected findings protocols, hazardous building materials management plans, and work health and safety plans.

If additional certainty is required, then additional site history information should be obtained, or additional exploration and sampling and analysis should be conducted. This decision should be made by the user of this information based on an appropriate risk management process, and the user should commission additional services if required.

2.0 Conceptual site model

CSMs are four 4-dimensional representations (x, y, z + time) of site-related information regarding contamination sources, receptors, and the exposure pathways between those sources and receptors. They provide the framework for identifying how the site became contaminated and predict how potential receptors may be exposed to contamination, either now or in the future.

A preliminary CSM has been developed for the site based on information obtained from the site history review (Easterly Point 2022a) and the preliminary dip bath investigation, as detailed in Section 1.1.2.

The DSI will culminate in the development of an updated CSM, incorporating the information gained and closing out of the relevant data gaps to allow an updated understanding of the site and risks to future receptors and evaluation of remedial requirements, if any. Noting, the ASC NEPM (2013, B2) describes “the sub-optimal performance of many remediation systems can be traced back to the failure to undertake adequate site characterisation and to fully integrate the information gained into the CSM”.

The site's location is shown in Figure 1, and the site's layout with a historical aerial photograph overlay of the dip bath is shown in Figure 2, attached. A survey plan developed by LCC to depict the approximate locations of contaminated fill area and easements, is provided as Figure 4, attached.

2.1 Site condition

The site condition at the time of the preliminary dip bath investigation and the current CSM is described below, along with photographs taken during preliminary dip bath investigation.

- The site is approximately 3,653 m² in size and irregular pentagon in shape.
- The site is currently vacant open space and easily accessible to the public, with no evidence of use visible.
- The site was covered in freshly mowed grass with sparse trees along the boundaries, and two large trees located in the centre of the site.
- The topography of the site generally follows that of the surrounding land, with the highest point along Taylors Road along the western boundary, and falls down to the east, south-east and south, with Bristol Circuit and Blue Hills Avenue being the lowest points.
- A raised area was observed in the north-eastern portion of the site, in the approximate location of the capped area, as shown on the LCC survey plan. The area was covered in grass, similar to that of the remainder of the site, and no other distinguishable features associated with the dip bath or previous remediation works, e.g. stake posts, barbed wire fencing, etc., were visible.
- The site was surrounded by low-density residential houses.
- There is no separation between the site and an underground pumping station, located on the adjacent lot.

Observations of the dip bath, as observed during the preliminary investigation, are described below:

- Imported fill was encountered over the area of the dip bath, including three distinct layers of fill, as well as a geofabric marker layer:

- 0.0 – 0.2 m: dark reddish brown silty clay immediately below the grass; underlain by
 - 0.2 – 0.8 m: light brown to orange clayey gravel fill; underlain by
 - 0.8 m: a geofabric layer; underlain by
 - 0.8 – 1.0: dark reddish brown silty clay.
- The dip bath did not have a concrete 'lid' over the bath, but rather the two concrete sides of the bath were encountered immediately below the above-mentioned fill layers. This corresponds to the classification by Department of Primary Industries, *Cattle dip site locator*², which lists the site as 'demolished'.
 - The walls of the bath were approximately 0.1 m thick, and the bath was approximately 12.5 m in length and 1.2 m wide.
 - The bath was full of dark grey gravel and was saturated, with the water level approximately 30 cm below the top of the bath. It is highlighted that a thorough inspection of the whole bath was not conducted, and the intrusive investigation into the bath contents was limited to the northern end of the bath (approximately 2 m in length by 1 m in depth).
 - A ramp for livestock to get out of the bath was observed, along with the concrete drip pad. The edge of the concrete drip pad was not completely uncovered, but suspected to extent up to the neighbouring boundary (Lot 52 DP1137015), based on an assumed standard pad size of a 5.8 x 5.8 m (anecdotal).
 - The dip bath was located approximately 12 m west of Bristol Circuit, measured from the from road gutter.
 - The natural soils encountered are consistent with the mapped stratigraphy of the Wollongbar Soil Landscape and comprised of a dark reddish brown clay loam, transitioning to more structured clays at depth.

² https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/health-and-disease/parasitic-and-protozoal-diseases/ticks/cattle-dip-site-locator?sq_content_src=%2BdXJsPWh0dHBzJTNBJTJGJTJGYnRjLmRwaS5uc3cuZ292LmF1JTJGRGIwJTJGRGV0YWlscyUyRjUwMSZhbGw9MQ%3D%3D



Photograph 2.1: Top of the dip bath.



Photograph 2.2: Northern end of dip bath and dip pad exposed, with imported fill profile visible above.

2.2 Services

A services search was conducted through Before You Dig Australia on 20 September 2022, which showed that services on or near the site include Essential Energy electricity, Telstra networks, NBN networks and LCC assets. The LCC assets on the site include:

- a sewer line traverses the site, including three pits located along the length of the line;
- an abandoned sewer line traverses the south-eastern corner of the site; and
- water pipes are present along Bristol Circuit, with water connections into the site.

It is noted that sewer lines connect to the underground sewerage pump station, located off-site, on the adjoining lot south of the site, being Lot 30 DP1000619.

The Essential Energy electricity plan show there are low voltage underground cables running adjacent to the site along Bristol Circuit, including a cubicle and two pits. No power lines traverse or run along the bounds of the site.

Telstra lines and pits are present along the bounds of the site along Bristol circuit and Taylors Road, including 50 mm PVC conduits, labelled as Other Carrier Telecommunications Cable/Asset with various cable joining pits.

NBN cables and pits are located along Bristol Circuit and Taylor Road, although no cables were identified to be entering the site.

The above service locations were confirmed by a service locator during inspection of the site on 5 October 2022. Before You Dig Australia and service location plans are provided in Appendix A.

2.3 Potential contaminants of concern

The potential contaminants of concern (PCOCs) on the site are primarily related to the use of the site as a cattle tick dip, limited to arsenic and organochlorine pesticides

(OCPs). While OPPs were used at the site from 1962, they are not considered a primary PCOC due to their rapid half-life degradation (less than a year) (DEC 2005).

As such, primary PCOCs are considered to be arsenic and OCPs, while secondary contaminants are considered to include heavy metals and organophosphorus pesticides (OPP).

Other PCOCs are considered to relate to the possible use and storage of herbicides and pesticides during general historical agricultural activities, as well as the importation of fill, either historically or as part of temporary remediation works, and are considered to include heavy metals, organics (TRHs, BTEX, PAHs³), OPPs/OCPs and asbestos fibres/fragments, however, the analysis will be dependent on conditions encountered.

A review of Appendix B of the PFAS NEMP⁴ was undertaken to determine if activities including PFAS are relevant to the site. Based on the information known to date, analysis for PFAS is not considered to be required at this stage. However, if new information comes to light, this understanding may change.

2.4 Media

The environmental media of interest is primarily soils, including both fill and natural soils, where encountered.

While the nature of contaminants of concern (arsenic and DDTs have low environmental mobility) and anticipated clay soils suggest that groundwater will not be a potentially contaminated media, based on the following, a groundwater investigation may be required:

- unknown depth to groundwater and extent of migration of contamination through the profile;
- historical documents show EPA raised concerns regarding the vertical distance between the in-situ dip bath and water table; and
- based on the requirements for obtaining an EMP, including the requirement to ensure no offsite migration of contamination has occurred, or will occur in the future.

As such, groundwater may be considered a media of concern, based on the results of the soil investigation.

2.5 Criteria

The below soil assessment criteria will be used to evaluate the soil and groundwater analytical results.

2.5.1 Soil

The ASC NEPM (2013) provides a range of criteria for the protection of human health, referred to as health investigation levels (HILs). The HILs have been developed for a broad range of metals, organic substances, and asbestos, and for vapour intrusion, HSLs have been developed for selected volatile petroleum compounds and hydrocarbon fractions.

The HILs are designed to be used in the first stage, or Tier 1 screening, of an assessment of potential risks to human health from chronic exposure to contaminants. They are intentionally conservative and are based on reasonable worst-case scenarios for four generic land use settings of:

³ Total recoverable hydrocarbons; benzene, toluene, ethyl-benzene, xylenes, naphthalene; polycyclic aromatic hydrocarbons.

⁴ Heads of EPA (January 2018) *PFAS National Environmental Management Plan*, HEPA

- HIL A – residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry)), also includes children's day care centres, preschools and primary schools.
- HIL B – residential with minimal opportunities for soil access includes dwellings with fully and permanently paved yard space such as high-rise buildings and flats.
- HIL C – public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and footpaths. It does not include undeveloped public open space (such as urban bushland and reserves) which should be subject to a site-specific assessment where appropriate.
- HIL D – commercial/industrial such as shops, offices, factories and industrial sites.

The HILs apply to the different land use scenarios, are generic to all soil types, and apply generally to a depth of 3 m below the surface for residential use, with the ASC NEPM (2013, B1) noting that site-specific conditions should determine the depth to which HILs apply for other land uses.

As the HIL-B criteria is based on fully and permanent paved yards, both the HIL-A and HIL-B criteria will be adopted, which will give further options for site development.

Ecological criteria

Schedule B(1) of NEPM (2013) provides a range of investigation levels for the protection of ecosystems, referred to as ecologically-based investigation levels (EILs) and ecological screening levels (ESLs), which are applicable for assessment of risk to terrestrial ecosystems.

Based on the sites location and proposed land use, the EILs for urban residential and public open space (80% species protection level) will be referred to. It is noted that Schedule B1 of the ASC NEPM (2013, B1) describes that the EILs principally apply to the top 2 m of soil which corresponds to the root zone and habitat zone of many species.

EILs are generally derived based on summing the ambient background concentration (ABC) (measured at an appropriate reference site) with the added contaminant limit (ACL), calculated based on site-specific soil characteristic properties. Based on the preliminary nature of this investigation, background samples and site-specific soil characteristics are not proposed to be investigated, and as such, generic ACLs will be referred to, where available for aged contaminants.

2.5.2 Groundwater

To evaluate groundwaters, the appropriate groundwater investigation levels (GILs) are from:

- drinking water criteria from National Health and Medical Research Council (NHMRC) & Natural Resource Management Ministerial Council (NRMMC) (2011) *Australian Drinking Water Guidelines*; and
- freshwater aquatic ecosystem investigation levels from the Australian and New Zealand Environment and Australian State and Territory Governments (ANZAST) (2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Water Quality Australia, available online at: <http://www.waterquality.gov.au/anz-guidelines>.

Investigation levels in waters are relevant for surface waters and groundwaters. These include common metals and a range of organics for protection of aquatic ecosystems in fresh waters, Based on the lack of water bodies near the site suitable for recreational use, including primary contact (e.g. swimming) and secondary contact (e.g. boating), the recreational criteria will not be adopted.

For ecosystems, the EPA specify that the 95% species protection levels are to be applied for slightly to moderately-disturbed ecosystems (most urban catchments) and the 99% species protection levels for pristine or vulnerable ecosystems or where the contaminants are intractable (e.g. bioaccumulative).

The fresh waters and drinking water GILs will be adopted for assessment of groundwater at the site, using 95% species protection levels. The environmental values identified for the site also include primary and secondary recreation, as well as irrigation, stock water, etc. Evaluation of the groundwater data against the drinking water GILs is considered to be protective of the additional environmental values. Where exceedances are noted, further evaluation against each individual environmental value will be undertaken.

2.5.3 Aesthetic criteria

There are no specific numeric aesthetic criteria, however site assessments require balanced consideration of the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity. For example, higher expectations for soil quality would apply to residential properties with gardens compared with industrial settings (ASC NEPM 2013, B1). Issues to be addressed include odours, staining, monolithic deposits, and potentially dangerous material such as rubble with steel, sharps and the like.

2.5.4 Application of criteria

The ASC NEPM (2013, B1) describes that:

The selection of the most appropriate investigation levels for use in a range of environmental settings and land use scenarios should consider factors including the protection of human health, ecosystems, groundwater resources and aesthetics.

And that "A balance between the use of generic soil, soil vapour and groundwater criteria and site-specific considerations is essential practice in site assessment". Noting that the ASC NEPM (2013), describes that "Human health should be a primary concern when assessing land use and exposure".

2.6 CSM

Based on the information presented above, the source-pathway-receptor summary includes:

Sources

Known and potential sources of contamination include:

- impacted soil with elevated concentrations of arsenic and DDTs, associated with use of the site as a cattle tick dip. Expected to be limited to the areas surrounding the dip bath;
- dip bath with unknown contents;
- potentially impacted fill, including heavy metals, organics (TRHs, BTEX, PAHs⁵), OPPs/OCPs and asbestos fibres/fragments. Expected to be limited to the areas of importation, as evident on the historic maps and survey plan.

Receptors

Potential current and future receptors include:

- maintenance workers during current maintenance activities including lawn mowing, and the-like;

⁵ Total recoverable hydrocarbons; benzene, toluene, ethyl-benzene, xylenes, naphthalene; polycyclic aromatic hydrocarbons.

- children and adults currently using the land as open space/playing fields;
- construction workers during future development;
- children and adults as residents and visitors, considered to be residential receptors with minimal opportunities for soil access (HIL-B) in accordance with the ASC NEPM (2013, B1);
- adult future site workers or maintenance staff; and
- on-site and off-site plants and animals, including domestic pets.

Pathways

Pathways of concern for the current and proposed land uses include:

- migration of contamination vertically through the soil profile to groundwater;
- migration and deposition via erosion of impacted soil particulate matter following the topography of the site;
- dermal contact, inhalation of dust and ingestion of soil by both adults (maintenance/development workers and future residential) and children;
- migration of contaminated groundwater off-site; and
- dermal contact or ingestion of contaminated groundwater.

A graphical cross-sectional CSM has been developed, and is provided as Figure 2.1.

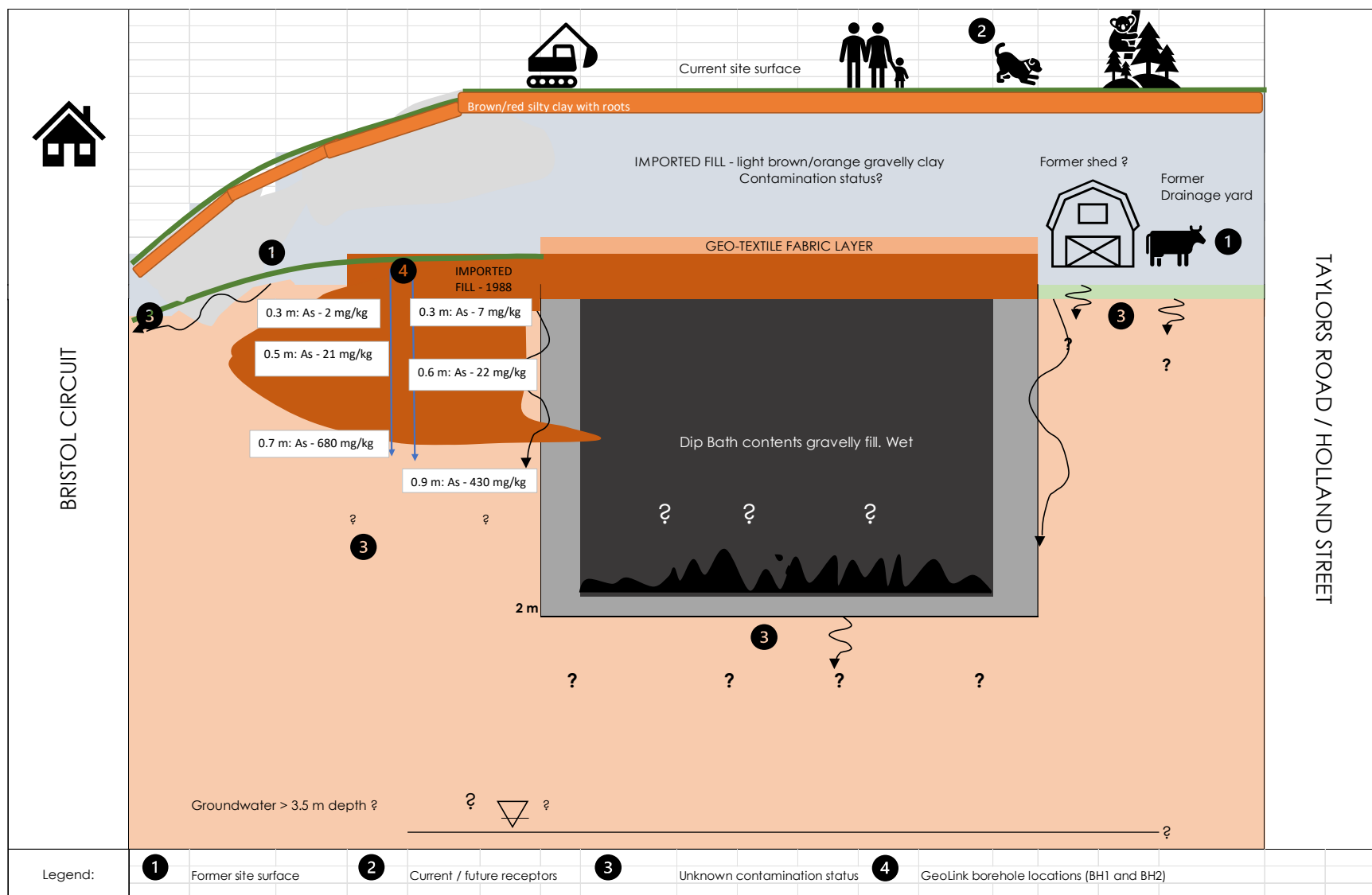


Figure 2.1: Preliminary CSM

3.0 Investigation design

The NEPM (2013, B2) describes that the design components of investigations are:

- establishing the objectives of the site assessment;
- desktop study (and/or review of existing information) and detailed site inspection, and compiling a site history (and/or data compilation report) from relevant site-related information;
- development of a CSM and identification of data gaps;
- development of DQOs; and
- design of a SAQP.

3.1 Data gaps

Based on information known to date, the following data gaps are highlighted:

- The lateral and vertical extent of contamination associated with the use of the land as a dip site is not known.
- The contamination status of the contents of the dip bath.
- The extent of the drip pad to the north.
- No documentation is available regarding the classification of the material reportedly imported for use as fill in 1988 and 1994.
- Historic sampling and analysis was primarily undertaken on composited samples, which is not considered appropriate for the analysis of OCPs within a clay soil matrix, and therefore contamination concentrations reported are considered to be estimates only.
- The quality of the data collected over the various historic investigations cannot be verified as reliable based on limited QA/QC information.
- Unknown depth to groundwater and contamination status, noting EPA historically raised concerns regarding the vertical distance between the in-situ dip bath and the water table.
- Limited information on the subsurface conditions, including geology, expected depth to and aquifer type, and impact on identified water quality objectives (WQOs), including aquatic ecosystems and drinking water.

3.2 Data quality objectives

The NEPM (2013, B2) describes that the DQO process is a seven-step iterative planning approach, that is used to define the type, quantity and quality of data needed to inform decisions relating to the environmental condition of sites. It notes that:

The DQO process should commence before any investigative work starts, with the timing for various stages of the project being clearly understood by all parties. It is useful to apply the process initially at a project level to determine the overall project requirements and then modified as required for specific investigation activities.

The DQOs summary has been developed primarily using USEPA (2006), although some information has been included from US EPA (2000) to clarify the requirements. The Australian Standard AS 4482.1-2005 also provides useful information. Although described in some detail in EPA (2017) and the ASC NEPM (2013), the use of these references is not recommended as standalone documents for conducting a DQOs process. Rather USEPA (2006) should be

referred to for statistical details and examples of use, as any attempt to conduct a DQOs planning process without use of the primary references, particularly USEPA (2006), will result in an incomplete planning process.

The DQOs process is summarised in Table 3.1.

Table 3.1: Summary of DQOs process¹

Step	Description of actions
Step 1	State the problem – summarising the contamination problem that will require new environmental data and identifying the resources available to resolve the problem. A preliminary CSM is developed as part of this step.
Step 2	Identify the decision/goal of the study – identifying the decisions that need to be made about the contamination problem and the new environmental data required to make them.
Step 3	Identify the information inputs – identifying the information needed to support any decision and whether new environmental data will be needed. Decisions made during this step are of a draft or preliminary nature, and are reviewed in Step 7 to develop the SAQP.
Step 4	Define the boundaries of the study – specifying the spatial and temporal aspects of the environmental media that the data must represent to support decision(s).
Step 5	Develop the analytic approach – defining the (statistical) parameters ² of interest, specifying the action level, and integrating information from Steps 1 – 4 into a single statement that gives a logical basis for choosing between alternative actions.
Step 6	Specify performance or acceptance criteria – specifying the decision-maker's acceptable limits on decision errors (e.g. alpha and beta for statistical analysis), which are used to establish performance goals for limiting uncertainties in the data.
Step 7	Develop the plan for obtaining data – identifying the most resource-effective sampling and analysis design for generating the data that is required to satisfy the DQOs.

Table notes:

1. From ASC NEPM (2013, B1); and
2. The NEPM describes this as the “analytical approach”; reference to USEPA (2006) shows this as the “analytic approach”, described as the “appropriate population parameters for making decisions or estimates”, with examples of “the true mean, median, or percentile”.

As part of the SAQP, DQOs have been developed, with the DQO summary output for soil provided in Appendix B. This has informed the design of the field program, as outlined in Section 3.3.

The DQOs for groundwater will be developed after the soil investigation, which will be used as input to refine the sampling design and DQOs.

3.3 Investigation design

Given the very specific use of dip sites, and relatively well-known extent of contamination from that use, the investigation design is based on the process outlined in the ASC NEPM, as well as the guidance related specifically to dip sites:

- NSW Agricultural/CMPS&F (1996) *Guidelines for the Assessment and Clean Up of Cattle Tick Dip Sites for Residential Purposes*, NSW Agricultural and CMPS&F Environmental, Canberra; and

- Kimber et.al. (2002) *Is there evidence of arsenic movement at cattle dip sites?* CSIRO, Australian Journal of Soil Research, Volume 40. Wollongbar NSW.

3.3.1 Soil sampling strategy

Based on the site history and use of the site, the site has been stratified, denoted the 'Northern Portion' which encompasses the dip bath, and the 'Southern Portion', where no contaminating activities have been identified to date. The stratified areas are shown in Figure 2, and grid and targeted sampling locations are shown in Figure 3, attached.

The soil sampling program will consist of a combination of systematic and judgemental sampling. The objective of the grid-based sampling plan is to define the type, extent and level of contamination of the site, while the objective of the targeted sampling plan is to ensure that the areas of highest potential impact are assessed and documented.

Northern portion

A systematic grid sampling pattern will be used to assess the area covering the former cattle tick dip, and immediate surrounds, which is estimated to be approximately 1,450 m². A grid of approximately 7 m is selected based on previous published documentation (CMPF&S 1996 and Kimber et al. 2002) regarding the investigation of dip sites, which equates to approximately 30 test pit locations.

Further, based on a site area of 1,450 m², a minimum of eight sample locations are required for site characterisation as per NSW EPA (2022), which would theoretically require a grid of 13.5 m, and allow a hotspot of 15.9 m in diameter to be detected at a 95% confidence limit. A hotspot is defined as a localised area where the level of contamination within that area is noticeably greater than that in surrounding areas, noting that this definition defines hotspots only as relatively high in contamination. As such, the chosen grid of 7 m exceeds the minimum sampling density for site characterisation.

While the primary aim of the sampling program is to characterise the site, the grid applied complies with the requirements for site validation, where NSW Ag/CMP&G (1996) describe that "validation sampling should be conducted on a 7 m grid". This is further supported by NSW EPA (2022), where it is described that "there is no practical distinction between a final characterisation sample and a final, post-remediation, validation sample, when they are both taken as the final sample which concludes that a sample location is below any specific criterion or action level at the required confidence level".

As such, the soil sampling program will be assumed to be sufficient to map the contamination for the purposes of leaving the material in-situ with ongoing management, however, will in part be dependent on findings in the field.

Targeted sampling locations will be selected in areas affected by activities associated with the cattle dip yard including drainage pen, chemical storage shed and 'splash' areas immediately adjacent to the bath. It is highlighted that features such as the arsenic pit and scooping mound have reportedly been excavated and removed as part of historic remedial works, and therefore will not be targeted directly, however will still be examined as part of the grid and targeted sampling plan. Historic investigations (Geolink, 1993) suggest that while the shallow impacted soils were removed, impact remains at depth (0.7 – 0.9 m) in areas immediately adjacent to the bath, which has not been delineated, and therefore will be targeted.

Testpits will be excavated to a maximum depth of 3 m, considered sufficient to identify the vertical extent of contamination, and providing sufficient understanding of historical surface and subsurface conditions, taking into account the presence of fill across the site. In areas immediately adjacent to the dip bath, where imported fill overlies natural soils, testpits will be extended to 3 m below the top of natural soils. This is to ensure the vertical profile can be

assessed, taking into account the depth of the dip bath is approximately 2.36 m (from former surface).

In general, testpits will be extend to depth in the areas immediately adjacent to the dip bath, and shallower as the sample locations extend away from the bath, ensuring that the top of the natural soils are targeted.

It is highlighted that the council sewer assets will limit investigation locations in those areas, noting the decommissioned sewer line remains in-situ but could not be located by the service locator. As such, investigations in this area may be either moved to accommodate services, excavated to shallow depths (< 0.5 m), investigated via hand tools, or a combination of these.

Southern Portion

No potentially contaminating activities have been identified in the southern portion of the site, and as such, investigation of soils in this area will be on a broad, grid-based sampling pattern. This area is estimated to be approximately 2,203 m² and based on the site history, six testpits are proposed to be investigated, equating to an approximate 19 m grid. The number of sampling points is marginally less than the minimum number of sampling points required for site characterisation, however, is considered sufficient given the site's history.

It is highlighted that based on the geometry of this area, a sampling grid of six cells may not provide sufficient coverage, and additional locations may be investigated.

Summary of adopted strategy

The number of samples derived from the systematic sampling is assumed to be reasonably adequate to indicate the true value of other critical parameters of a contaminant distribution, such as the average concentrations and variability. However, this assumes that the soils/fills are *reasonable homogenous*, and that the sampling will provide essentially representative data. This will be assessed as part of the data evaluation, noting that if the data is not considered sufficiently representative or precise to support the required decision, additional sampling and analysis may be required.

Based on the results of the soil investigation, it is proposed that where concentrations show that an area is suitable for the proposed land use, this area can be discretised from the dip site and will not be subject to any management requirements. This will aid development, especially during construction phases.

The combined sampling strategy is shown in Table 3.1.

Table 3.1: Soil sampling strategy

Area	Site area (m ²)	Sample locations	Grid (m)	Diameter of hotspot (m)
Northern Portion - grid	1,450	30	7.0	8.2
Northern Portion - targeted		6	-	-
Southern Portion - grid	2,203	6	19.2	22.6
<i>Whole site</i>		42	-	

Analytical strategy

Samples will selectively be analysed for PCOCs as described in Section 2.3, noting that analysis will be driven by findings in the field. For example, where anthropogenic inclusions are observed, such as building or demolition waste, analysis for a broad range of contaminants will be triggered, including asbestos.

It is highlighted that not all samples collected will be analysed, but rather sample for analysis will be selectively chosen to ensure sufficient site coverage of the site, sufficient coverage of the various populations identified, and to allow delineation of elevated concentrations.

Once initial sample results are received, leachate analysis will be carried out using the Australian Standard Leaching Procedure (ASLP). Samples will be selected retrospectively for analysed to ensure appropriate samples are chosen and analysed.

3.3.2 Groundwater sampling strategy

It is highlighted that the groundwater investigation will be undertaken following the review of the soil investigation results, including analytical results and subsurface conditions encountered. As per the requirements of the ASC NEPM (2013) and the iterative approach of ASC investigations, information obtained from the soil investigation will be used to update the CSM, fill in any data gaps and refine the groundwater sampling plan. As such, the strategy presented herein may be subject to change, if determined to be required at all.

The proposed groundwater investigation is considered to be preliminary in nature, and the sampling strategy is designed to reflect this, noting that DEC (2007) describes that "the preliminary assessment should aim to identify groundwater contamination and evaluate whether it may pose a threat to human and ecological health".

The groundwater investigation will consist of the installation of three to four groundwater wells to a maximum depth of 5 m. The location of the wells will be in targeted locations, including:

- targeting areas immediately down-gradient of the highest contamination identified during the soil investigation, as well as in down-gradient locations to assess for off-site migration;
- positioned in a triangular shape to allow for determination of groundwater flow direction (noting surveying of the wells has not been allowed for in the budget estimate);
- positioned up-gradient of the dip bath to assess natural background groundwater quality migrating onto the site.

Where the strategy for the site includes leaving impacted material in-situ and managing the site with an environmental management plan, the EPA auditor guidelines describe the following:

Implementation of an EMP must not be included by a site auditor as a condition on a site audit statement nor accepted by the auditor as a means of managing contamination of a site unless the following conditions have been met.

d) There is no off-site migration of contamination from the site which is the subject of the site audit, or where there is off-site migration or its potential, that contamination within the site is managed or monitored so it does not present an unacceptable risk to either the on-site or off-site environments.

As such, the groundwater investigation may be conducted, in part, to meet the above requirement.

4.0 Sampling methodology

The investigation will be undertaken in accordance with Easterly Point's standard operating procedures, which are consistent with EPA made and approved guidelines and industry standards, and include:

- EPFW-PR01, Soil sampling – general;
- EP SHE-PR02, Personal protective equipment;
- EP SHE-PR03, Establishment of contaminant control zones;
- EP SHE-PR04, Decontamination of personnel;
- EP SHE-PR05, Decontamination of plant and equipment;
- EP SHE-PR06, Decontamination of sampling equipment; and
- EP SHE-PR09, Vehicle and heavy machinery operations.

The above procedures are included in Appendix C. A general overview of the sampling methodology for soils and groundwater is provided below.

4.1 Soils

Samples will be collected from the testpits, from either the excavator bucket or directly from the wall of the test pit by a gloved hand. To avoid cross contamination, care will be taken to ensure samples are not collected directly from material attached to the excavator bucket. A new pair of disposable gloves will be used to collect each sample.

All soil samples will be immediately collected into laboratory supplied glass jars and filled to the top to minimise headspace. Samples will then be placed directly into chilled eskies for transportation to the laboratory under chain of custody (COC) documentation. The primary laboratory is Eurofins Brisbane. The secondary laboratory will be ALS, Brisbane. Both Eurofins and ALS are NATA accredited for the tests performed.

4.2 Groundwater

The installation of groundwater wells will be based on the following:

- Advancement of three - four soil bores and conversion to groundwater monitoring wells, if groundwater is encountered within 5 m depth. If no water is encountered up to 5 m, an assessment will be made on the day regarding the final depth of installation, with consultation with Landcom and the site auditor.
- Groundwater monitoring wells will be installed in accordance with NEPM and other relevant guidance⁶, using 50 mm Class 18 blank pipe with threaded connections, 50 mm Class 18 slotted pipe with threaded connections, bottom caps and top well plugs. Graded gravel will be used for the filter pack around the slotted pipe and a bentonite plug, placed to seal the void above the slotted pipe in accordance with industry standards. Concrete will be used to seal the annulus between the surface and the bentonite plug, and the wells will be finished with a monument cover.
- The monitoring wells will be developed at the time of installation, after placement of the filter pack but prior to the installation of bentonite and concrete, using a combination of air and surging.

The wells will be sampled one week after installation using a low flow peristaltic sampler, and in accordance with the following methodology:

⁶ Including National Uniform Drillers Licensing Committee (2011) *Minimum Construction Requirements for Water Bores in Australia*.

- Measurement of the standing groundwater level using an interface probe prior to sampling.
- Continued groundwater level measurement during the sampling process to ensure that the standing water level remains static i.e. the pump is drawing fresh ingress rather than depleting the water within the well void.
- Collection of groundwater samples for visual and analytical assessment.
- Measurement of pH, electrical conductivity (EC) and temperature, redox and dissolved oxygen using a calibrated water quality meter, with sampling continuing until measurements for three consecutive samples are within 10%.
- Collection of samples for submission to the laboratory in appropriately preserved laboratory supplied bottles. Samples for dissolved metal analyses will be field filtered using disposable 0.45 μm filters.

5.0 Data verification and validation

As part of the environmental data life-cycle (EDLC) process, and as per EPA (2022) data verification and validation is used to determine if the data has been collected in accordance with the SAQP with respect to compliance, correctness, consistency, and completeness, and evaluates the technical usability of the data with respect to the planned objectives or intention of the project, including in regard to the data quality indicators (DQIs) and measurement quality objectives (MQOs). Where, NSW EPA (2022) describes the following regarding DQIs and MQOs:

DQIs are the quantitative and qualitative measures, or indicators, of the principal data quality attributes. The principal data quality attributes are precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS), with precision, accuracy/bias and sensitivity being defined and measured in quantitative terms, and representativeness, comparability and completeness having more qualitative definitions. MQOs are the acceptance criteria or goals for the data quality attributes, and include such things as relative percentage differences (RPDs) and percentage recoveries of sample spikes.

In the ASC, the PARCCS parameters are evaluated in terms of quality assurance (QA) and quality control (QC). QA involves all of the planned and systematic actions, procedures, checks and decisions undertaken to ensure the representativeness and integrity of samples collected for analysis, and accuracy and reliability of the analytical results (NEPM 2013), while QC is the component of QA which monitors and measures the effectiveness of other procedures by the comparison of these measures to previously decided objectives.

There are various components of QA/QC which address the operation of the laboratories and the routine procedures conducted to achieve a minimum level of quality. Examples of QA components include sample control, data transfer, instrument calibration, staff training, etc. Examples of QC components include the measurement of samples to assess the quality of reagents and standards, cleanliness of apparatus, accuracy and precision of methods and instruments, etc. Generally, the management of laboratory QA issues is addressed through accreditation by the National Association of Testing Authorities (NATA), or similar, and monitoring of these issues is not addressed on a project by project basis.

Project specific field QA and field and laboratory QC is conducted to ensure the quality of data can be assessed. Field QA includes formalised procedures, log sheets and field notes, the documentation of the use and calibration of field equipment, and the collection of QC samples.

Based on EPA made or approved guidelines, the QC samples outlined in Table 5.1 are required for all contaminated site investigations, unless otherwise specified as part of the data quality objectives (DQOs) process review. All data to be used for assessments should conform as a minimum to the requirements specified, regardless of minimum sample size.

These requirements will be adopted for this investigation, where relevant. For example, trip spikes and blanks are not proposed to be collected as the PCOCs are not considered to be volatile.

Table 5.1: QC sample requirements

Quality control sample	Frequency	Results ¹
<i>Precision</i>		
Field duplicates	≥ 5%	≤ 30 - 50% ²
Inter-laboratory duplicates	≥ 5%	≤ 30 - 50% ²
Laboratory duplicates	≥ 10%	Lab specified ³
<i>Accuracy</i>		
Surrogate spikes.	Organics by GC	70 – 130% ⁴
Matrix spikes (MSs)	≥ 1/media type	70 - 130% ⁵
Laboratory control samples (LCSs)	≥ 1/lab batch	70 - 130% ⁶
Certified reference material (CRM)	LCS for metals	Lab specified ⁷
<i>Representativeness</i>		
Rinsate samples (reusable equipment)	≥ 1/field batch	< LOR
Trip blanks	≥ 1/field batch (volatiles)	< LOR
Trip spikes	≥ 1/field batch (volatiles)	70 - 130%, ≤ 30 - 50% ⁸
Laboratory blanks	≥ 1/lab batch	< LOR
Field blanks	≥ 1/field batch ⁹	< LOR

Notes:

- Where results are laboratory specified, the laboratory analytical reports should be consulted for specific information.
- Relative percentage differences (RPDs) for field duplicates from AS 4482.1 (1997).
- RPDs for laboratory duplicates specified by the laboratory. Based on the magnitude of the results compared to the level of reporting (LOR), e.g. ALS: result < 10 x LOR = no limit, 10 – 20 x LOR = 0-50%, > 20 x LOR = 0-20%. Eurofins: < 5 x LOR = 0-100%, 5 – 10 x LOR = 0-75%, > 10 x LOR = 0-50% or 0-30% for metals.
- Surrogate recoveries specified by laboratory based on global acceptance criteria or dynamic recovery limits based on statistical evaluation of actual laboratory data.
- MS recoveries specified by laboratory based on global acceptance criteria.
- LCS recoveries specified by laboratory based on global acceptance criteria or dynamic recovery limits based on statistical evaluation of actual laboratory data.
- CRM recoveries specified by laboratory based on global acceptance criteria.
- Trip spike results are specified as either recoveries or RPDs.

6.0 Data analysis and interpretation

As per NSW EPA (2022), following receipt of laboratory analytical results and following appropriate data verification and validation, analysis and interpretation of the data will be conducted. This step provides a scientific and statistical assessment to determine whether the data are of the right type, quality and quantity to achieve the project objectives.

As documented in the DQOs, various populations are expected and will be assessed separately, including appropriate grouping for statistical assessment. The statistical parameters adopted to characterise the population/s of interest are also documented in the DQOs.

The maximum probable error (MPE) method will be used to determine the number of analytical samples required to estimate the population mean, which is a method provided in the EPA (2022) for determining appropriate sample size. Using this method, the number of samples required is controlled by the:

- confidence level that is selected;
- inherent variability of the sample data; and
- desired precision for the sample data.

This method uses the sample margin of error, the sample standard deviation, and the t critical value at the specified confidence level (usually 95%). The collected data is grouped by appropriate type, such as fill and natural or surface and depth, and the relevant statistics are determined for each of the grouped data. The number of samples required at the desired level of precision (e.g. 35% - 50%) for each group is then determined, based on the calculated sample standard deviation. Where data is determined to be insufficiently precise, additional samples may be analysed, or the data may be used with a statement of the achieved precision, such that the level of certainty attached to the data can be documented to aid decision making.

The interpretation of data will also include assessment and interrogation of the soil analytical results against soil borelogs and physical findings in the field. The variability of the data will also be assessed as well as evaluation of results against expected contaminant distribution based on relatively well-known contamination distribution patterns at dip sites. The evaluation will include graphical outputs to display the data, including box and whiskers charts, histograms, and other, where required.

7.0 Glossary and references

7.1 Glossary

BTEXN	Benzene, toluene, ethylbenzene, xylenes and naphthalene
COC	Chain of custody
DDT	Dichlorodiphenyltrichloroethane
EIL	Environmental Investigation Level
ENM	Excavated natural material
HSL	Health based screening level
LOR	Laboratory of Reporting
NATA	National Association of Testing Authorities
NEPM/C	National Environmental Protection Measure/Council
OCPs	Organochlorine pesticides
PFAS	Per and poly-fluoralkyl substances
QA/QC	Quality assurance/quality control
RPD	Relative percentage difference
SAQP	Sampling, analysis and quality plan
WHS	Work health and safety

7.2 References

Australian and New Zealand Governments (ANZG) (2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.

Department of Environment and Conservation (2007) *Guidelines for the Assessment and Management of Groundwater Contamination*. DEC, Sydney.

Environmental Analysis Laboratory (EAL) (April 2006) *Preliminary Contaminated Land Assessment, 44 Bristol Circuit, Goonellabah, NSW*, (Ref. E5235, E5357).

Easterly Point (March 2022a) *Preliminary Site Investigation, 44 Bristol Circuit, Goonellabah, NSW 2481*, (Ref. 22014.1).

Easterly Point (March 2022b) *Strategic review, 44 Bristol Circuit, Goonellabah, NSW 2481*, (Ref. 22014.2).

EPA (1995) *Contaminated Sites: Sampling Design Guidelines*, (Ref. 95/59), NSW EPA, Sydney.

EPA (2005) *Guidelines for assessing former orchards and market gardens*.

EPA (2017) *Contaminated Land Management - Guidelines for the NSW Site Auditor Scheme* (3rd edition), NSW EPA, Sydney.

EPA (2020) *Consultants reporting on contaminated land: contaminated land guidelines*.

EPA (2022a) *Contaminated Land Guidelines - Sampling design part 1 – application*.

EPA (2022b) *Contaminated Land Guidelines - Sampling design part 2 – interpretation*.

GeoLink (1993) *Re: Sellicks Dip, Goonellabah*, (Ref. 156-92/282).

Heads of EPA (January 2018) *PFAS National Environmental Management Plan*, HEPA.

Kimber et.al. (2002) *Is there evidence of arsenic movement at cattle dip sites?* CSIRO, Australian Journal of Soil Research, Volume 40. Wollongbar NSW.

National Environment Protection Council (NEPC) (2013) *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), Schedule A and Schedules B(1) – B(9)*, National Environment Protection Council, Canberra.

National Uniform Drillers Licensing Committee (2011) *Minimum Construction Requirements for Water Bores in Australia*.

NSW Agricultural/CMPS&F (1996) *Guidelines for the Assessment and Clean Up of Cattle Tick Dip Sites for Residential Purposes*, NSW Agricultural and CMPS&F Environmental, Canberra.

Standards Australia (1997) *Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds (AS 4482.1-1997)*.

Standards Australia (1999) *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile substances (AS 4482.2-1999)*.

USEPA (2006, G-4) *Guidance on Systematic Planning Using the Data Quality Objectives Process*, EPA QA/G-4, (Ref. EPA/240/B-06/001).

USEPA (2006, G-9R) *Data Quality Assessment: A Reviewer's Guide*, EPA QA/G-9R, (Ref. EPA/240/B-06/002).

USEPA (2006, G-9S) *Data Quality Assessment: Statistical Methods for Practitioners*, EPA QA/G-9S, (Ref. EPA/240/B-06/003).

Figures

Figure 1
Site location



44 BRISTOL CIRCUIT | GOONELLABAH | NSW
DETAILED SITE INVESTIGATION



DISCLAIMER
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Source: LPI (2022), Aerometrex (2022), Easterly Point Environmental (2022), Camium Group (2022).

031258_EPE_DSI_44BC_(G)_F1_Site_location_221025_v01

Figure 2
Site layout and stratification

44 BRISTOL CIRCUIT | GOONELLABAH | NSW
DETAILED SITE INVESTIGATION



Figure 3
Proposed sample locations

44 BRISTOL CIRCUIT | GOONELLABAH | NSW
DETAILED SITE INVESTIGATION



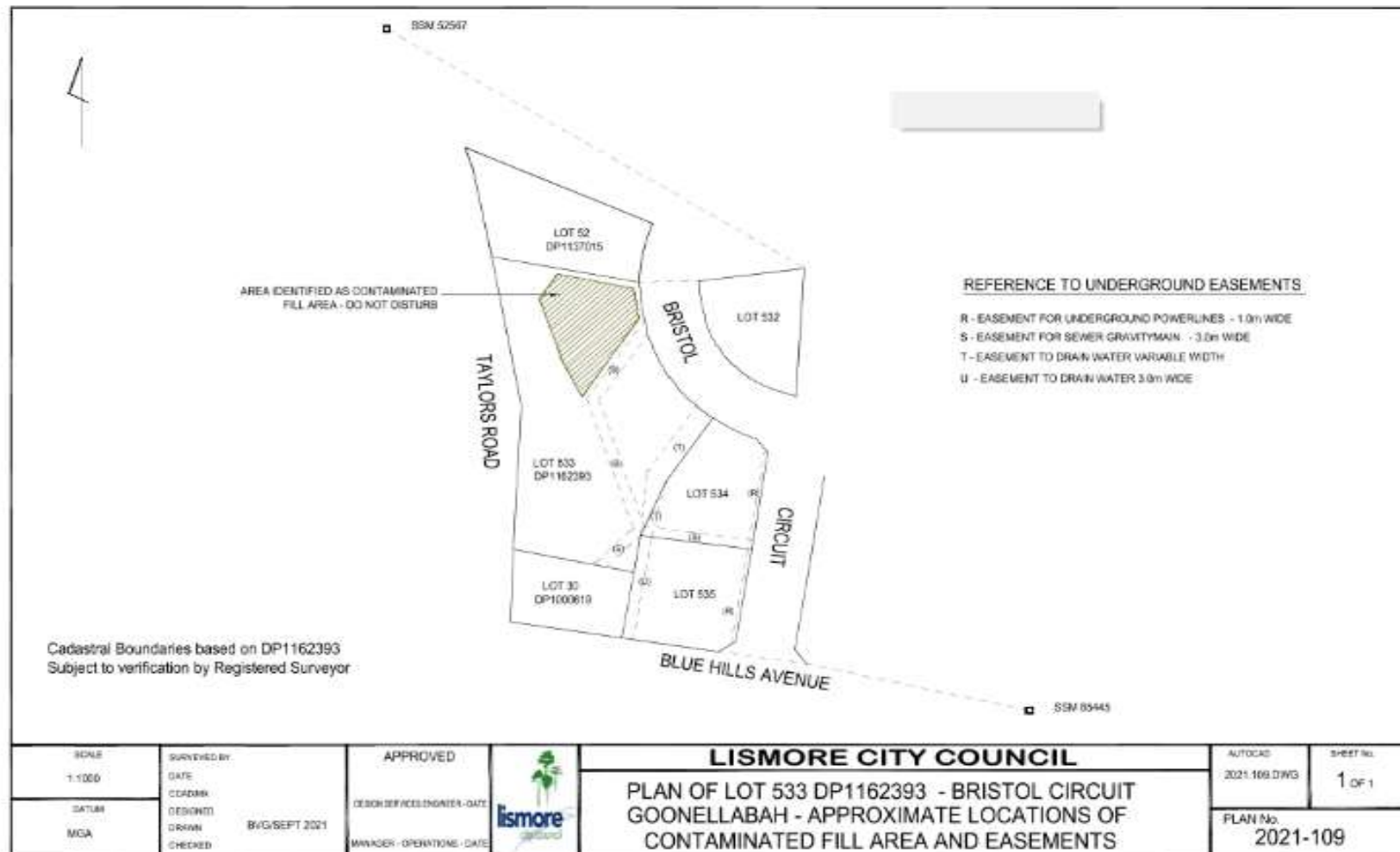


Figure four: Recent survey map of site

Appendix A

Before You Dig Australia plans

Caller Details

Contact:	hailey murphy	Caller Id:	3252243	Phone:	(02) 6685 6681
Company:	Easterly Point Environmental				
Address:	Unit 1 64 Kingsley Street Byron Bay NSW 2481	Email:	hailey@easterlypoint.com		

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.



User Reference:	22030
Working on Behalf of:	Utility Lismore City Council
Enquiry Date:	Start Date:
20/09/2022	05/10/2022
	End Date:
	31/10/2022

Address:
44 Bristol Circuit
Goonellabah NSW 2480

Job Purpose:

Excavation

Location of Workplace:

Both

Onsite Activities:

Mechanical Excavation

Location in Road:

Nature Strip

- Check that the location of the dig site is correct. If not you must submit a new enquiry.
- Should the scope of works change, or plan validity dates expire, you must submit a new enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:

Not supplied

Your Responsibilities and Duty of Care

- The lodgement of an enquiry does not authorise the project to commence. You must obtain all necessary information from any and all likely impacted asset owners prior to excavation.
- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at www.1100.com.au
- For more information on safe excavation practices, visit www.1100.com.au

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.

** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.

Asset owners highlighted with a hash # require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
216198253	Essential Energy	13 23 91	NOTIFIED
216198252	Lismore City Council	(02) 6625 0500	NOTIFIED
216198251	NBN Co NswAct	1800 687 626	NOTIFIED
216198250	Telstra NSW North	1800 653 935	NOTIFIED

END OF UTILITIES LIST

Date: Tuesday, 20 September 2022

To: hailey murphy

Company: Easterly Point Environmental

Address: Unit 1,64 Kingsley Street Byron Bay NSW 2481

ELECTRICAL CABLE LOCATION

Dear hailey murphy

With reference to your enquiry:

- **Location:** 44 Bristol Circuit Goonellabah NSW 2480
- **Sequence No:** 216198253
- **Dial Before You Dig Job No:** 32764058
- **Dial Before You Dig Customer No:** 3252243

A large red rectangular sign with the word "Caution!" written in white, bold, sans-serif font in the center.

**PLAN DOES NOT IDENTIFY ALL UNDERGROUND ASSETS IN
THIS AREA. DO NOT COMMENCE EXCAVATION BEFORE
CALLING TECHNICAL ENQUIRIES ON 13 23 91.**



CABLE/PIPE LOCATION

Assets were found in the search area

COMPANY NAME:	Easterly Point Environmental
ATTENTION:	hailey murphy
SEARCH LOCATION:	44 Bristol Circuit Goonellabah NSW 2480
SEQUENCE NO:	216198253
DATE:	Tuesday, 20 September 2022

Provision of Plans:

Please find enclosed plans depicting approximate locations of **Essential Energy** assets in the search location. **The excavator must not assume that there may not be assets owned by other network operators in the search location.**

Underground assets searched for	Underground assets found
Essential Energy Electrical	☒
Essential Energy Water & Sewerage	☐

Plans are updated from time to time to record changes to underground assets and may be updated by Essential Energy without notice. In the event that excavation does not commence within 28 days of receipt of a plan, a new plan should be obtained.

The excavator must retain the plans on site for the duration of the works.

The excavator shall report all damage made to Essential Energy assets immediately. Note that damage includes gouges, dents, holes and gas escapes.

**IN CASE OF EMERGENCY OR TO REPORT DAMAGE:
PHONE 13 20 80**

DISCLAIMER

Please be aware that plans may **not** reflect alterations to surface levels or the position of roads, buildings, fences etc. **Cable and pipe locations are approximate** and the plans are **not** suitable for scaling purposes. *Essential Energy does not retain plans for privately-owned underground electrical or water & sewerage assets located on private property. Privately-owned underground electrical assets located on private property are the responsibility of the owner.*

The plans have been prepared for Essential Energy's sole use and benefit. **Essential Energy cannot and does not warrant the accuracy or completeness of the plans.** Essential Energy supplies them at no cost with the object of reducing the serious risk of unintentional damage being caused to its cables and pipes. **Essential Energy does not accept any responsibility for any omissions, inaccuracies or errors in the plans, or any reliance place on the material. Any reliance placed on any plan provided in response to your request is at your own risk.**



Essential Energy retains all intellectual and industrial property rights which exists or may exist in or with respect to the plan(s). The material provided is not to be copied or distributed beyond you.

You release Essential Energy from and against all claims, demands, actions and proceedings arising out of or in any way related to the use of the provided material.

Location of Assets on Site:

The plans indicate only that cables and pipes may exist in the general vicinity – they do not pinpoint the exact location of the cables and pipes.

If it is found that the location of cables or pipes on the plans can be improved, please notify Essential Energy on 13 23 91 (or fax 1800 354 636).

All individuals have a duty of care they must observe when working in the vicinity of underground cables and pipes. It is the **excavator's responsibility to visually expose the underground cables and pipes manually, ie. by using hand-held tools and non-destructive pot-holing techniques prior to any mechanical excavation**. The excavator will be held responsible for all damage caused to the Essential Energy network or cables and pipes, and for the costs associated with the repair of any such damage. The excavator will also be held responsible for all damage caused to any persons.

When digging in the vicinity of underground assets, persons should observe the requirements of the applicable Codes of Practice published by the NSW Work Cover Authority or Safe Work Australia, and any amendments from time to time by the Authorities, including although not limited to:

- Excavation Work
- Managing Electrical Risks in the workplace
- How to manage and control asbestos in the workplace

(Please refer to <https://www.workcover.nsw.gov.au/law-and-policy/legislation-and-codes/codes-of-practice>).

When digging in the vicinity of **electrical assets** persons should observe the requirements of the **Electricity Supply Act 1995**.

Persons excavating near live underground electrical reticulation and/or earthing cables **must exercise extreme caution at all times and adhere to the requirements of Essential Energy's Electrical Safety Rules**. (These are available on our website: <http://www.essentialenergy.com.au/content/safety-community> and include

- **Work near Essential Energy's Underground Assets:**
<http://www.essentialenergy.com.au/asset/cms/pdf/contestableWorks/CEOP8041.pdf> , and
- **Asbestos Fact Sheet:**
<http://www.essentialenergy.com.au/asset/cms/pdf/safety/AsbestosFactSheet.pdf>

In some situations these procedures call for work to be performed by authorised staff.

Should there be any doubt as to the exact location of any underground electrical assets, and the potential for conflict with live underground cables caused by excavation at your work site, you should contact

13 23 91 to arrange for an on-site visit by an Essential Energy representative. No construction or mechanical excavation work is to commence prior to this on-site visit and approval being obtained.

When digging in the vicinity of **water or sewer assets** persons should observe the requirements of the **Water Management Act 2000**.

Should there be any doubt as to the exact location of any underground water and sewer assets, and the potential for conflict with underground water and sewer pipes caused by excavation at your work site, you should contact **13 23 91** to arrange for an on-site visit. No construction or excavation work is to commence prior to this on-site visit and approval being obtained.

Prior Notification:

Please note that for excavation depths greater than 250mm near power poles and stays you should allow for **advance notice** in your construction program to permit Essential Energy time to allocate the necessary field resources to carry out the inspection at the site a **minimum of fourteen (14) working days prior to work commencing**. This service may incur a fee and this can be negotiated with the local Area Coordinator at the time of making the appointment. Failure to give reasonable notice to the local Area Coordinator may result in disruption to Essential Energy's planned works program in the district and could incur an extra charge over and above the normal rate for this service.

For further information please call 13 23 91.

When working near underground electrical infrastructure

NSW legislation requires people who are planning to do excavation work to obtain copies of underground electricity cable plans through Dial Before you Dig (Phone 1100) and to make sure that the plans are no more than 30 days old when excavation commences.

The aim of the legislation is to ensure that when workers dig or drive items near underground electricity cables, ducting, and pipes, they will establish the exact location of the cables and thus avoid coming into contact with them or damaging them. These items carry vital services such as electricity, water, gas and communications, and establishing their location before digging will help ensure worker safety and prevent damage to the network which may cause disruption of essential services to local communities.

Excavate safely and protect underground assets

Dial Before You Dig (DBYD) is the first step to excavating safely. You should use DBYD when you will be undertaking (but not restricted to) the following:

- > Any excavation using machinery digging deeper than 150mm. This includes but is not restricted to back hoes, excavators, borers & kanger hammers (ploughing or ripping activities)
- > Any excavation using hand tools deeper than 300mm which includes shovels, spades and crow bars
- > Any vertical or horizontal boring.

Note: The above examples are general and may not cover all situations in the regulations where a DBYD would be required e.g. driving metal posts in the ground.

Regardless of the size of your project you should lodge an enquiry with DBYD before commencing work. This applies to small tasks like backyard landscaping, driving items into the ground as well as heavy work such as directional boring or directional drilling. DBYD strive to respond to enquiries within two business days.

Dial Before You Dig

- > Phone 1100
- > Web www.1100.com.au
- > Download the DBYD iPhone app



The Essential First Step

When a DBYD has been obtained, contact Essential Energy on **13 23 91** to identify any underground pipes and/or cables in the vicinity of excavation works to be carried out. Allow at least **two weeks or 10 working days advance notice** in your construction program to permit Essential Energy time to allocate the necessary field resources to carry out an onsite inspection if required. This service may incur a fee & should be stated at the time of making the appointment.

In the event the excavation does not commence within 28 days of receipt of a plan, a new plan should be obtained. The excavator **must** retain the plans on site for the duration of the excavation works.

Your responsibility

All individuals have a duty of care they must observe when working in the vicinity of underground cables, ducts and pipes. Be aware of the requirement set out in the latest WorkCover Codes of Practice 'Work near Underground Assets Guideline' and 'Work near Overhead Powerlines' which can be viewed at www.workcover.nsw.gov.au or you can purchase a copy of the Code of Practice by contacting WorkCover on 1300 799 003.

You should also be familiar with Essential Energy's operational procedures 'Work near Essential Energy's underground assets' CEOP8041 and 'Construction work near electricity network' CEOP1116, which can be found at essentialenergy.com.au/construction

- > **Employers:** If you're an employer or employing someone to excavate, complete construction or drive items into the ground even at home you have a legal obligation to ensure their safety
- > **Excavators:** It is the excavator's responsibility to visually expose the underground pipes and cables manually before any construction begins.

Note – when excavating involving high pressure water or compressed air to break up the ground, which is then removed by a powerful vacuum unit to expose critical utilities after they have been electronically located to confirm identity, size, number of services and depth, checks should be carried out to ensure the pressure is acceptable for all cables and other assets which may be found prior to commencing pot holing by this method. Warning: CONSAC cables shouldn't be potholed by this method and must be de-energised before any work carried out near them. It's recommended to only use air/vacuum equipment to pot hole that operates at or less than 13,790Kpa (2000psi).

Be safe, because they need you



No Go Zone for powered excavation

Extract from WorkCover "Work near Underground Assets"

TABLE 1: Types of assets and limits of underground approach

Assets	Clearances	No Go Zone for Powered Excavation	Controls	Typical Depths
Low voltage electricity cables – voltages less than or equal to 1000V (1kV)	Close proximity with the use of hand tools	300 mm	Must contact asset owner for specific conditions	450 – 750 mm
Electricity conductors from 11,000V (11kV) up to 33,000V (33 kV)	Close proximity with the use of hand tools	600 mm	Must contact asset owner for specific conditions	900 mm
Underground sub-transmission cables 33,000V up to 132,000V (132 kV)	Must contact asset owner	Must contact asset owner	Must be carried out under the supervision of the asset owner	900 mm
High Voltage Electricity cables – voltages from 1000V (1kV) up to (33 kV)	Close proximity with the use of hand tools	Must contact asset owner	Must contact asset owner for specific conditions	600 – 1000 mm
Extra High Voltage Electricity Transmission cables – voltages above (132 kV) and 330,000V (330 kV)	Must contact asset owner	Must contact asset owner	Work must be carried out under the supervision of the asset owner	800 – 1200 mm

How to expose cables or pipes

Location plans provide an indication of the presence of underground assets only; they do not pinpoint the exact location. This is why manual exposure is required, which can be done by potholing. Underground assets must first be exposed by pot-holing with non-conductive tools to identify their location. Excavation with hand tools shall be carried out carefully up to, but not closer than, the minimum distances specified in Table 1. Several potholes may need to be dug manually to determine and satisfy yourself of the exact locations of cables or pipes to avoid any mishaps. Manual pot-holing needs to be undertaken with extreme care, common sense and while employing techniques least likely to damage cables. For example, orientate shovel blades and trowels parallel to the cable rather than digging across the cable. Look out for sand, plastic strips or specially marked bricks when excavating, which signal the presence of underground cables.

Only once all underground assets have been located, marked and protected against damage can the excavation proceed with caution.

No Go Zone for powered excavation

Directional boring is powered excavation and contact with the asset owner must be made before excavation takes place. For directional boring across the line of an asset a minimum clearance of **300 mm** from the asset shall be maintained. When boring across the line of an underground asset, the location of the asset/s shall be positively proven by hand digging (pot-holing) or by another approved method and a safety observer appointed.

Note: Where the risk assessment identifies a potential risk of making contact with either underground assets, safety observer/s would be required. The safety observer's

responsibility is to ensure that approach distances from underground and overhead assets are maintained.

For boring under electricity cables, the only true way of knowing where the directional drill is, is to "see" it. It is necessary to excavate a slit trench at right angles to the approaching drill and 500mm deeper than the asset being protected and beside the cables to confirm the depth of the cables and ensure the drill is not within the minimum approach distance of the cable (specified in Table 1).

For directional boring parallel to the asset and at the level of the asset, a clearance of **500 mm** shall be maintained from the edge of the nearest asset and pot holed at 10m intervals to ensure clearances are maintained with a safety observer appointed.

The four Ps of safe excavation

- Plan** – Plan your job. Use the Dial Before You Dig service before your job is due to begin to help keep your project safe. Contact Essential Energy on 13 23 91 to identify any underground pipes and/or cables in the vicinity
- Pothole** – Potholing (digging by hand) is a method to assist in establishing the exact location of all underground infrastructure. Only use air/vacuum equipment to pot hole that operates at or less than 13,790Kpa (2000psi)
- Protect - Protecting and supporting exposed infrastructure is the excavator's responsibility.** Always erect safety barriers in areas at risk to protect underground networks
- Proceed** – But ONLY when you have planned, potholed and put the protective measures in place.

Be safe, because they need you



Digging safely

You cannot be too careful when it comes to safe excavation. Avoiding underground ducting pipe and cable damage is as simple as having the right tools, the right skills and the right information.

- > Study the plans you receive from asset owners thoroughly
- > Check to see if they relate to the area you requested and make sure you understand them. If you are unclear about what the symbols mean or how to proceed, contact the relevant network owner
- > Check the work area for other forms of electrical equipment, including street lights, ground substations, phone boxes or traffic lights – all good indicators that underground cables will be present
- > Remember underground cables can also be present even if overhead powerlines have been identified
- > Never assume the depth or alignment of pipes and cables. Installed networks assets may not have been installed in a straight line
- > Always observe any instructions stated on the plans provided by the asset owner
- > Remember, plans and maps identifying the location of underground cables and depths can alter after road upgrades or developments and underground assets may be as little as a few millimetres below the surface
- > Other service lines (for example gas mains (pipes) and communication cables) can also be present. Shared trenches are frequently used on underground runs to premises
- > New electrical cables are sometimes laid using existing old conduits
- > Various methods of protecting underground cables may be utilised (for example electrical bricks, conduits, concrete or flat PVC barriers) or may be direct buried or installed by under-boring methods which may have no visual disturbance of the ground
- > Ensure overhead & electrical structures aren't undermined during excavation.

Earth cables

Earth cables are an important part of all electrical installations and have two main purposes:

- > To safeguard against the possibility of danger to life
- > To maintain the good working order of the electrical network.

They can have potentially dangerous electrical current flowing through them. Usually they have a green and yellow covering but could be a bare cable buried directly in the ground.

Even if the map provided does not show underground cables, earth cables may be present. These earth cables are usually associated with electrical equipment located

on the pole such as transformers, switching equipment, permanent earthing points or Padmount / kiosk subs.

It's recommended that if any excavation is to take place within **10m** of a power pole with a cable running down it into the ground, contact is made with Essential Energy on **13 23 91** to have the earthing system located. While an effort is made to install the earthing under the powerline and guy if installed, sometimes circumstances may require a variation to this, so don't assume where they are installed. The distance and configuration that the earthing cable is installed varies due to the soil conditions and system type (e.g. Single wire earth return (SWER)).

Additional earthing electrodes stakes may be installed to ensure the required earthing reading is obtained.

WARNING:SWER installations

- > Contacting SWER earthing can be deadly
- > Voltage is present on SWER transformer earthing systems either at 12.7 kV or 19.1kV
- > NO excavation is allowed within 10 metres of a SWER transformer pole.

Excavating around electrical poles

Anyone intending to excavate around any electrical item risks serious injury or death as a result of contact with underground cables or the earthing system.

Assets around poles

For excavation depths greater than 250mm near power poles and stays you must arrange for an Essential Energy representative to attend the worksite 2 weeks prior to work commencing. Call Essential Energy on **13 23 91**. More information is available in Essential Energy's operational procedure, 'Work near Essential Energy's underground assets: CEOP8041' which can be found at essentialenergy.com.au/construction

Unless otherwise agreed, underground assets and other obstructions around poles are to be kept a minimum distance of 300mm from the periphery of the pole, to allow inspections by the asset owner employees.

No excavation within 10 metres of a SWER transformer pole is to occur without the approval of the local electricity asset owner. It should be noted that the NSW Service and Installation Rules require a sketch of the underground service/consumers mains to be marked inside the switchboard.

The risks are higher for those earthing systems of the SWER constructions as the earthing is utilised as the return path.

Be safe, because they need you



Typically any electrical item installed on a pole will have an earth wire running down the pole into the ground, which includes:

- > Transformers in urban and rural situations
- > Isolation, protection and regulation items.

Transformers located on the ground (padmount and kiosk), besides having underground electrical cables, will have an earthing system installed around them.

Damaged earthing

If an earth cable has been damaged, maintain a clearance of eight (8) meters and contact Essential Energy on **13 23 91**. **DONT ATTEMPT** to re-join the cable - this will place you at serious risk.

Operating near underground cables and earths

- > Underground cables should never be moved or relocated unless under the express authority of the organisation or person responsible for the powerlines
- > The excavator shall report all damage made to Essential Energy assets immediately. Damage includes: gouges, dents, holes and gas escapes
- > Never undermine poles, cables, earthing cable, pad-mount and kiosk substations.



Above: Poles with become unstable if undermined

Make sure it can't go wrong

You should ensure that people at work, their equipment (tools and plant) or materials do not come within close proximity to underground powerlines unless:

- > A written risk assessment has been completed and a safe system of work implemented
- > The relevant safety precautions and worker training requirements, including WorkCover Codes of Practice and Essential Energy's requirements, have been implemented and complied with.

If working in close proximity to underground cables is unavoidable and the risk assessment has been completed, the following should be considered to control the risks and ensure work safety:

- > Have the power switched off by Essential Energy
- > Consider all conductors as live unless it is positively known they have been de-energised
- > Where appropriate, provide ground markings to identify location and warn workers of the presence of underground power and other assets.

Emergency situations

In the event that contact with an underground powerline occurs or cables are exposed or damaged, remembering the following points could help save a life:

- > If the situation is at all life threatening, immediately contact the Emergency Services on 000 (triple zero)
- > Call Essential Energy's 24-hour supply interruptions line – **13 20 80** to switch off the power if required or report damage or exposure cables / conduits
- > If any other underground assets are damaged you should contact the affected asset owners immediately
- > Treat underground cables as alive, even if they appear to be dead
- > Keep everyone at least eight metres away from the incident site, the person or any machinery making contact with underground cable
- > Don't panic or touch the person receiving the electric shock – this could place you at risk
- > Untrained, unequipped persons should not attempt to rescue a person receiving an electric shock. All too often secondary deaths occur when others go to the aid of earlier victims
- > Remain on/inside the machinery until the supply is disconnected
- > If possible, break contact between the machinery and underground cable.



For more information

Essential Energy's Public Safety team is available to facilitate Electrical Awareness sessions and discuss any questions relating to electrical safety. For more information on electrical safety please call

- > Essential Energy General Enquiries 13 23 91
- > Essential Energy Supply Interruptions 13 20 80
- > WorkCover NSW 13 10 50
- > Dial Before You Dig www.1100.com.au 1100

- > Follow us  
- > or visit essentialenergy.com.au/safety

Safety first: Before you dig or drive items into the ground

1. Contact DBYD
2. DO NOT attempt to excavate within 10m of any power pole or electrical item
3. Contact Essential Energy on 13 23 91 for assistance to locate cables and earthing
4. Locate asset: Pot-hole
5. Proceed only if you have satisfied yourself it is safe.

Be safe, because they need you



Response Cover Letter

Lismore City Council
PO Box 23A
Lismore NSW 2480
www.lismore.nsw.gov.au



Date: 20 09 2022

To:
hailey murphy
Easterly Point Environmental
Unit 1,64 Kingsley Street
Byron Bay NSW 2481

According to our records your enquiry with the following details impacts our infrastructure. Please review other documents included with this response for additional details:

Sequence No: 216198252

Job No: 32764058

Location: 44 Bristol Circuit
Goonellabah NSW 2480

If you require further information, please contact Lismore City Council on 1300 878 387 or contact@lismore.nsw.gov.au

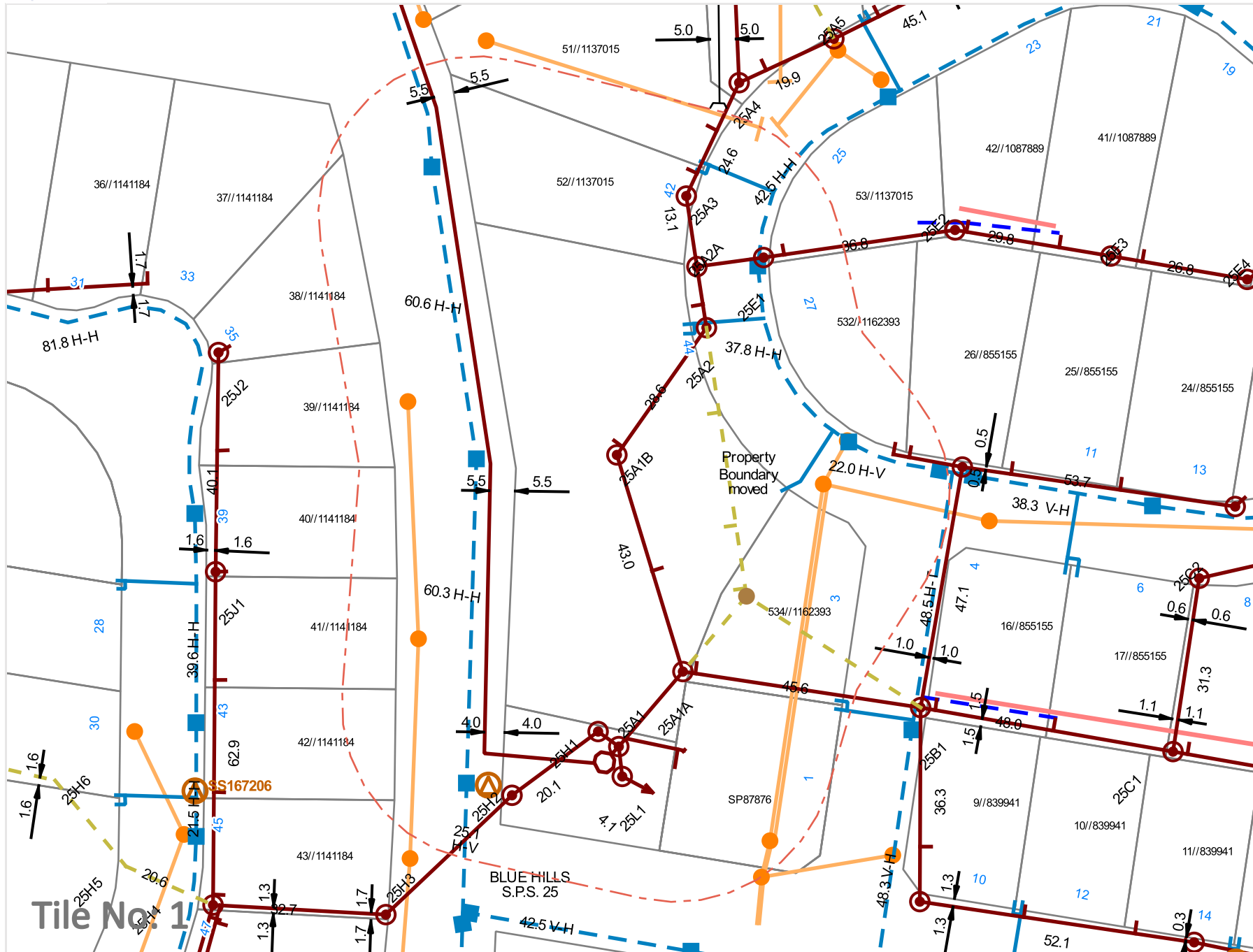
Important Notice: This enquiry response, including any associated documentation, has been assessed and compiled from the information detailed within the DBYD enquiry outlined above. Please ensure that the DBYD enquiry details and this response accurately reflect your proposed works.

This response is intended for use only by the addressee. If you have received the enquiry response in error, please let us know by telephone and delete all copies; you are advised that copying, distributing, disclosing or otherwise acting in reliance on the response is expressly prohibited.



The Essential First Step.

While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Lismore City Council or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.



- Legend**
- Gas Pipeline
 - Optical Fibre Pits
 - Optical Fibre Pipes
 - Survey Marks
 - Abandoned Sewer Points
 - - - Abandoned Sewer Lines
 - ⊙ Manholes
 - ▲ Sewerage Valves
 - Sewerage Pipes
 - - - Abandoned Water Pipes
 - Water Valves and Hydrants
 - Water Storage Tanks
 - - - Water Pipes
 - Water Connections
 - Rous Pipelines
 - ⊙ Stormwater End Structures
 - Stormwater Pits
 - - - Stormwater IAD
 - Stormwater Conduits
 - Stormwater Easement
 - Property Boundaries



Scale: 1:1000
 Expires: 18 Oct 2022

DISCLAIMER: While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither Lismore City Council or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

Tile No: 1

Duty of Care

Lismore City Council manages water, sewer and stormwater pipes - there may be culverts under the road and roadside drains:

- For detailed locations of water/sewer or stormwater, please contact Lismore City Council on 1300 87 83 87
- For detailed locations of Survey marks, please contact Spatial Services on 02 6332 8200

WARNING

- Prior to commencement of work the location of Council's infrastructure within the vicinity of the proposed works is required.
- Where service conflicts may occur, location of Council's infrastructure maybe arranged prior to commencement of work. Please note that there may be other private infrastructure within the vicinity of your request including electricity, interallotment stormwater drainage, private water line, gas lines and telecommunication cables etc.
- It is an offence to destroy a survey mark under Section 24 of the Surveying Act 2002, with significant penalties of up to \$10000 per mark payable to the Surveyor General and a further \$10000 for losses or damages payable to third parties. This is for each mark destroyed (or disturbed).
- Plans may not show the presence of all cables, pipes and plant.
- The location of services relative to road boundaries, property fences etc may change over time and the accuracy of plans is not guaranteed.
- Any work in a road reserve requires the approval of Council (Section 138 Roads Act 1993).
- Any work in the road reserve of a State Road (Bruxner Highway, Bangalow Road) also requires the concurrence of the R.M.S. Grafton (Ph 02 6640 1300). (Section 61 & 138 Roads Act 1993)
- DBYD advice is valid for sixty (60) days from the date the information is provided.

LISMORE CITY COUNCIL MAPS - PLANS - DRAWINGS – DIAGRAMS DISCLAIMER

Any information provided by Lismore City Council from the Lismore Geographic Information System is provided on the understanding that Lismore City Council is not responsible for the results of any action on the basis of any information or for any error in or omission from this information.

To the extent permitted by law Lismore City Council expressly disclaims all and any liability and responsibility to any person. Whether a purchaser of Council's Geographic Information or not, in respect of loss or damage flowing from anything, done or omitted to be done by any such person in reliance, whether wholly or partially, upon the whole or any part of this information whether such action arises under contract or in negligence.

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The spatial accuracy of the information supplied is subject to accuracy of the Digital Cadastral Data Base supplied by the Land Information Centre under licence to Lismore City Council and in any case should be treated as a diagrammatic representation only. The location, depth and height of all features must be confirmed on site.

© Lismore City Council.

© Spatial Services, Panorama Avenue, Bathurst, 2795.

www.spatial.nsw.gov.au.

While every care is taken to ensure the accuracy of this product, Lismore City Council and the Local / State / Federal Government departments and Non-Government organisations whom supply datasets, make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.



To: hailey murphy
Phone: Not Supplied
Fax: Not Supplied
Email: hailey@easterlypoint.com

Dial before you dig Job #:	32764058	 DIAL BEFORE YOU DIG www.1100.com.au
Sequence #	216198251	
Issue Date:	20/09/2022	
Location:	44 Bristol Circuit , Goonellabah , NSW , 2480	

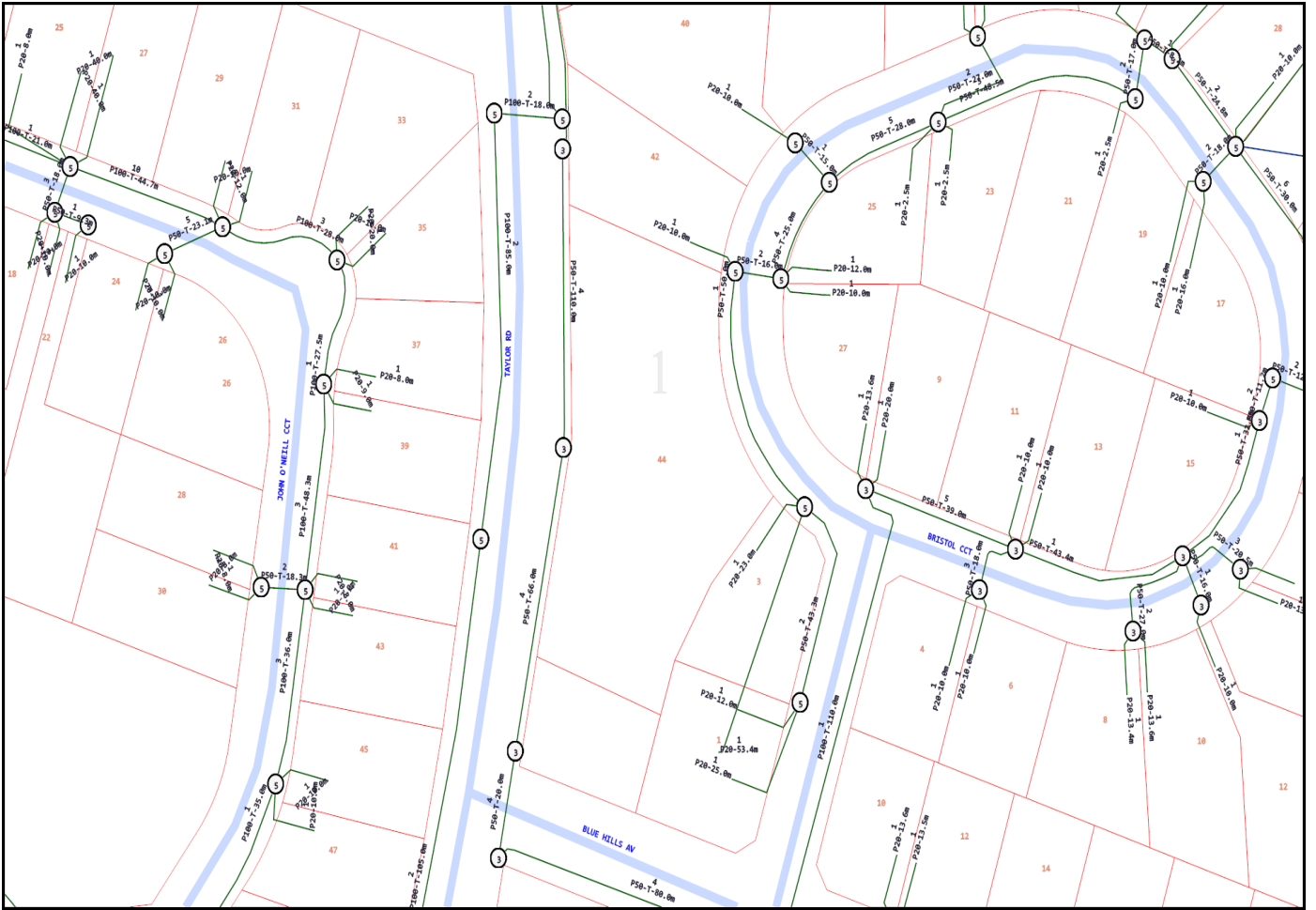
Indicative Plans



LEGEND



	Parcel and the location
	Pit with size "5"
	Power Pit with size "2E". Valid PIT Size: e.g. 2E, 5E, 6E, 8E, 9E, E, null.
	Manhole
	Pillar
	Cable count of trench is 2. One "Other size" PVC conduit (PO) owned by Telstra (-T-), between pits of sizes, "5" and "9" are 25.0m apart. One 40mm PVC conduit (P40) owned by NBN, between pits of sizes, "5" and "9" are 20.0m apart.
	2 Direct buried cables between pits of sizes, "5" and "9" are 10.0m apart.
	Trench containing any INSERVICE/CONSTRUCTED (Copper/RF/Fibre) cables.
	Trench containing only DESIGNED/PLANNED (Copper/RF/Fibre/Power) cables.
	Trench containing any INSERVICE/CONSTRUCTED (Power) cables.
	Road and the street name "Broadway ST"
Scale	0 20 40 60 Meters 1:2000 1 cm equals 20 m



Emergency Contacts

You must immediately report any damage to the **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.

To: hailey murphy
Phone: Not Supplied
Fax: Not Supplied
Email: hailey@easterlypoint.com

Dial before you dig Job #:	32764058	 DIAL BEFORE YOU DIG www.1100.com.au
Sequence #	216198251	
Issue Date:	20/09/2022	
Location:	44 Bristol Circuit , Goonellabah , NSW , 2480	

Information

The area of interest requested by you contains one or more assets.

nbn™ Assets	Search Results
Communications	Asset identified
Electricity	No assets

In this notice **nbn™ Facilities** means *underground fibre optic, telecommunications and/or power facilities, including but not limited to cables, owned and controlled by nbn™*

Location of nbn™ Underground Assets

We thank you for your enquiry. In relation to your enquiry at the above address:

- **nbn's** records indicate that there **ARE nbn™** Facilities in the vicinity of the location identified above ("Location").
- **nbn** indicative plan/s are attached with this notice ("Indicative Plans").
- The Indicative Plan/s show general depth and alignment information only and are not an exact, scale or accurate depiction of the location, depth and alignment of **nbn™** Facilities shown on the Plan/s.
- In particular, the fact that the Indicative Plans show that a facility is installed in a straight line, or at uniform depth along its length cannot be relied upon as evidence that the facility is, in fact, installed in a straight line or at uniform depth.
- You should read the Indicative Plans in conjunction with this notice and in particular, the notes below.
- You should note that, at the present time, the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables. As such, consistent with the notes below, particular care must be taken by you to make your own enquiries and investigations to precisely locate any power cables and manage the risk arising from such cables accordingly.
- The information contained in the Indicative Plan/s is valid for 28 days from the date of issue set out above. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators, e.g DBYD Certified Locators, at your cost to locate **nbn™**

Facilities during any activities you carry out on site).

We thank you for your enquiry and appreciate your continued use of the Dial Before You Dig Service. For any enquiries related to moving assets or Planning and Design activities, please visit the **nbn** [Commercial Works](#) website to complete the online application form. If you are planning to excavate and require further information, please email dbyd@nbnco.com.au or call 1800 626 329.

Notes:

1. You are now aware that there are **nbn**TM Facilities in the vicinity of the above property that could be damaged as a result activities carried out (or proposed to be carried out) by you in the vicinity of the Location.
2. You should have regard to section 474.6 and 474.7 of the *Criminal Code Act 1995* (CoA) which deals with the consequences of interfering or tampering with a telecommunications facility. Only persons authorised by **nbn** can interact with **nbn's** network facilities.
3. Any information provided is valid only for **28 days** from the date of issue set out above.

Referral Conditions

The following are conditions on which **nbn** provides you with the Indicative Plans. By accepting the plans, you are agreeing to these conditions. These conditions are in addition, and not in replacement of, any duties and obligations you have under applicable law.

1. **nbn** does not accept any responsibility for any inaccuracies of its plans including the Indicative Plans. You are expected to make your own inquiries and perform your own investigations (including engaging appropriately qualified plant locators, e.g DBYD Certified Locators, at your cost to locate **nbn**TM Facilities during any activities you carry out on site).
2. You acknowledge that **nbn** has specifically notified you above that the Indicative Plans are likely to be more accurate in showing location of fibre optics and telecommunications cables than power cables. There may be a variation between the line depicted on the Indicative Plans and the location of any power cables.
3. You should not assume that **nbn**TM Facilities follow straight lines or are installed at uniformed depths along their lengths, even if they are indicated on plans provided to you. Careful onsite investigations are essential to locate the exact position of cables.
4. In carrying out any works in the vicinity of **nbn**TM Facilities, you must maintain the following minimum clearances:
 - 300mm when laying assets inline, horizontally or vertically.
 - 500mm when operating vibrating equipment, for example: jackhammers or vibrating plates.
 - 1000mm when operating mechanical excavators.
 - Adherence to clearances as directed by other asset owner's instructions and take into account any uncertainty for power cables.
5. You are aware that there are inherent risks and dangers associated with carrying out work in the vicinity of underground facilities (such as **nbn**TM fibre optic, copper and coaxial cables, and power cable feed to **nbn**TM assets). Damage to underground electric cables may result in:
 - Injury from electric shock or severe burns, with the possibility of death.
 - Interruption of the electricity supply to wide areas of the city.
 - Damage to your excavating plant.
 - Responsibility for the cost of repairs.
6. You must take all reasonable precautions to avoid damaging **nbn**TM Facilities. These precautions may include but not limited to the following:
 - All excavation sites should be examined for underground cables by careful hand excavation. Cable cover slabs if present must not be disturbed. Hand excavation needs to be undertaken with extreme care to minimise the likelihood of damage to the cable, for example: the blades of hand equipment should be aligned parallel to the line of the cable rather than digging across the cable.
 - If any undisclosed underground cables are located, notify **nbn** immediately.

- All personnel must be properly briefed, particularly those associated with the use of earth-moving equipment, trenching, boring and pneumatic equipment.
 - The safety of the public and other workers must be ensured.
 - All excavations must be undertaken in accordance with all relevant legislation and regulations.
7. You will be responsible for all damage to **nbn**TM Facilities that are connected whether directly, or indirectly with work you carry out (or work that is carried out for you or on your behalf) at the Location. This will include, without limitation, all losses expenses incurred by **nbn** as a result of any such damage.
 8. You must immediately report any damage to the **nbn**TM network that you are/become aware of. Notification may be by telephone - 1800 626 329.
 9. Except to the extent that liability may not be capable of lawful exclusion, **nbn** and its servants and agents and the related bodies corporate of **nbn** and their servants and agents shall be under no liability whatsoever to any person for any loss or damage (including indirect or consequential loss or damage) however caused (including, without limitation, breach of contract negligence and/or breach of statute) which may be suffered or incurred from or in connection with this information sheet or any plans(including Indicative Plans) attached hereto. Except as expressly provided to the contrary in this information sheet or the attached plans(including Indicative Plans), all terms, conditions, warranties, undertakings or representations (whether expressed or implied) are excluded to the fullest extent permitted by law.

All works undertaken shall be in accordance with all relevant legislations, acts and regulations applicable to the particular state or territory of the Location. The following table lists all relevant documents that shall be considered and adhered to.

State/Territory	Documents
National	Work Health and Safety Act 2011
	Work Health and Safety Regulations 2011
	Safe Work Australia - Working in the Vicinity of Overhead and Underground Electric Lines (Draft)
	Occupational Health and Safety Act 1991
NSW	Electricity Supply Act 1995
	Work Cover NSW - Work Near Underground Assets Guide
	Work Cover NSW - Excavation Work: Code of Practice
VIC	Electricity Safety Act 1998
	Electricity Safety (Network Asset) Regulations 1999
QLD	Electrical Safety Act 2002
	Code of Practice for Working Near Exposed Live Parts
SA	Electricity Act 1996
TAS	Tasmanian Electricity Supply Industry Act 1995
WA	Electricity Act 1945
	Electricity Regulations 1947
NT	Electricity Reform Act 2005
	Electricity Reform (Safety and Technical) Regulations 2005
ACT	Electricity Act 1971

Thank You,

nbn DBYD

Date: 20/09/2022

This document is provided for information purposes only. This document is subject to the information classification set out on this page. If no information classification has been included, this document must be treated as UNCLASSIFIED, SENSITIVE and must not be disclosed other than with the consent of nbn co. The recipient (including third parties) must make and rely on their own inquiries as to the currency, accuracy and completeness of the information contained herein and must not use this document other than with the consent of nbn co.

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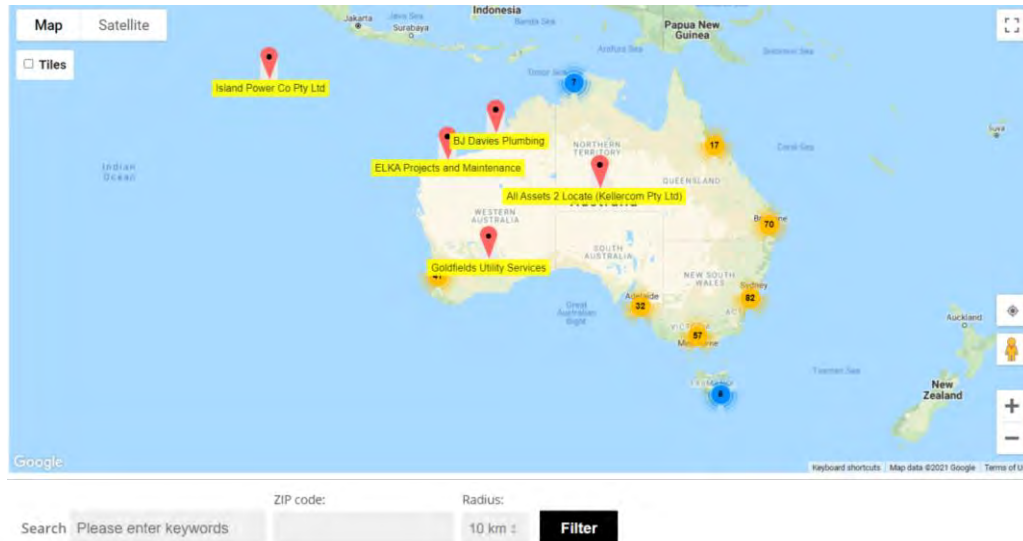
Certified Locating Organisations (CLO)

Find the closest CLO to your worksite on: <https://dbydlocator.com/certified-locating-organisation/>

Read the disclaimer and click:

Accept and Search Now

A national map and an A-Z list of Certified Locating Organisations is displayed.



Use the map to zoom to your work area and choose the closest  Locator indicated.

OR search by entering the **postcode** of your work area.

1. Enter the post/zip code
2. Choose your search radius
3. Click filter (If there is no result, you may have to increase the search radius)
4. Click on the closest  for CLO details or view the results displayed below the map



Locator skills have been tested, and the Organisation has calibrated location and safety equipment.

Telstra is aware of each Certified Locating Organisation and their employee locators.

Only a DBYD Certified Locator registered with a Certified Locating Organisation is authorised to access Telstra network for locating purposes.

Each Certified Locator working for a CLO is issued with a photo ID Card, authorising them to access Telstra pits and manholes for the purpose of cable and plant locations.

Please ask to see your Locators' CLO ID Card.

Dial Before You Dig

Think before you dig

This document has been sent to you because you requested plans of the Telstra network through Dial Before You Dig.

If you are working or excavating near telecommunications cables, or there is a chance cables are located near your site, you are responsible to avoid causing damage to the Telstra network.

Please read this document carefully. Taking your time now and following the steps below can help you avoid damaging our network, interrupting services, and potentially incurring civil and criminal penalties.

Our network is complex and working near it requires expert knowledge. Do not attempt these activities if you are not qualified to do so.



1. Plan

Plan your work with the latest plans of our network.

Plans provided through the DBYD process are indicative only*.

This means the actual location of our asset may differ substantially from that shown on the plans.

Refer to steps 2 and 3 to determine actual location prior to proceeding with construction.



2. Prepare

Engage a DBYD Certified Locating Organisation (CLO) via dbydlocator.com to identify, validate and protect Telstra assets before you commence work.



3. Pothole

Validate underground assets by potholing by hand or using non-destructive vacuum extraction methods.

Electronic detection alone (step 2) is not deemed to validate underground assets and must not be used for construction purposes.

If you cannot validate the Telstra network, you must not proceed with construction.



4. Protect

Protect our network by maintaining the following distances from our assets:

- › 1.0m Mechanical Excavators, Farm ploughing, Tree Removal
- › 500mm Vibrating Plate or Wacker Packer Compactor
- › 600mm Heavy Vehicle Traffic (over 3 tonnes) not to be driven across Telstra ducts or plant
- › 1.0m Jackhammers/Pneumatic Breakers
- › 2.0m Boring Equipment (in-line, horizontal and vertical)



5. Proceed

You can proceed with your work only once you have completed all the appropriate preparation, potholing and protection.

Report any damage immediately



<https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment>



13 22 03

If you receive a message asking for an account or phone number say "I Don't have one"
Then say "Report Damage" then press 1 to speak to an operator.

Relocating assets

If your project requires the relocation of a Telstra asset, please contact the Telstra Network Integrity Group:



1800 810 443 (AEST business hours only)



NetworkIntegrity@team.telstra.com

Never try to move or alter our network infrastructure without authorisation. By law, only authorised people can work on our assets or enter a facility owned or operated by us. Any interference, including unauthorised entry or tampering, may result in legal action.

Further information

Plan enquiries



1800 653 935 (AEST business hours only)



Telstra.Plans@team.telstra.com

Information on how to find cables and request asset relocations:

<https://www.telstra.com.au/consumer-advice/digging-construction>

Asset Plan Readers

PDF [Adobe Acrobat Reader DC Install for all versions](#)

DWF [Download Design Review](#) | [DWF Viewer](#) | [Autodesk](#)

Disclaimer and legal details



*Telstra advises that the accuracy of the information provided by Telstra conforms to Quality Level D as defined in AS5488-2013.

It is a criminal offence under the Criminal Code Act 1995 (Cth) to tamper or interfere with telecommunications infrastructure.

Telstra will also take action to recover costs and damages from persons who damage assets or interfere with the operation of Telstra's networks.

By receiving this information including the indicative plans that are provided as part of this information package you confirm that you understand and accept the risks of working near Telstra's network and the importance of taking all of the necessary steps to confirm the presence, alignments and various depths of Telstra's network. This in addition to, and not in replacement of, any duties and obligations you have under applicable law.

When working in the vicinity of a telecommunications plant you have a "Duty of Care" that must be observed. Please read and understand all the information and disclaimers provided below.

The Telstra network is complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage. If you are not an expert and/or qualified in these areas, then you must not attempt these activities. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers. The 5 P's to prevent damage to Telstra assets are listed above. Construction activities and/or any activities that potentially may impact on Telstra's assets must not commence without first undertaking these steps. Construction activities can include anything that involves breaking ground, potentially affecting Telstra assets.

If you are designing a project, it is recommended that you also undertake these steps to validate underground assets prior to committing to your design.

This Notice has been provided as a guide only and may not provide you with all the information that is required for you to determine what assets are on or near your site of interest. You will also need to collate and understand all of the information received from other Utilities and understand that some Utilities are not a part of the DBYD program and make your own enquiries as appropriate. It is the responsibility of the entities undertaking the works to protect Telstra's network during excavation / construction works.

Telstra owns and retains the copyright in all plans and details provided in conjunction with the applicant's request. The applicant is authorised to use the plans and details only for the purpose indicated in the applicant's request. The applicant must not use the plans or details for any other purpose.

Telstra plans or other details are provided only for the use of the applicant, its servants, agents, or Certified Locating Organisation. The applicant must not give the plans or details to any parties other than these and must not generate profit from commercialising the plans or details.

Telstra, its servants or agents shall not be liable for any loss or damage caused or occasioned by the use of plans and or details so supplied to the applicant, its servants and agents, and the applicant agrees to indemnify Telstra against any claim or demand for any such loss or damage.

Please ensure Telstra plans and information provided always remains on-site throughout the inspection, location, and construction phase of any works.

Telstra plans are valid for 60 days after issue and must be replaced if required after the 60 days.

Data Extraction Fees

In some instances, a data extraction fee may be applicable for the supply of Telstra information. Typically, a data extraction fee may apply to large projects, planning and design requests or requests to be supplied in non-standard formats. For further details contact Telstra Planned Services.

Telstra does not accept any liability or responsibility for the performance of or advice given by a Certified Locating Organisation. Certification is an initiative taken by Telstra towards the establishment and maintenance of competency standards. However, performance and the advice given will always depend on the nature of the individual engagement.

Neither the Certified Locating Organisation nor any of its employees are an employee or agent for Telstra. Telstra is not liable for any damage or loss caused by the Certified Locating Organisation or its employees.

Once all work is completed, the excavation should be reinstated with the same type of excavated material unless specified by Telstra

The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

When using excavators and other machinery, also check the location of overhead power lines.

Workers and equipment must maintain safety exclusion zones around power lines

WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. **FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK.** A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.

Privacy Note

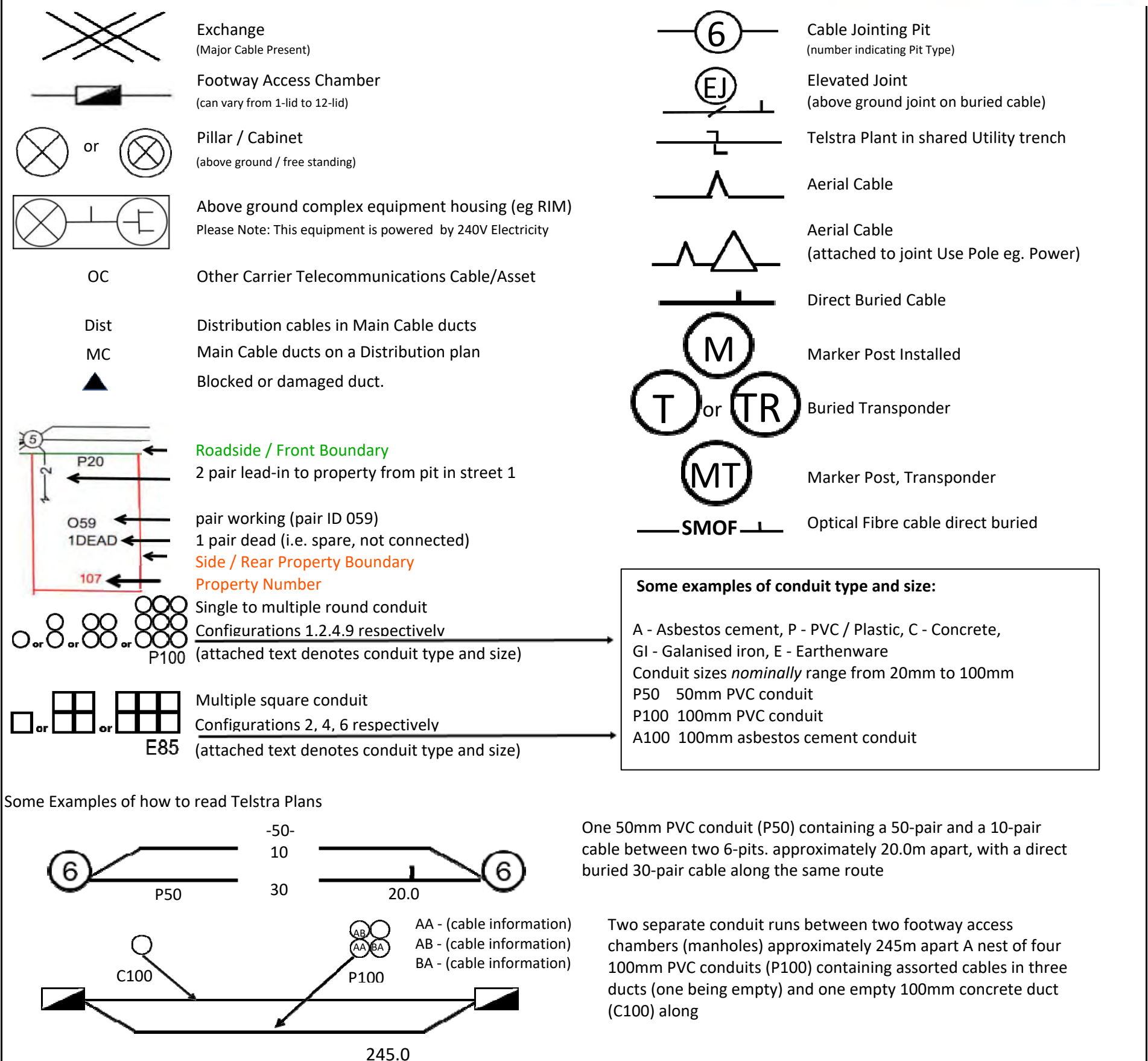
Your information has been provided to Telstra by DBYD to enable Telstra to respond to your DBYD request. Telstra keeps your information in accordance with its privacy statement. You can obtain a copy at www.telstra.com.au/privacy or by calling us at 1800 039 059 (business hours only).

LEGEND

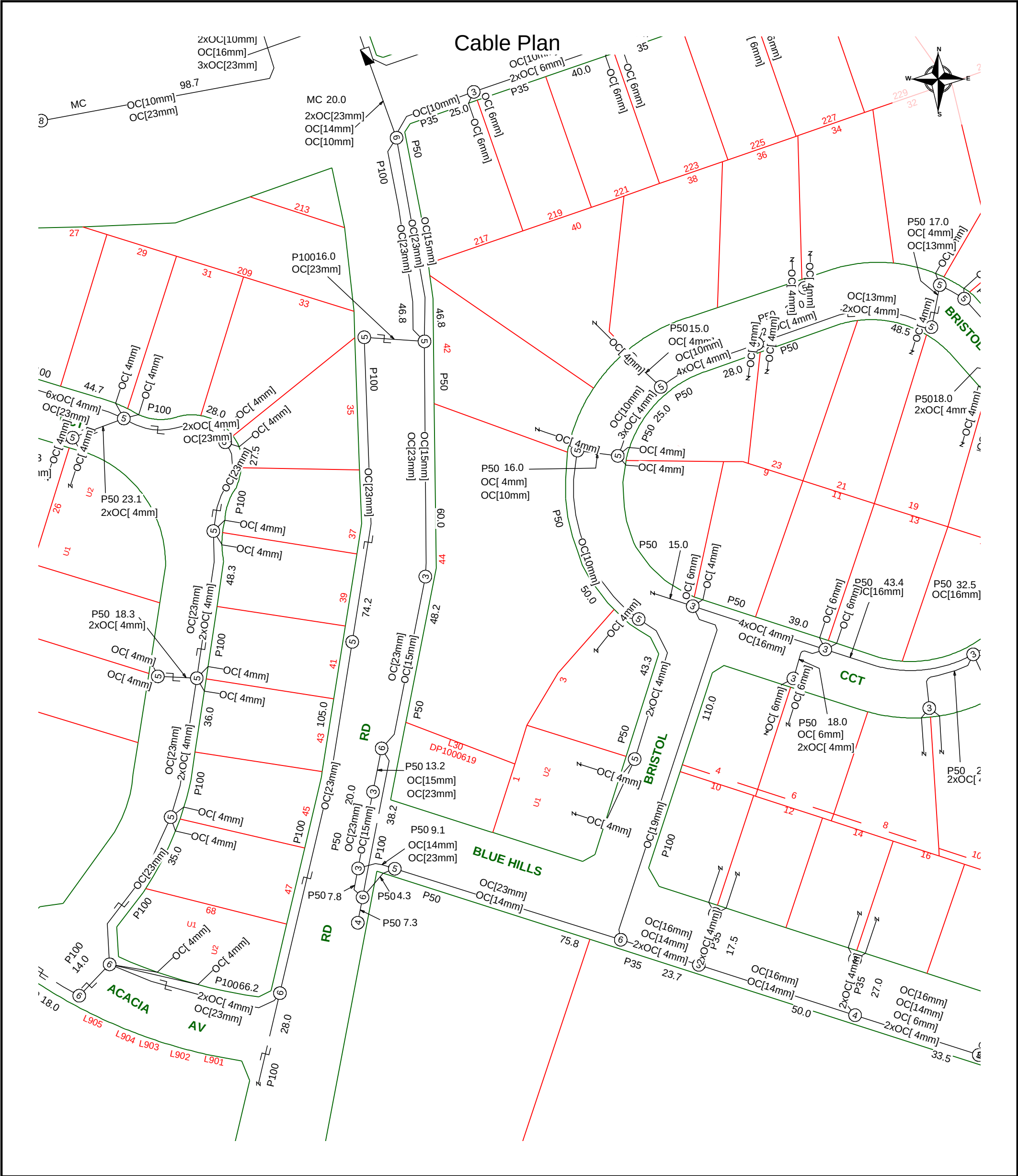
IT'S HOW
WE CONNECT



For more info contact a Certified Locating Organisation or Telstra Plan Services 1800 653 935



WARNING: Telstra plans and location information conform to Quality Level 'D' of the Australian Standard AS 5488 - Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans. FURTHER ON SITE INVESTIGATION IS REQUIRED TO VALIDATE THE EXACT LOCATION OF TELSTRA PLANT PRIOR TO COMMENCING CONSTRUCTION WORK. A plant location service is an essential part of the process to validate the exact location of Telstra assets and to ensure the assets are protected during construction works. The exact position of Telstra assets can only be validated by physically exposing them. Telstra will seek compensation for damages caused to its property and losses caused to Telstra and its customers.



	Report Damage: https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment Ph - 13 22 03 Email - Telstra.Plans@team.telstra.com Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries	Sequence Number: 216198250
	TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.
	Generated On 20/09/2022 13:42:46	

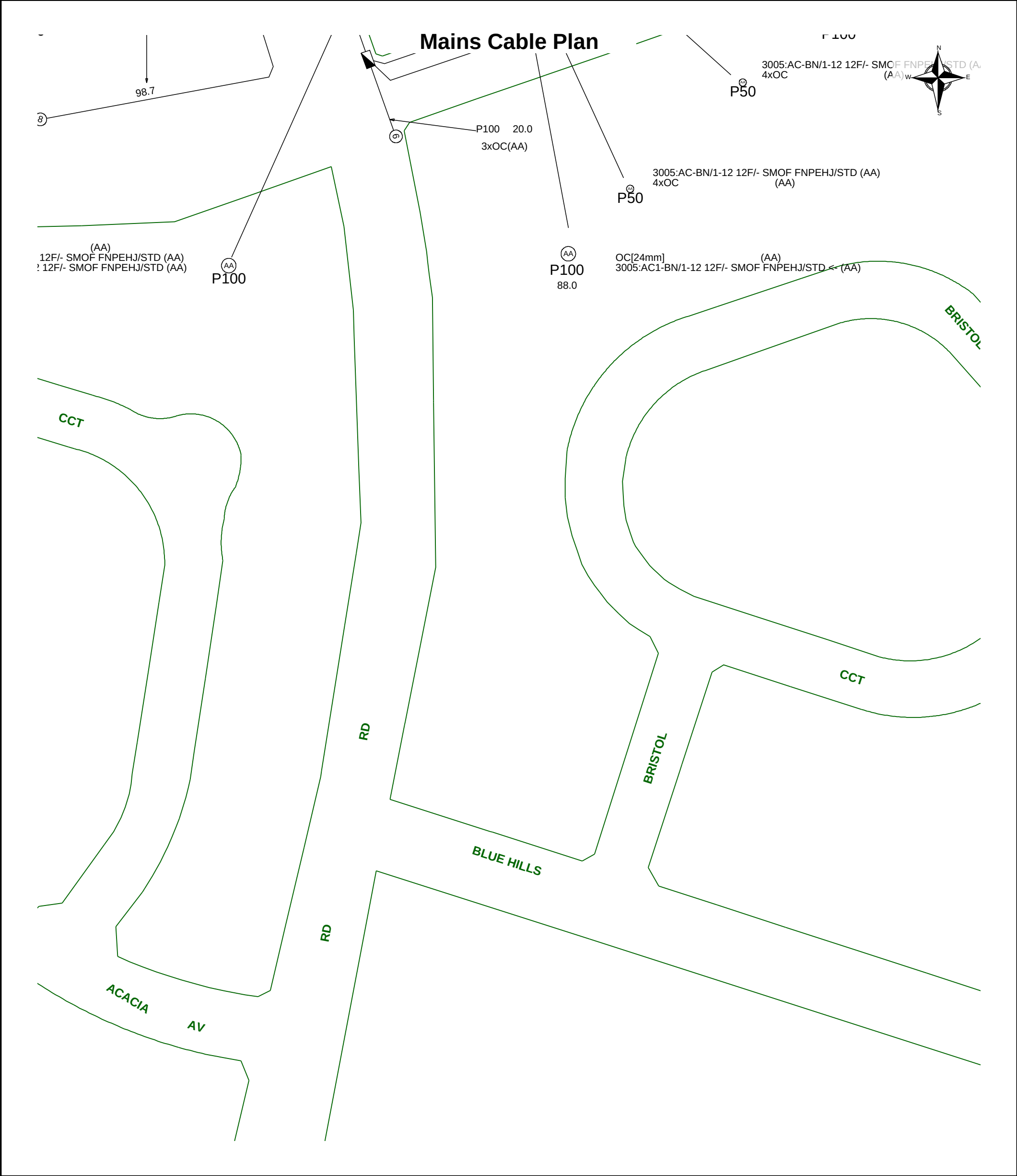
The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING

Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

See the Steps- Telstra Duty of Care that was provided in the email response.

Page 1 of 2



	Report Damage: https://service.telstra.com.au/customer/general/forms/report-damage-to-telstra-equipment Ph - 13 22 03 Email - Telstra.Plans@team.telstra.com Planned Services - ph 1800 653 935 (AEST bus hrs only) General Enquiries	Sequence Number: 216198250
	TELSTRA CORPORATION LIMITED A.C.N. 051 775 556	CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.
	Generated On 20/09/2022 13:42:48	

WARNING

Telstra plans and location information conform to Quality Level "D" of the Australian Standard AS 5488-Classification of Subsurface Utility Information. As such, Telstra supplied location information is indicative only. Spatial accuracy is not applicable to Quality Level D. Refer to AS 5488 for further details. The exact position of Telstra assets can only be validated by physically exposing it. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy. Further on site investigation is required to validate the exact location of Telstra plant prior to commencing construction work. A Certified Locating Organisation is an essential part of the process to validate the exact location of Telstra assets and to ensure the asset is protected during construction works.

See the Steps- Telstra Duty of Care that was provided in the email response.



Working near **nbn**TM cables

nbn has partnered with Dial Before You Dig to give you a single point of contact to get information about **nbn** underground services owned by **nbn** and other utility/service providers in your area including communications, electricity, gas and other services. Contact with underground power cables and gas services can result in serious injury to the worker, and damage and costly repairs. You must familiarise yourself with all of the Referral Conditions (meaning the referral conditions referred to in the DBYD Notice provided by **nbn**).

Practice safe work habits

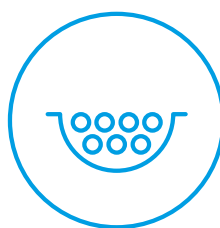
Once the DBYD plans are reviewed, the Five P's of Excavation should be adopted in conjunction with your safe work practices (which must be compliant with the relevant state Electrical Safety Act and Safe Work Australia "Excavation Work Code of Practice", as a minimum) to ensure the risk of any contact with underground **nbn** assets are minimised.



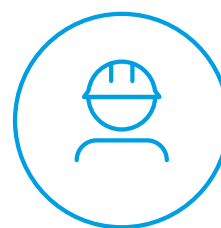
Plan: Plan your job by ensuring the plans received are current and apply to the work to be performed. Also check for any visual cues that may indicate the presence of services not covered in the DBYD plans.



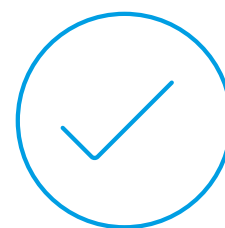
Prepare: Prepare for your job by engaging a DBYD Certified Plant Locator to help interpret plans and identify on-site assets. Contact **nbn** should you require further assistance.



Pothole: Non-destructive potholing (i.e. hand digging or hydro excavation) should be used to positively locate **nbn** underground assets with minimal risk of contact and service damage.

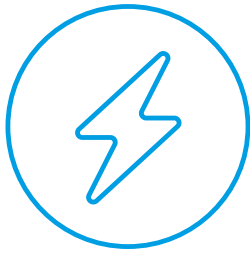


Protect: Protecting and supporting the exposed **nbn** underground asset is the responsibility of the worker. Exclusion zones for **nbn** assets are clearly stated in the plan and appropriate controls must be implemented to ensure that encroachment into the exclusion zone by machinery or activities with the potential to damage the asset is prevented.

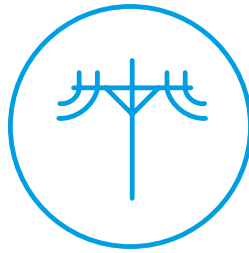


Proceed: Proceed only when the appropriate planning, preparation, potholing and protective measures are in place.

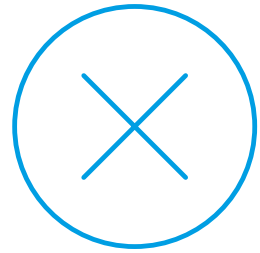
Working near **nbn**[™] cables



Identify all electrical hazards, assess the risks and establish control measures.



When using excavators and other machinery, also check the location of overhead power lines.



Workers and equipment must maintain safety exclusion zones around power lines.

Once all work is completed, the excavation should be re-instated with the same type of excavated material unless specified by **nbn**. Please note:

- Construction Partners of **nbn** may require additional controls to be in place when performing excavation activities.
- The information contained within this pamphlet must be used in conjunction with other material supplied as part of this request for information to adequately control the risk of potential asset damage.

Contact

All **nbn**[™] network facility damages must be reported online [here](#).
For enquiries related to your DBYD request please call 1800 626 329.

Disclaimer

This brochure is a guide only. It does not address all the matters you need to consider when working near our cables. You must familiarise yourself with other material provided (including the Referral Conditions) and make your own inquiries as appropriate.

nbn will not be liable or responsible for any loss, damage or costs incurred as a result of reliance on this brochure.

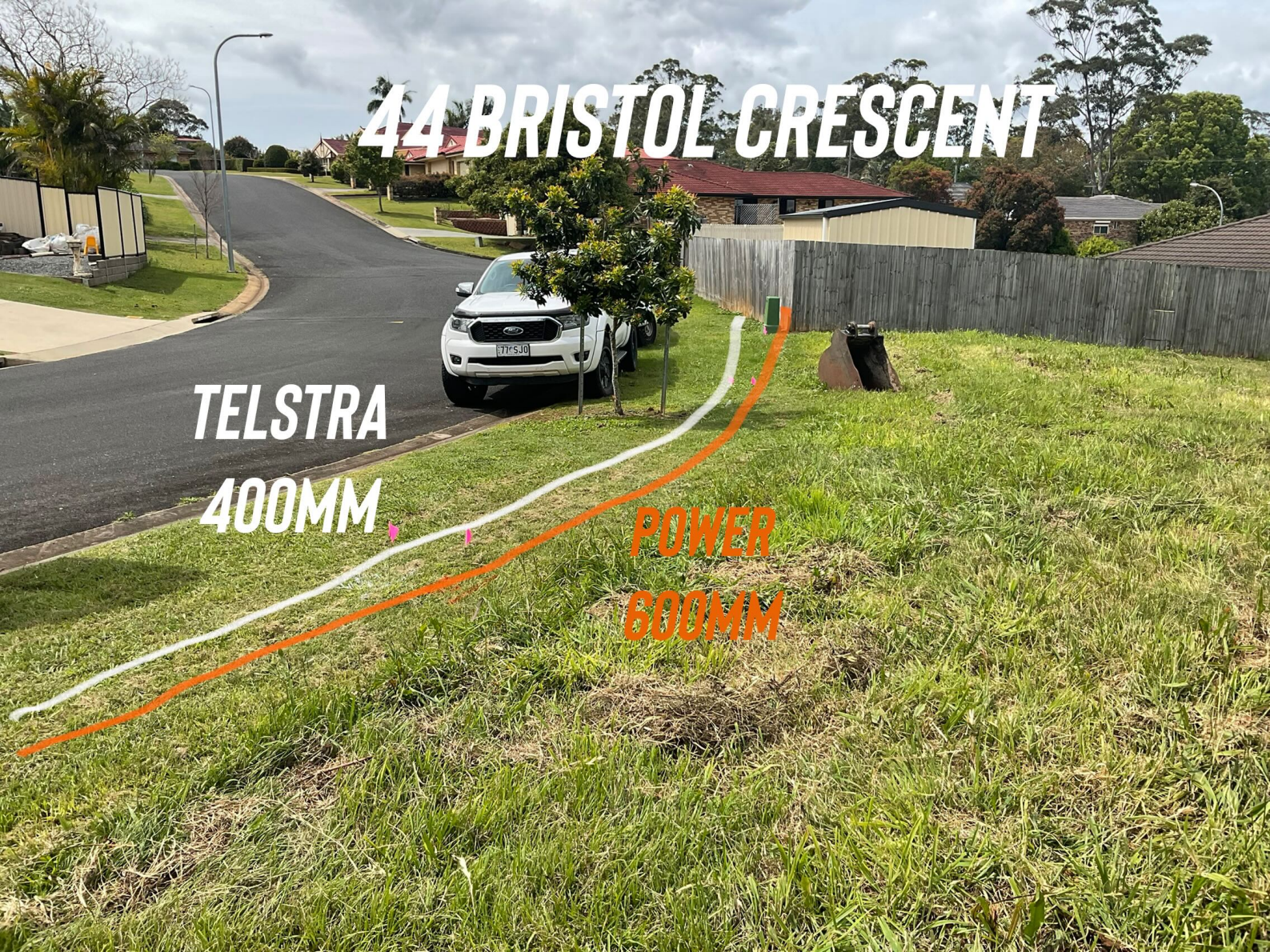
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44 BRISTOL CRESCENT

TELSTRA
400MM

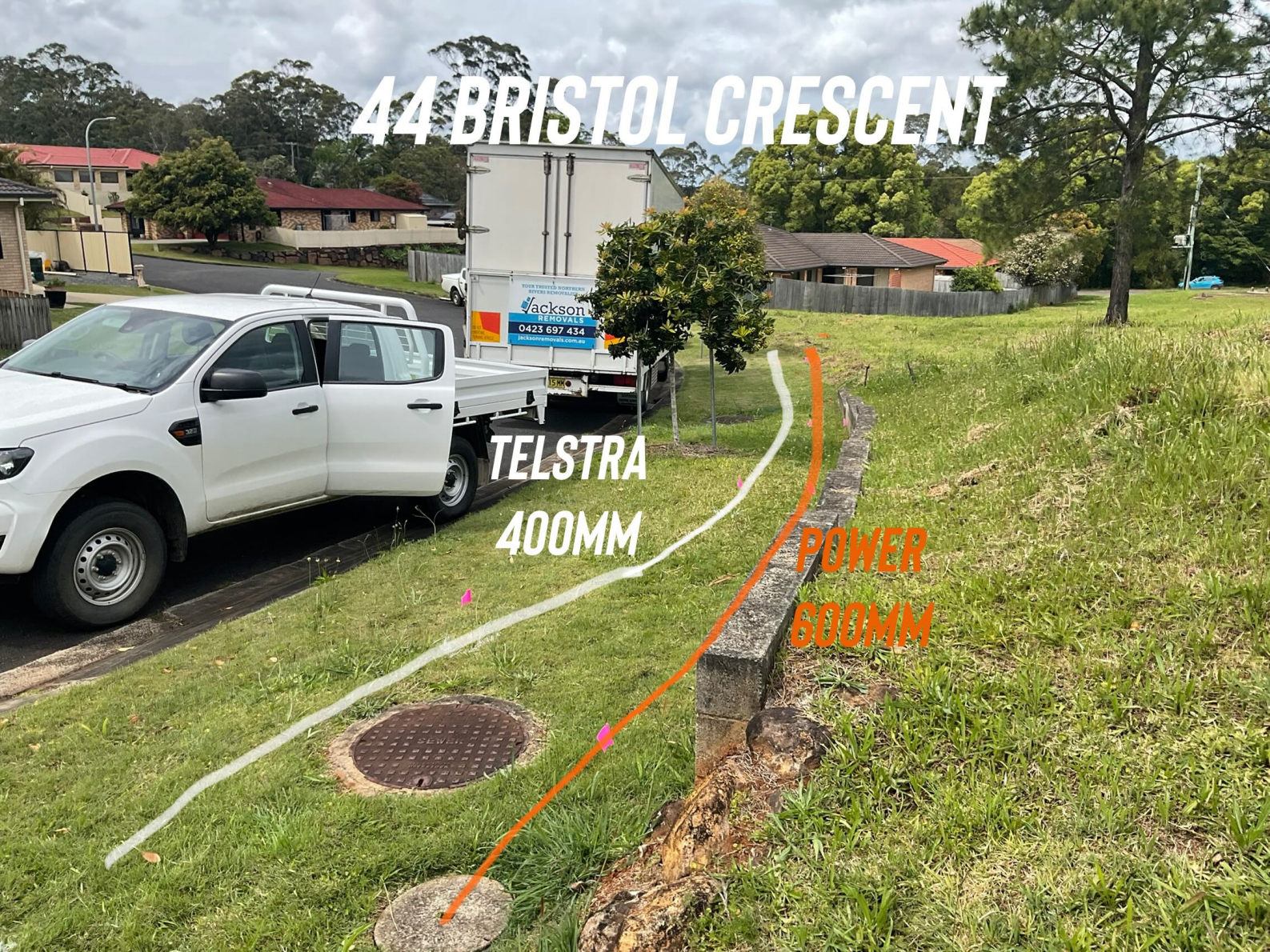
POWER
600MM



44 BRISTOL CRESCENT

TELSTRA
400MM

POWER
600MM



44 BRISTOL CRESCENT

SEWER

1.4M/2.4M



44 BRISTOL CRESCENT

SEWER

2.4M / 900MM



Appendix B

Data Quality Objectives

Data quality objectives
Detailed Site Investigation – soil investigation
Sellicks Dip, 44 Bristol Circuit, Goonellabah NSW

DQO Process Step	Outputs of DQOs Process Step
1 State the problem – assemble an effective planning team, describe the problem and examine the resources for investigating the problem.	
1.1 Write a brief summary of the contamination problem.	The site contains a former cattle dip, known as Sellicks Dip. The in-ground concrete dip bath remains in-situ and while some limited investigations have been undertaken historically, the contamination status of the site is unknown. Landcom, on behalf of LCC as the landowners, have requested a detailed site investigation be undertaken to assess the contamination status of the site and investigate the viability of developing the site for use as multi-dwelling affordable housing.
1.2 Identify members of the planning team	Client – Landcom, working on behalf of LCC as the landowners; and ASC Consultant – Hailey Spry of Easterly Point Environmental.
1.3 Develop/refine the conceptual site model (CSM), including a summary of the exposure scenarios.	The preliminary CSM is included in the SAQP, including identification of data gaps.
1.4 Specify the available resources and constraints, such as relevant deadlines for the study, budget, availability of personnel and schedule.	The ASC practitioner has the available capacity to conduct the investigation using appropriate subcontractors including Sarjaro as the contractor supplying the excavator. Access to the site is not limited, and Landcom are expected to advise LCC of the dates of work. The budget is controlled by the client, and a set fee has been agreed to based on Easterly Point's proposal to Landcom.

DQO Process Step	Outputs of DQOs Process Step
2 Identify the goals of the study – identify the principal study question(s), identify potential alternative actions with implications, and combine these to make statements on the decision problem.	
2.1 Identify the principal study question(s).	What is the nature and extent of contamination? Are soil contaminant (concentrations and depth) and subsurface conditions (soil type, depth to groundwater) suggestive of groundwater impacts? Can the contamination remain on site, including the dip bath structure, with a long-term environmental management plan (EMP)?
2.2 Identify the alternative outcomes or actions that could result from resolution of the principal study question(s).	– the site is suitable in its current state, in regard to contamination, for the proposed land use; and/or – the site is not suitable in its current state for the proposed land use, and remediation and/or management is required.
2.3 For decision problems, combine the principal study questions and the alternative actions into decision statements.	If the site is suitable for residential landuse (HIL-B) in its current state, no remediation is required. If the site is not suitable for residential land use in its current state, remediation and/or management will be required.
3 Identify information inputs – identify the information needed to formulate and investigate the problem, and confirm that appropriate sampling and analytical methods are available.	
3.1 Identify the information that will be required to resolve the decision statements/estimation, including existing information and new environmental data, and identify the sources for each item of information required.	– site history and environmental setting from Easterly Point 2022a; and – soil data collected as part of this investigation, including field samples and analytical samples.
3.2 Identify the information needed to establish the action level.	Investigation criteria will be sourced from: – NEPM (2013) Schedule B1 HIL-B for high-density residential with inaccessible soils landuse.
3.3 Confirm that appropriate sampling and analytical methods exist to provide the necessary data.	Sampling and analytical methods will be consistent with existing guidance, including the NEPM (2013, B2 and B3). Analytical laboratories will be NATA accredited and use analytical methods based on NEPM, USEPA and APHA methods.

DQO Process Step	Outputs of DQOs Process Step
4 Define the boundaries of the study - define the target population, the spatial and temporal boundaries associated with the population, examine any practical constraints to collecting data, and factors that affect the selection of the unit which defines the scale of sampling and the scale of decision making or estimation.	
4.1 Define the target population of interest and its relevant spatial boundaries.	Various populations are expected and will be assessed separately, including: 1. Impacted natural soils immediately adjacent to the dip bath or in known areas of likely higher contamination, i.e. drainage pen. 2. General area surrounding the dip bath area, encompassing the former dip bath and immediate surrounds, e.g. holding yard. 3. Imported fill immediately adjacent to the bath to approximately 0.7 m depth, imported by Dept Ag. in 1988. 4. Imported fill overlying the dip bath, imported during limited and temporary remediation works in 1994. 5. Area outside of the dip bath area, where contaminating activities have not been identified to date, including the remainder of Lot 533 DP1162393. Investigations will extend to a maximum depth of 3 m to ensure contaminant migration from the dip bath is investigated, accounting for delineation of impacts.
4.2 Define what constitutes a sampling unit.	Sampling units will consist of: – field samples of appropriately described and logged samples which are field screened; and – analytical samples of the laboratory specified sample jar quantity.
4.3 Specify temporal boundaries and other practical constraints associated with sample/data collection.	To achieve problem resolution, while allowing for the sequential nature of the investigation, the field investigations will be conducted in a timely manner, taking into account subcontractor availability. The site is vacant so no restraints relating to access.

DQO Process Step	Outputs of DQOs Process Step
4.4 Specify the smallest unit on which decisions or estimates will be made.	The decision is to be based on the whole site, i.e. Lot 533 DP1162393. However, following data analysis, some form of segregation may be considered, i.e. where concentrations determine that the area outside of the dip bath area is suitable for the proposed land use, this area can be discretised from the dip site and will not be subject to any management requirements. This will aid development, especially during construction phases. Based on the client's objectives to determine the sites suitability for high-density residential land use, the overall decision unit consists of the entire Lot 533 proposed for development.
5 Develop the analytic (statistical) approach - develop a logical "if ..., then ..., or ..." statement that defines the conditions that would cause the decision maker to choose among alternative actions. 5.1 Specify the statistical parameter that characterises the population of interest, such as mean, median, maximum, 95% upper confidence limit (UCL) of the arithmetic average, proportion, etc. 5.2 Specify the action level for the decision.	Based on the decision problem, statistical evaluation of the data collected using a systematic grid-based sampling pattern will be conducted for each population identified in Steep 4.1, as per the following: The 95% UCL of the arithmetic average will be the key statistical parameter. The data evaluation will include that: – the 95% UCL arithmetic average to be $\leq$ criteria. – no individual sample to exceed 250% of the criteria; and – the sample standard deviation to be $< 50\%$ criteria. Targeted samples will be evaluated based on maximum concentrations and consideration that no individual sample exceeds 250% of the criteria. Other than analysis of data, additional considerations will include: – potential leaching and groundwater impacts; – sampling density; – aesthetic requirements, including no odours or staining, no waste materials and no monolithic deposits as per the NEPM (2013, B2). Further to the above, to determine if sufficient samples have been taken, the maximum probable error (MPE) method will be used. Analytical action levels are to be based on the NEPM HILs (2013, B1).

DQO Process Step	Outputs of DQOs Process Step
5.3 Confirm that measurement detection will allow reliable comparisons with the action level. 5.4 Combine the outputs from the previous DQOs steps and develop an "if ..., then ..., else ..." theoretical decision rule based on the chosen action level.	While the ecological investigation levels (EILs) will be considered, land-use decisions will not be determined by the EILs. Samples will be submitted to NATA accredited laboratories. The laboratories analytical LORs are suitably below the adopted criteria. Asbestos fibres at the required LOR is not NATA accredited. If the statistical parameters of the sampling data exceed the HIL-B action levels, <u>then</u> remediation and/or management will be recommended <u>otherwise</u>, if the statistical (and aesthetic) parameters are within the applicable action levels, <u>then</u> the site will be determined meeting the HIL-B criteria. The above decision rule is based on soil contaminant concentrations only. It does not consider groundwater impacts nor the presence of the dip bath structure which will require either removal (with remediation and validation) or management via an EMP.
6 Specify performance or acceptance criteria - to specify probability limits for false rejection and false acceptance decision errors. 6.1 Specify the decision rule as a statistical hypothesis test. 6.2 Examine consequences of making incorrect decisions from the test.	The null hypothesis is that the site is contaminated and <u>is not suitable</u> for residential (Res-B) land use. The alternative hypothesis is that the site <u>is suitable</u> for residential land use (Res-B) with management; and or The alternative hypothesis is that the site <u>can be made suitable</u> for residential land use (Res-B) with management Possible decision errors include: - site being accepted as suitable for a HIL-B land use when it is not, thereby potentially risking human health or environmental impacts; and - the site being accepted as contaminated when it is not, enacting further assessments and imposing financial and resource burdens on the project unnecessarily, and resulting in inappropriate classification.

DQO Process Step	Outputs of DQOs Process Step
6.3 Place acceptable limits on the likelihood of making decision errors, including acceptable alpha (α) and beta (β) risk levels.	Stated hypotheses: – null hypothesis (H_0): the maximum of any individual sample, (and other requirements), are $>$ the action level; and – alternate hypothesis (H_A): the maximum of any individual sample, (and other requirements), are $\leq$ the action level. Potential outcomes include Type I and Type II errors: – Type I error of determining the site is not contaminated when in fact it is contaminated (wrongly rejects true H_0). – Type II error of determining the site is contaminated when in fact the site is not contaminated (wrongly accepts false H_0). For performance criteria, the acceptable limits on the likelihood of making decision errors to be applied are: – alpha risk (Type I error) of $\alpha = 0.05$; and – beta risk (Type II error) of $\beta = 0.2$.
7 Optimise the design for obtaining data - to identify a resource effective sampling and analysis design for generating data that are expected to satisfy the DQOs. 7.1 Document the final sampling and analysis design, along with a discussion of the key assumptions underlying this design. 7.2 Detail how the design should be implemented, together with contingency plans for unexpected events.	The site will be stratified and different sampling strategies applied to the various areas. The soil sampling program will consist of a combination of systematic and judgemental sampling. Further details regarding the sampling strategy are provided in the SAQP. The field methods for sample collection, handling, and analysis (at analytical laboratories) are described in the project-level standard operating procedures (SOPs). Contingencies include collecting additional samples than that proposed for initial analysis and from material which is significantly different from the previously identified and samples fill, and conducting additional analyses where field indicators (staining, odours, field screening results) suggest other contaminants.

DQO Process Step	Outputs of DQOs Process Step
7.3 Determine the quality assurance and quality control (QA/QC) procedures that are to be performed to detect and correct problems to ensure defensible results.	The required field QA, and the field and laboratory QC, are described in the project-level SOPs. These include both the data quality indicators (DQIs) and the associated measurement quality objectives (MQOs).
7.4 Document the operational details and theoretical assumptions of the selected design in the SAQP.	Theoretical assumptions include that the site was used in a typical fashion and layout as per standard dip sites in NSW.

Appendix C

Easterly Point's field work procedures

Soil sampling - general**EPEFW-PR01****1.0 Purpose and scope**

Procedure for the collection of soil samples. This procedure is required to ensure that soil samples are collected in an appropriate and consistent manner, that the soil sampling is appropriate for the media and analytes, and to allow the documentation of standard operating procedures used for soil sample collection and handling.

This procedure is for sampling of in-situ and ex-situ soils and fills for general physical and chemical tests and analyses. Also for non-volatile, semi-volatile and volatile analyses.

2.0 Definitions

COC	chain of custody form;
WHS	work health and safety;
PID	photoionisation detector; and
VOCs	volatile organic compounds.

3.0 References

- NEPC (2013) *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), Schedule A and Schedules B(1) – B(9)*, National Environment Protection Council.
- Massachusetts Department of Environmental Protection (MDEP) (1991) *Standard References for Monitoring Wells, Part 1*, (Ref. WSC-310-91). Commonwealth of Massachusetts, Boston, MA.
- Environment Protection Authority (September 1995) *Contaminated Sites: Sampling Design Guidelines*. NSW EPA, Chatswood, NSW.
- Standards Australia (1997) *Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds (AS 4482.1-1997)*.
- Standards Australia (1999) *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile substances (AS 4482.2-1999)*.

4.0 General

Related environmental procedures include *EPESHE-PR06 Decontamination of sampling equipment*.

This procedure relates to the collection of soil samples using hand tools, push tubes, split spoon samplers, or augers. Where volatiles are a contaminant of concern, samples are not to be collected from auger flights. The exception is where OH&S considerations, e.g. potential for buried services, require auguring for the initial 0.5 m or similar.

In general samples should be collected at the surface, and at depth. They should be collected at regular intervals for consistent soil profiles (e.g. surface, 0.5 m, 1.0 m, 2.0 m etc.), or at changes in the soil profile (e.g. surface, A horizon, B horizon, etc.), or from the different layers where fill is present (e.g. surface, fill type 1, fill type 2, natural soils, etc.).

Sampling depths should ensure that the residual, natural soils are exposed/sampled to a reasonable depth, e.g. 0.3 - 0.5 m. If due to refusal by the sampler or exceedance of equipment reach, this cannot be achieved, the geological log should clearly document the reason sampling was discontinued and that fill material continues to greater depths.

Surface samples should be 0 - 0.10 m or 0 - 0.15 m and samples from depth should be less than 0.3 m, to avoid compositing effects. (Some landuses may require shallower surface samples, e.g. banana lands 0.075 m, and this should be established as part of the DQOs process). Where thinner layers or horizons exist, the sample size should be reduced accordingly, and no sample should consist of multiple layers/horizons/strata.

5.0 Procedure

5.1 Sample collection

Clean, disposable gloves are to be used for each sample by all personnel who will contact the soil. This is to prevent both exposure to contaminants and cross-contamination of samples. Any sampling equipment is to be de-contaminated before use.

5.1.1 Sample transfer

Once collected, samples are to be transferred immediately to the appropriate sample container, ensuring that the container is filled to the top and that no head-space remains.

5.1.2 Hand tools

Refers to samples collected from the land surface, walls and floors of test pits or excavations, stockpiles, etc. Hand tools include spatulas, trowels, shovels, spades, etc.

The surface to be sampled is first to be cleaned of any organic material, e.g. grass and roots, and the sample collected from fresh, exposed soil. The soil should be exposed to remove any smear affects from the sampling equipment, and to ensure any exposed surfaces which may not be representative of contamination are removed, e.g. where release of volatiles may have occurred from the exposed soil.

5.1.3 Test pits

Test pits or excavations less than 1m depth are not to be entered unless appropriate assessment of stability has been conducted and documented. Test pits over 1 m depth are not to be entered.

Where test pits or excavations cannot be entered for WHS reasons, sampling from excavator buckets is permissible, providing the following controls are observed:

- the excavator bucket is decontaminated between sample locations;
- the sample is collected from the centre of the bucket; and
- the sample is collected from the interior of soil clods or a mass of uncohesive material which is undisturbed and has not contacted the excavator bucket.

The sampler should direct the excavator operator as to where the sample is to be collected, and, where volatiles are a contaminant of concern, screen the bucket with a PID prior to sampling.

5.1.4 Soil cores

For push tubes, split spoons, etc., samples should be transferred directly to the sampling container.

5.1.5 Augers

Samples should be collected from the auger with a trowel, by cutting away the outside and collecting soil from the centre of the auger bit. Samples should then be transferred directly to the sampling container.

5.1.6 Field screening for VOCs

If volatiles are a contaminant of concern and field screening using a photo-ionisation detector (PID) is required, a sample should also be transferred to a ziplock plastic bag.

5.1.7 Composite sampling

Composite sampling is used to reduce analytical costs and involves the bulking and thorough mixing of soil samples (collected as above), to form one composite sample for laboratory analysis. Generally, the samples should be sent to the laboratory for compositing, with appropriate instructions recorded on the COC.

Composite sampling must comply with the following rules:

- volatile substances, including BTEXN compounds and TRHs C6 – C10 are not suitable for composite sampling;
- samples to be composited must be collected from the same soil/fill horizon;
- soil with high clay content is not suitable for composite sampling;
- no more than 4 sub-samples should be included in a composite sample; and
- the sub-samples should be equal in size, from immediately adjacent sampling points, evenly spaced, and composited laterally.

5.2 Sample containers

Sample containers are to be decontaminated, clean and dry, and of the appropriate size and material. They are to include the appropriately preservative if required, and to have gastight, non-absorptive seals, which allow no head-space. Generally this is achieved using laboratory-supplied 125 mL to 250 mL clear glass jars. The laboratory should be contacted if numerous and/or specialty analytes are required, to confirm appropriate size or type of jar/s required.

5.3 Sample labelling

Samples should be labelled clearly on the outside wall of the container and the sample number should also be provided on the container lid. All labelling should be with waterproof pens/markers.

The following is to be included on the label:

- sample ID;
- project ID;
- date; and
- sampler's initials.

Sample ID must be a unique and logical identifier. This may include one of the following:

SL for sample location;

TP for test pit;

BH for borehole; or

MW for monitoring well.

The Sample ID needs to be followed by the Sample location number, and either the sample depth or a letter, e.g. SL01-0-0.15 or TP03-A.

Duplicate samples are not to be labelled "duplicate" etc., and are to conform to the sample ID system used, e.g. if there are six sample locations, duplicates should be labelled as the seventh, etc.

5.4 Sample handling, storage and dispatch

The soil jars, once filled with sample, are to be wiped clean (after rinsing with clean water if necessary) to avoid contamination of the eskies or people later handling the samples. They are to be wrapped in bubble wrap/padding, and immediately placed in an esky containing frozen ice-blocks. Eskies should be kept out of direct sunlight, hot vehicles, etc., as far as practical.

A Chain of Custody (COC) form is to be filled out and the COC is to be sent with the sample/s to the laboratory. The COC/s is to be placed in a ziploc plastic bag or plastic folder. All samples sent to the laboratory are to be included on the COC/s, and if no analysis is required, marked as "Hold".

If additional air space exists in the esky, this should be filled with scrunched-up newspaper or bubble wrap or similar. Eskies are to be secured with heavy tape and security seals, and clearly show the laboratory's contact information and Easterly Point contact information.

All samples, including QC samples, are to be transported to the primary and secondary laboratories. If transportation is by courier, eskies are not to be dispatched on Fridays (or days before public holidays) unless delivery the next day has been organised.

If samples cannot be dispatched on the day of sampling, with refreshed ice-blocks or ice for over-night transport, then the samples are to be refrigerated until dispatch. The laboratory should be contacted if any delays to dispatch occur, to confirm appropriate time is available for extraction/analysis based on holding times.

5.5 Sample location logging

A geological log is to be completed for each sample location by a qualified environmental scientist/engineer. Logs are to be completed for all sample locations, including for surface samples and ex-situ samples.

The log is to record the following data:

- job details, date, location, methods, climatic conditions, etc.;
- sample number and depth;
- soil classification (material type and texture), colour, consistency or density, inclusions, odour, staining, presence of artefacts, moisture content, etc.;
- filed measurements results;
- depth of excavation/drilling;
- excavation/drilling refusal;
- depth water inflow and/or groundwater level, if encountered, and comments regarding water if required; and
- any other relevant field observations.

5.6 QA documentation

A COC is to be completed for all samples to be analysed (including physical test parameters such as particle size analysis, etc.), and for all samples to be sent to the laboratories. Samples not to be analysed should be described as “Hold”.

The COC is to detail the following information:

- laboratory reference numbers, if available (including quotes);
- site identification;
- the samplers' initials;
- nature of the sample;
- collection time and date;
- analyses to be performed;
- sample preservation method;
- any relevant comments, e.g. level of contamination expected;
- level of quality control required; and
- dispatch information and signature.

5.7 QC samples

QC sampling is project-specific and may vary based on the DQOs. In general, the following should be collected as a minimum:

Quality control sample	Frequency
Field duplicates	≥ 10% or 1 if < 10 samples
Inter-laboratory duplicates	≥ 5% or 1 if < 20 samples
Rinsate samples	≥ 1/field batch
Trip blanks	≥ 1/field batch (volatiles)
Trip spikes	≥ 1/field batch (volatiles)

Trip spikes and trip blanks are laboratory prepared and should be organised through the laboratory prior to conducting the field work. Trip spikes and trip blanks should be held for as little time as possible prior to the field work and should be refrigerated prior to the field work. After sample collection, trip spikes and trip blanks are to be handled as a primary sample and should also be included on the COC.

Personal protective equipment**EPESHE-PR02****1.0 Purpose and scope**

To determine a procedure for the safe and proper use of personal protective equipment. This procedure should apply to all personnel working in potentially contaminated areas and is for the safety and protection of the workers.

2.0 Definitions

LEL	lower explosive limit
PID	photo-ionisation detector
PPE	personal protective equipment
OBZ	operators' breathing zone

3.0 References

- US Department of Health and Human Services (1985) *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*. US Department of Health and Human Services, Washington D.C.

4.0 Procedure

All personnel must be provided with appropriate personal protective equipment (PPE) which meets Australian standards for health and safety.

Personnel must be properly trained in the use of, safety and how to wear PPE prior to undertaking site work.

PPE must be worn in accordance with Table 1.

Table 1: Conditions requiring personal protective equipment

Conditions	Level of PPE	PPE required
All work sites		Safety boots. Long shirts and pants. SPF 30+ sunscreen and sunhat. Hard hats if machinery onsite or overhead hazards are identified in JSA. High visibility shirt / vest / coat (orange only for rail works). If wearing a hi-vis vest, it must NOT be removed when putting on hi-vis rainwear or overcoat.
All site works associated with potentially contaminated areas.	Level D	Modified Safety boots. Long shirts and pants. SPF 30+ sunscreen and sunhat. Hard hats if machinery onsite or overhead hazards. High visibility (Hi viz) vests (orange only for rail works). Complete Disposable suit or cotton coveralls if required. Disposable gloves and outer gloves if required. Safety glasses if required. Hearing protection if required.

Conditions	Level of PPE	PPE required
See Table 2	Level C	Level D PPE. Tape seals for outer glove and boots. Air purifying respirator with organic vapours and particulate filter cartridge.

The level of protection required in the exclusion zone is determined in accordance with Table 2 and is expected to be Level D or Level C.

4.1 Action levels

The action levels indicate when PPE should be worn, and when Level D protective clothing should be upgraded to Level C. Calibration and air monitoring data should be recorded on an appropriate monitoring form or site diary. Contaminant values which are in excess of established airborne action levels appropriate for the prescribed level of protection should be addressed immediately.

4.2 Air monitoring action levels

The monitoring criteria and action levels shown in Table 2 have been established to protect against exposure to volatile organic compounds. Monitoring is to be conducted with an appropriately calibrated PID for the times shown in Table 2.

Table 2: Photo-ionisation detector (PID) readings

Analyser Reading	Location	Time Period	PPE and Action
Background	Working Face	At all times	Level D protection, continue monitoring.
> Background, but < 5 ppm	OBZ	> 1 minute	Level D protection, monitor OBZ.
> 5 ppm and < 50 ppm	OBZ	> 1 minute	Level C protection, continue monitoring.
> 50 ppm	OBZ	Instantaneous (~ 10 seconds)	Stop work and move upwind while vapours dissipate. If elevated levels remain, cover spoil, evacuate upwind and revise work methods or procedures.

Respirators should be donned whenever any chemical odours are detected, including petrol-like odours, coal tars, creosotes, phenols, naphthalene (mothballs) or hydrogen sulfide (rotten egg gas). It is important to note that air purifying respirators will not protect against cyanide.

4.3 Limitations of protective clothing

The PPE selected are expected to provide protection against the types and concentrations of hazardous materials that may potentially be encountered. However, no protective garment, glove or boot is resistant to all chemicals at any concentration. In fact, chemicals may continue to permeate or degrade a garment even after the source of contamination is removed. In order to obtain optimum usage from PPE, the following procedures should be followed by all workers.

When using disposable coveralls, don a new clean garment each day, or when the overalls are visibly soiled.

Inspect all clothing, gloves and boots both prior to and during use for:

- imperfect seams;
- non-uniform coatings;
- tears, rips, cuts, etc.; and
- poorly functioning closures.

Inspect reusable garments, boots and gloves both prior to and during use for:

- visible signs of chemical permeation such as swelling, discoloration, stiffness or brittleness; and
- cracks or any signs of puncture.

Any reusable garments exhibiting any such characteristics should be discarded.

Establishment of contaminant control zones**EPESHE-PR03****1.0 Purpose & Scope**

To detail the required establishment of contaminant control zones. The objective of this procedure is to minimise the potential for exposure of personnel to contaminants and to prevent the offsite transport of contaminants.

2.0 General

Security measures and physical barriers are to be installed to exclude unauthorised personnel and equipment from the controlled areas.

All personnel within these areas are to be briefed as to the potential risks and be provided with the appropriate level of personal protective equipment (PPE).

Work zones to be established on site consist of 3 continuous zones: exclusion zone, contaminant reduction zone and support zone. Appropriate barriers and signs are to be erected and control points are to be established between each zone to regulate access.

3.0 Exclusion zone

This is the area where the excavation works are to be conducted, including stockpiling, truck loading and lay-down areas. The number of personnel and equipment in the exclusion zone should be kept to a minimum.

The exclusion zone is to be fenced-off using orange marker mesh-fence and appropriate signage is to be erected.

4.0 Contaminant reduction zone

This is the area where personnel put on and take off PPE, and where personnel and plant and equipment are decontaminated when exiting the work area. This zone serves as a buffer to reduce the possibility of contaminants being transferred from the exclusion zone to the support zone.

Truck washes are to be located within the contaminant reduction zone.

The contaminant reduction zone is to be fenced-off using orange marker mesh-fence and appropriate signage erected.

5.0 Support zone

Includes all other parts of the site where contaminant controls are not required. Potentially contaminated clothing, tools, plant, equipment or vehicles are not to be permitted in this work zone until appropriate decontamination has been conducted.

Decontamination of personnel**EPESHE-PR04****1.0 Purpose and scope**

Procedure for the safe decontamination of personnel. This procedure is required to minimise workers' exposure to potential contaminants and to prevent the off-site transport of contaminants. The procedure will be dependent on the contaminants of concern and investigation methodology.

2.0 General

Decontamination must be conducted before breaks, at the end of the workday or before leaving the contaminant reduction zone for any reason. It is important to note that dermal contact, ingestion and inhalation are the main exposure pathways for contaminants, and decontamination should be conducted before any hand-to-mouth behaviour, e.g. eating, drinking and smoking.

The decontamination area should be established before commencing works and is to include plastic sheeting, grated boot wash, tubs of clean water with detergent, tubs of clean rinse water, soap, scrubbing brush, towels, etc. and lined garbage containers.

3.0 Procedure

The following procedure is to be followed:

- remove disposable booties (if used) and place in plastic garbage bag for disposal;
- wash boots with detergent solution and rinse with clean water;
- wash outer gloves in detergent solution and rinse in clean water. Remove outer gloves and place into plastic garbage bag for disposal or retain for subsequent reuse;
- remove disposable coveralls, taking care to prevent the release and dispersion of dusts which may have accumulated on the coveralls during on-site operations and place coveralls into a plastic garbage bag;
- if non-disposable coveralls are used, place coveralls into laundry bag;
- remove respirator (if used) and place spent filters into a plastic garbage bag. Place the respirator into a separate plastic bag for later cleaning and disinfection. Respirators must be disinfected daily, if used;
- remove inner gloves and place in plastic garbage bag for disposal; and
- thoroughly wash hands and face.

Plastic sheeting and all disposable items placed in plastic garbage bags are to be removed at the end of each workday. Plastic sheeting should be rolled up and placed in plastic garbage bags. All potentially contaminated material must be disposed of in an appropriate manner.

Decontamination of plant and equipment**EPESHE-PR05****1.0 Purpose and scope**

Procedure for the safe decontamination of plant and equipment. This procedure is required to minimise workers' exposure to potential contaminants, to prevent cross-contamination of sample locations, and to prevent the off-site transport of contaminants.

2.0 General

All plant or equipment which comes into contact with potentially contaminated soils or water is to be decontaminated prior to leaving the contaminant reduction zone.

To facilitate the decontamination of plant and equipment, cleaning should also be conducted before the plant or equipment is allowed within the exclusion zone. All plant and equipment used should be in good condition and free of oil or hydraulic leaks.

If a wheel wash has been established in the contaminant reduction zone, decontamination of plant and equipment is to be carried out on the wheel wash.

If a wheel wash has not been established, decontamination of plant and equipment is to be carried out on an area covered by plastic sheeting. After use, plastic sheeting is to be placed in plastic garbage bags.

3.0 Procedure

Decontamination of plant and equipment is to be carried out as follows:

- scrape and remove all earthen materials and dry wipe;
- hose down with high pressure, hot water wash, with a hydrocarbon surfactant;
- scrub with detergent solution;
- rinse with clean water; and
- collect scraped materials and place into plastic garbage bags.

Depending on the contaminant type and the location of field work, the full procedure may not be possible, e.g. lack of reliable water. In these instances, depending on the contaminant type, scrapping and sweeping of buckets and wheels as necessary may be sufficient.

Rinsate from decontamination is not to be discharged to stormwater or sewer but should be collected for appropriate testing and disposal to a licensed facility, if required. Plastic sheeting should be rolled up and placed in plastic garbage bags. All potentially contaminated material must be disposed of in an appropriate manner.

Decontamination of sampling equipment**EPESHE-PR06****1.0 Purpose and scope**

Procedure for the decontamination of sampling equipment. This procedure is required to ensure that samples are representative of the media sampled by preventing cross-contamination of samples, and to allow the documentation of standard operating procedures used for decontamination of sampling equipment.

2.0 General

All equipment to be used for direct sampling of environmental media is to be decontaminated before sampling and between samples. This includes all non-disposable equipment, e.g. spatulas, trowels, spades, shovels, auger bits, push tubes, split spoons, pump tube, etc.

Clean, disposable gloves are to be used by all personnel who will contact the sampling equipment. This is to prevent both exposure to contaminants and contamination of equipment.

3.0 Procedure

Decontamination of all sampling equipment is to be carried out as follows:

- scrape and remove all visible earthen materials, where possible;
- water scrub and rinse with clean water, where possible;
- scrub with appropriate detergent solution;
- rinse with clean water; and
- repeat if necessary.

Collect scraped soil materials and place in appropriate location, pre-agreed with the client. Other wastes must be placed into plastic garbage bags for waste collection.

Rinsate from decontamination is not to be discharged to stormwater or sewer but should be collected for appropriate testing and disposal at a licensed facility, if required. Where used, plastic sheeting should be rolled up and placed in plastic garbage bags. All potentially contaminated material must be disposed of in an appropriate manner.

Vehicle and heavy machinery operations**EPESHE-PR09****1.0 Purpose and scope**

This procedure applies to the planning, preparation and conduct of work being carried out near vehicles and heavy equipment and plant.

Conducting work near moving plant is often a high-risk activity and it is necessary to ensure risk control measures are applied to ensure ground personnel are protected. This procedure provides guidance on the common hazards associated when working around heavy equipment and details the requirements necessary for assessing and controlling these risks.

2.0 Requirements**2.1 Planning for moving plant and vehicles**

Develop a vehicle movement procedure for each site based on the risk assessment and JSA in the form of a diagram, documented procedure or verbal instructions to site personnel. This procedure should identify the preferred travel paths for all equipment and designate areas for vehicles leaving or crossing through the traffic stream. It should be reviewed each time site conditions change. It should also identify key places such as unloading or turning areas.

Ensure a JSA, a risk assessment, and a health and safety plan are done for the project and that vehicle and plant movement issues are addressed.

2.2 Authorised operators

Evaluate operator's expertise through documented experience (resume, licences etc) and practical evaluation.

Allow only qualified operators to drive equipment. Prohibit equipment from being operated by personnel who have not been authorised to operate it or are not licensed and inadequately experienced.

Require operators to use any seat restraints where fitted.

Brief operators to stop work whenever unauthorised ground personnel or other equipment enters their work area.

Operators not to operate plant while they are under the influence of alcohol or any substance including prescription and non-prescription drugs, which may affect their ability to operate in a safe manner.

Where practicable plant should always move in forward direction.

2.3 Ground personnel

All personnel to wear high-visibility vests or shirts and safety helmets when in areas adjacent to operating equipment.

Personnel to stay outside of equipment *working envelopes*. Personnel may only enter the *working envelope* of a machine when they have attracted the operator's attention to indicate they intend to do so, and only once the operator has given them permission to approach.

Personnel are not to position themselves between any operating equipment and other fixed objects.

2.4 Equipment

Maintain operations manuals on site for each piece of equipment in use. Ensure that operators operate the equipment within parameters.

Ensure that equipment with a mass greater than 700 kg is fitted with either a Roll Overprotective Structure (ROPS) or, in the case of an excavator, a Falling Object Protective Structure (FOPS).

Verify that seatbelts are present and functional in all equipment. Prohibit the use of equipment which has cracked or missing cab glass. Maintain reverse alarms on trucks, mobile plant etc. Require that extensions on equipment are grounded when not in use.

All safety controls must be checked and in working order. All environmental controls, including required mufflers, are to be functional.

If leaving plant unattended, it should be parked on a flat surface where possible or across a slope with the transmission neutralised.

Plant security measures (i.e. vandal covers) should be implemented to prevent unauthorised access.

2.5 Inspection and maintenance

Regular inspections should be carried out according to manufacturers specifications whether the plant is leased, hired or owned. Daily checks to be done by the operator to ascertain the general condition of the plant with regular maintenance checks to be performed by a competent person (e.g. mechanic). If inspections show the condition of plant to be unsafe then its use will be prohibited until the required repairs or maintenance has been completed.

If plant such as excavators is to be used for lifting, they must have their Safe Working Loads (SWL) displayed and not exceeded.

Any defects to equipment should be reported immediately to the person responsible to affect the repairs and the plant made inoperable to prevent use until the defect is repaired.

2.6 Supervision, training and instruction

All operators are to be inducted to site and given a review of the JSA and Risk Assessment prior starting work. All operators are to have appropriate certificates of competency. All persons must be trained to follow systems of work that enable them to perform their work in a manner that is safe. Use spotters or safety observers to control traffic movements.

2.7 Practical steps for controlling hazards

Carrying out work near moving plant is a high-risk activity where additional control measures are necessary to ensure workplace health and safety in relation to the use of the plant and activities around them. This section highlights issues that should be considered when conducting the site JSA.

The following hazards have resulted in fatalities in the past:

- plant being operated near persons;
- plant being operated near underground or above ground electrical services;
- reversing plant;
- loading or unloading vehicles;
- operator driving at speeds too fast for the conditions;
- moving plant onto a public road from site;

- the operator or maintenance personnel not fully qualified or conversant with the machine;
- unauthorised access;
- working too close to a shoulder or embankment;
- failing to engage low gear before negotiating a steep gradient;
- crossing logs, stumps or drains;
- not using adequate chocks; and
- not applying safety locks or pins when conducting maintenance or adjustments.

Powered heavy equipment is hazardous in situations where:

- there are other people or vehicles sharing the same site;
- there is uncontrolled entry to the site during and after work;
- plant is poorly maintained, especially critical safety components such as brakes;
- using the equipment in applications for which it has not been designed;
- the load on the plant is unknown and exceeds the SWL;
- hazardous atmospheres are present, particularly in spaces where a flammable or explosive vapour may be present, such as confined spaces or trenches; and
- the base on which the plant operates is unstable (i.e. subject to slippage, subsidence or collapse).

The risk assessment will determine whether some or all of the following control measures are required and to be implemented:

- isolating vehicles and plant used in or around the site and work area from persons on the site;
- securing the area where moving plant is being used with fencing, barriers, barricades and warning signs;
- planning the direction that plant moves so that the visibility of operators is not restricted;
- have safe working distances in place;
- minimising the number of moving plants working at one time and have a person doing traffic control where multiple plant is being utilised; and
- implementing systems of control and notices at all entrances and exits where vehicles or plant enter or leave the work area by public roads.

Appendix B

Calibration record

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 12D100012



Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad Display	Operation	✓	
	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		393774	pH 7.01
2. pH 4.00		pH 4.00		399527	pH 4.01
3. ORP		233mV		390802/387771	233mV
4. EC		2760uS		385789	2761uS
5. D.O		100%		Fresh Air	99.0% - 753.0mmHg
6. Temp		23oC		MultiTherm 09000528	23oC

Calibrated by:

Leonard Westerman-Cox

Calibration date:

17-Feb-23

Next calibration due:

20/03/2023

Appendix C

Data usability

Background to data usability

1.0 Introduction

Information generated from environmental investigations requires some statement in regard to the usability of the data¹, and therefore quality assurance (QA) and quality control (QC) are an integral part of the analysis and interpretation of environmental data. QA/QC used in contaminated sites investigations is briefly reviewed in this section.

Quality assurance involves all of the planned and systematic actions, procedures, checks and decisions undertaken to ensure the representativeness and integrity of samples collected for analysis, and accuracy and reliability of the analytical results (NEPC 2013). Quality control is the component of QA which monitors and measures the effectiveness of other procedures by the comparison of these measures to previously decided objectives.

There are various components of QA/QC which address the operation of the laboratories and the routine procedures conducted to achieve a minimum level of quality. Examples of QA components include sample control, data transfer, instrument calibration, staff training, etc. Examples of QC components include the measurement of samples to assess the quality of reagents and standards, cleanliness of apparatus, accuracy and precision of methods and instruments, etc. Generally, the management of laboratory QA issues is addressed through accreditation by the National Association of Testing Authorities (NATA), or similar, and monitoring of these issues is not addressed on a project by project basis.

On a project specific basis, those involved in collecting, assessing or reviewing the relevant data should ensure the minimum level of QA is conducted. Appropriate numbers and types of QC samples should be collected and analysed, both field QC samples and laboratory QC samples. While minimum levels of QA/QC are specified in some guidelines, e.g. AS 4482.1-1997, CRC Care 2013, NEPC 2013, the minimum level required may vary between projects, based on site and project specific aspects. This means that the minimum specified requirements may not be sufficient for a particular project. As described in the NEPM (NEPC 2013):

As a general rule, the level of required QC is that which adequately measures the effects of all possible influences upon sample integrity, accuracy and precision, and is capable of predicting their variation with a high degree of confidence.

An individual QA/QC assessment should be applied to all media sampled, e.g. soil, groundwater, soil vapour, etc. to determine if the data for each media sampled is acceptable based on the project specific objectives. CRC Care 2013 describes that:

Quality assurance and quality control (QA/QC) procedures should be implemented in every step of the assessment process to ensure the collection of data of acceptable quality.

¹ To avoid confusion with the data quality objectives (DQOs) process, the term data usability is used rather than data quality.

2.0 PARCC parameters

Following receipt of laboratory analytical results, data validation is conducted to determine if the specified acceptance criteria have been met. This is conducted to ensure that all data, and subsequent decisions based on that data, are technically sound. Data quality is typically discussed in terms of precision, accuracy, representativeness, comparability and completeness. These are referred to as the PARCC parameters². Field QA/QC and laboratory QC is described below within the PARCC framework.

2.1 Precision

2.1.1 Duplicates

Precision is a measure of the reproducibility of results under a given set of conditions and is assessed on the basis of agreement between a set of duplicate results obtained from duplicate analyses. The precision of a duplicate determination is measured by comparing the difference between the two samples to the average of the two samples, expressed as a relative percentage difference (RPD).

The determination is:

$$RPD = (P-D)/(P+D/2) \times 100$$

P = primary sample

D = duplicate sample

Three types of duplicates are commonly used:

- field duplicates are used to measure the precision of the sampling and analytical process;
- inter-laboratory duplicates are used to check on the analytical performance of the primary laboratory; and
- laboratory duplicates are used to measure the precision of the analytical process.

Field duplicates are the main type of duplicates used in soil vapour assessments.

2.1.2 Field Duplicates

Field duplicates (or blind replicates) are collected from the same location and submitted to the laboratory for analyses, as a primary sample. The sample nomenclature is such that the laboratory is not aware which sample is a duplicate. The RPD is calculated to determine the degree of repeatability (precision) of results obtained from the duplicate analysis. Where results are below the practical quantification limit (PQLs) or limits of reporting (LORs), i.e. non-detects, RPDs cannot be calculated. Where one result is detected, the results are considered to conform when the detected result is less than five times the PQL/LOR.

The PQL/LOR is the lowest concentration of an analyte that can be determined with acceptable precision (repeatability) and accuracy under the test conditions. The PQL/LOR is usually calculated as five times the lower limit of detection (or method detection limit). However, adjustments in PQLs/LORs may be required due to interference from high contaminant concentrations.

As environmental samples can exhibit a high degree of heterogeneity, field duplicates often exceed the acceptance criterion, particularly if the samples are co-collected, for example, because of the potential for losing volatiles during sample splitting. It is generally accepted that before results which fail the acceptance criterion are described as due to low concentrations or sample heterogeneity, the sample should be re-analysed. This may not be necessary when the analytical results are significantly less than the landuse criteria.

² The PARCC parameters are sometimes referred to as data quality indicators (DQIs).

2.1.3 Inter-laboratory duplicates

Inter-laboratory duplicates (or split samples) are field duplicates which are sent to a second laboratory and analysed for the same analytes and, as far as possible, by the same methods. These provide a check on the analytical performance of the primary laboratory.

2.1.4 Laboratory Duplicates

Laboratory duplicates (or check samples) are field samples which are split by the laboratory and thereafter treated as separate samples. The RPD is calculated to determine the degree of repeatability (precision) of results obtained from the duplicate analysis.

USEPA (1994) specifies that for inorganics, if the results for laboratory duplicates fall outside of the recommended control limits for a particular analyte, all results for that analyte, in all associated samples of the same matrix, should be qualified as an estimated quantity. For organics, USEPA (1999) does not specify recommended actions for laboratory duplicates.

2.2 Accuracy

Accuracy is a measure of the agreement between an experimental determination and the true value of the parameter being measured. Inasmuch as the true sample concentrations are not known, the determination of accuracy is achieved through the analysis of known reference materials or assessed by the analysis of matrix spikes. Spiking of reference material into the actual sample matrix is the preferred technique because it provides a measure of the matrix effects on the analytical recovery.

Accuracy is measured in terms of percentage recovery as defined by:

$$\%R = ((SSR - SR) / SA) \times 100$$

%R = percentage recovery spike
 SSR = spiked sample result
 SR = sample result
 SA = spike added

For soil vapour assessments, accuracy is also determined through the use of suitable sampling methods, e.g. suitable flow rates, and checks on the system, e.g. leak testing.

2.2.1 Matrix spikes/matrix spike duplicates

These are samples prepared in the laboratory by dividing a sample into two aliquots and then spiking each with identical concentrations of specific analytes. The matrix spike (MS) and matrix spike duplicate (MSD) are then analysed separately and the results compared to determine the accuracy and precision of the analytes.

2.2.2 Surrogate spikes

Surrogate spikes provide an indication of analytical accuracy. They are used only for analyses which use gas chromatography and are compounds which are similar to the organic analytes of interest in chemical composition, extraction and chromatography, but which are not normally found in field samples. Surrogates are generally spiked into all sample aliquots prior to preparation and analysis. If the surrogate spike recovery does not meet the prescribed acceptance criteria, the samples should be re-analysed.

2.2.3 Laboratory control samples

Laboratory control samples (quality control check samples) are laboratory prepared samples of an appropriate clean matrix (i.e. sand, distilled water, air) which are spiked with known concentrations of specific analytes. The laboratory control sample (LCS) is then analysed and the results are used to assess sample preparation and analytical accuracy, free of matrix effects. Certified reference material (CRM) is another form of LCS, and involves the analysis of a known standard as part of the laboratory batch, e.g. British Columbia sediment samples for analysis of metals.

2.2.4 Flow rates

To minimise the potential for desorption of contaminants from soil to soil vapour in the sampling zone, sample flow rates should be selected so they are appropriate for the soil type (NEPC 2013). CRC Care 2013 (Box 5.4) recommends flow rates should be within the range of 10 mL/min – 500 mL/min, however lower sample flow rates, e.g. < 0.2 L/min, may be more appropriate where soil vapour samples are collected from low permeable soils.

2.2.5 Leak testing

Leak testing is required to demonstrate that actual soil gas was sampled, and not ambient air drawn in through the system.

CRC Care 2013, Appendix F1, describes that “when quantitative soil vapour data are desired, for example for risk assessments, leak testing the system as a quality measure is strongly recommended. Leaks in the sample train or leaks of ambient air into the probe tubing can result in diluting the soil vapour samples with ambient air and will result in underestimating actual contaminant concentrations”.

There are generally two following methods of leak detection recommended:

- 1) Performing a “shut-in” test of the sampling train and applying a leak detection compound to the vapour probe at the surface; or
- 2) Applying a tracer gas over the probe and over the entire sampling apparatus. i.e. a shroud.

2.3 Representativeness

Representativeness refers to the degree to which the samples reflect the site specific conditions. It is primarily dependent on the design and implementation of the sampling program, with representativeness of the data being partially ensured by the avoidance of cross-contamination, adherence to sample handling and analytical methods, use of field duplicates, ensuring that samples do not exceed holding times prior to analysis, use of chain-of-custody forms and other appropriate documentation.

There are a number of QC samples which can be collected to assist in the qualification of representativeness, including:

2.3.1 Rinsate/equipment blanks

Used to determine if sampling equipment has been adequately decontaminated to ensure that cross-contamination between samples has not occurred. The frequency for rinsate blanks is one per piece of equipment per day (AS 4482.1-1997), however it should be noted that cross-contamination will bias samples upwards, and the frequency should therefore be at the investigator's discretion.

Rinsate blanks are generally referred to as equipment blanks in soil vapour assessments, where purified gas (air, nitrogen) is collected through the sampling system to test for the presence of contaminants introduced by the sampling method (CRC Care 2013).

2.3.2 Trip blanks

Used only when volatile organics are sampled to determine if transport in motor vehicles or similar has resulted in contamination of the samples. For trip blanks, a sufficient number should be analysed to allow the representativeness of the sampling to be determined. However, it should be noted that cross-contamination will bias samples upwards, and the frequency should therefore be at the investigator's discretion.

2.3.3 Trip spikes

Used only when volatile organics are sampled to attempt to quantify loss of volatiles during the analytical process. For trip spikes, a sufficient number of samples should be analysed to allow qualification of the likely loss of volatiles during the field sampling.

2.3.4 Laboratory blanks

Laboratory blanks (or method blanks, or analysis blanks) are used to verify that contaminants are not introduced into the samples during sample preparation and analysis. The NEPM (NEPC 1999) specifies that laboratory blanks should be conducted at a frequency of "at least one per process batch". The acceptance criterion for laboratory blanks is non-detect at the PQL/LOR.

2.3.5 Purge volumes

The sample probe, tubing and equipment all have an internal volume that must be purged prior to sampling to ensure that only soil vapour is sampled and that the data obtained is representative (NEPC 2013).

NEPC 2013 describes that "generally, three to four system volumes should be purged where flow rates allow and as long as the purge volume is not too large". CRC Care 2013 (Box 5.4), however, describes a minimum of one volume should be purged prior to sampling, including sample tubing and well head volume, i.e. sand pack. Regardless of the calculation used to estimate the purge volume and number of system volumes purged, this should be clearly documented and consistent for all sample locations and where repeat sampling is undertaken for comparative purposes.

Purging should also occur at a rate similar to that used for sampling.

2.3.6 Equilibration time

In-situ soil vapour can be displaced, and a period of time is required following installation for the soil vapour to re-equilibrate. The equilibration time between installation of the sampling probe and sampling should be based on drilling method, probe type and data quality objectives (DQOs).

For example, for probes where tubing is buried in a sandpack in the ground the equilibration time is approximately 8 hours. CRC Care describes that "to obtain data for risk-decision making in Australia, it is preferred that the soil vapour probes consisting of tubing buried in a sand pack be allowed to equilibrate for a least 24 hours before sampling. However, if sampling time is more constrained it is acceptable to sample after a shorted period of time (e.g. 8 hours) provided the wells were installed during dry weather conditions (i.e. not in the rain where the installation allowed for the movement of rainfall down to the probe sample depth) and stabilised parameters (oxygen, carbon dioxide and PID levels) can be clearly demonstrated".

2.4 Comparability

Comparability is a qualitative parameter designed to express the confidence with which one data set may be compared with another, including established criteria. Comparability is maintained by using consistent methods and ensuring that PQLs/LORs are below the relevant criteria.

2.5 Completeness

Quality control sample completeness is defined as the number of QC samples which should have been analysed, compared to the actual number analysed. If the appropriate number of QC samples are not analysed with each matrix or sample batch, then the data reviewer should use professional judgement to determine if the associated sample data should be qualified.

Completeness also refers to the complete and correct inclusion of field/sample documentation and laboratory documentation.

For soil vapour assessments documentation should include oxygen, carbon dioxide and methane readings, either measured in the field using field equipment or in the laboratory. CRC Care 2013, Appendix H, describes that stabilised PID and LEL readings, as well as oxygen, carbon dioxide and methane, should be measured before and after sampling.

Soil vapour data should also be assessed based on the specified margins of safety (MOS), described in either Box 5.8/5.9, CRC care 2013.

2.5.1 QC sample frequency and criteria

Based on EPA made or approved guidelines, the following QC samples are required for all contaminated site investigations, unless otherwise specified as part of the DQOs process review. All data to be used for validation should conform as a minimum to the requirements specified, regardless of minimum sample size.

Quality control sample	Frequency	Results ¹
<i>Precision</i>		
Field duplicates	≥ 5%	≤ 30 - 50% ²
Inter-laboratory duplicates	≥ 5%	≤ 30 - 50% ²
Laboratory duplicates	≥ 10%	Lab specified ³
<i>Accuracy</i>		
Surrogate spikes	Organics by GC	70 – 130% ⁴
Matrix spikes (MSs)	≥ 1/media type	70 - 130% ⁵
Laboratory control samples (LCSs)	≥ 1/lab batch	70 - 130% ⁶
Certified reference material (CRM)	LCS for metals	Lab specified ⁷
<i>Representativeness</i>		
Rinsate samples	≥ 1/field batch	< LOR
Trip blanks	≥ 1/field batch (volatiles)	< LOR
Trip spikes	≥ 1/field batch (volatiles)	70 - 130%, ≤ 30 - 50% ⁸

Quality control sample	Frequency	Results ¹
Laboratory blanks	≥ 1/lab batch	< LOR
Field blanks	≥ 1/field batch ⁹	< LOR

Table notes:

1. Where results are laboratory specified, the laboratory analytical reports should be consulted for specific information.
2. Relative percentage differences (RPDs) for field duplicates from AS 4482.1 (1997).
3. RPDs for laboratory duplicates specified by the laboratory. Based on the magnitude of the results compared to the level of reporting (LOR), e.g. ALS: result < 10 x LOR = no limit, 10 – 20 x LOR = 0-50%, > 20 x LOR = 0-20%. LabMark: < 5 x LOR = 0-100%, 5 – 10 x LOR = 0-75%, > 10 x LOR = 0-50% or 0-30% for metals.
4. Surrogate recoveries specified by laboratory based on global acceptance criteria or dynamic recovery limits based on statistical evaluation of actual laboratory data.
5. MS recoveries specified by laboratory based on global acceptance criteria.
6. LCS recoveries specified by laboratory based on global acceptance criteria or dynamic recovery limits based on statistical evaluation of actual laboratory data.
7. CRM recoveries specified by laboratory based on global acceptance criteria.
8. Trip spike results are specified as either recoveries or RPDs.
9. Passive soil vapour assessments only.

3.0 References

Australian New Zealand Environment and Conservation Council (1996) *Guidelines for the laboratory analysis of contaminated soils*, ANZECC, Canberra, ACT.

Australian Standard AS 4482.1 (2005) *Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and Semi-volatile compounds*, Standards Australia, Homebush, NSW.

CRC for Contamination Assessment and Remediation of the Environment (CARE) (2013) *Petroleum hydrocarbon vapour intrusion assessment: Australian guidance*, Technical Report No. 23. CRC Care, Adelaide, SA.

National Environment Protection Council (NEPC) (2013) *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), Schedule A and Schedules B(1) – B(9)*, National Environment Protection Council.

NSW Environment Protection Authority (EPA) (2020) *Consultants reporting on contaminated land, Contaminated land guidelines*, (Ref. EPA 2020P2233), State of NSW and the NSW EPA.

United States Environmental Protection Agency (USEPA), Contract Laboratory Program (1994) *National Functional Guidelines for Inorganic Data Review*, USEPA, Washington, DC.

USEPA, Contract Laboratory Program (1999) *National Functional Guidelines for Organic Data Review*, USEPA, Washington, DC.

Data Usability Summary Assessment - Soil

All site work was completed in accordance with standard Easterly Point sampling protocols, including a quality assurance/quality control (QA/QC) programme, standard operating procedures and a set of data quality indicators (DQIs).

A data usability assessment was performed for the soil data collected by Easterly Point, as summarised in the following tables:

- Table 1.1, field QC samples summary;
- Table 1.2, summary of field QA/QC; and
- Table 1.3, summary of laboratory QA/QC.

Table 1.1: Field QC samples summary

	Total samples	Field duplicates ¹	Inter-lab duplicates ¹
Metals	30	2 (6.7%)	2 (6.7%)
Arsenic	85	3 (3%)	3 (3%)
OCPs	91	2 (2%)	2 (2%)
OPPs	6	1 (17%)	1 (17%)

Notes:

1. Shows number of duplicate samples collected and the percentage of total samples analysed.

Table 1.2: Summary of field QA/QC

Parameter	Complies	Comments ¹
<i>Precision</i>		
Standard operating procedures (SOPs) appropriate and complied with	Yes	All sampling was conducted under standard Easterly Point operating procedures, and project specific DQIs.
Field duplicates	Partial	≥ 5%. RPD² criteria < 30% – 50%. An acceptable number of field duplicate samples were collected and analysed for metals and OPPs, however the collection rate was less than 5% for arsenic and OCPs. It is highlighted that while two field duplicates were analysed for metals, the primary sample was not. No RPD exceedances were reported for any analytes.
Inter-laboratory duplicates	Partial	≥ 5%. RPD² criteria < 30% – 50%. An acceptable number of inter-lab duplicate samples were collected and analysed for metals and OPPs, however the collection rate was less than 5% for arsenic and OCPs. It is highlighted that while two inter-lab duplicates were analysed for metals, the primary sample was not. No RPD exceedances were reported for any analytes.

Parameter	Complies	Comments ¹
<i>Accuracy</i>		
Matrix spikes samples appropriate	Partial	≥ 1/media type. Matrix spike analysis carried out on a combination of anonymous and relevant samples.
<i>Representativeness</i>		
Sample collection - preservation	Yes	All samples were collected directly into laboratory supplied jars with no headspace. All samples were placed immediately into eskies containing ice.
Sample collection - sample splitting	Yes	Duplicate samples were split in the field by filling each container collectively (i.e. co-collected).
Field equipment calibrated	n/a	A PID was not used as volatiles were not a primary contaminant of concern.
Decontamination procedures	Yes	A new pair of disposable gloves were used for the collection of each sample.
Rinsate samples	n/a	Required ≥ 1/field batch, < LORs. No rinsate blanks were collected as no reusable equipment was used for sampling.
Trip blanks	n/a	≥ 1/field batch (volatiles), < LORs. No trip blank samples were collected as samples were not analysed for volatiles.
Trip spikes	n/a	≥ 1/field batch (volatiles), 70 - 130%, (recovery) or ≤ 30 - 50% (RPDs). No trip spike samples were collected as samples were not analysed for volatiles.
<i>Comparability</i>		
Consistent sampling staff	Yes	All field work was conducted by Hailey Spry of Easterly Point.
Consistent weather/field conditions	Yes	No extreme weather conditions occurred during the investigation which would be expected to impact on soil field conditions.
<i>Completeness</i>		
Sample logs and field data	Yes	-
Chain of Custody	Yes	-

Notes:

- For QC samples, specified frequency and acceptance criteria shown.
- RPD = relative percentage difference.

Table 1.3: Summary of laboratory QA/QC

Parameter	Complies	Notes ¹
<i>Precision</i>		
Laboratory duplicates	Partial	≥ 10%, laboratory specified. Laboratory duplicate samples were analysed at a frequency above the required rate, however multiple RPD exceedances were reported, ranging from 31% to 140%.
<i>Accuracy</i>		
Surrogate spikes	Partial	Organics by GC, 70% - 130%. Surrogates spike samples were analysed with some OCPs results for reported above the laboratory specified global acceptance criteria.
Matrix spikes analysis appropriate	Yes	≥ 70% - 130%. All matrix spike recoveries were within the laboratory specified global acceptance criteria.
Laboratory control samples (LCSs)	Yes	≥ 1/lab batch, 70% - 130%. All LCS recoveries were within the laboratory specified global acceptance criteria.
<i>Representativeness</i>		
Sample condition	Yes	Some samples were broken in transit, however, samples were either not chosen for analysis and/or the missing samples were not considered significant loss to the overall analysis regime.
Holding times	Yes	-
Laboratory blanks	Yes	≥ 1/lab batch, < LORs.
<i>Comparability</i>		
NATA accredited laboratory	Partial	Eurofins is a NATA accredited laboratory (accreditation number 1261). The secondary laboratory, ALS is also NATA accredited (accreditation number 825).
NEPM methods or similar	Yes	Eurofins and ALS describe their in-house laboratory methods are referenced from NEPC, ASTM and modified USEPA/APHA documents.
Limits of reporting (LORs) consistent and appropriate	Yes	Some difference exist between the primary and secondary laboratory LORs, however all are below the relevant criteria.
<i>Completeness</i>		
Sample receipt	Yes	-
Laboratory Reports	Yes	-

Notes:

1. For QC samples, acceptance criteria shown. Acceptance criteria can vary based on analyte, statistical data and laboratory specific methods. Laboratory specified relates to detected concentrations based on LORs, e.g. result < 10 x LOR = no limit, 10 – 20 x LOR = 0 - 50%, > 20 x LOR = 0 - 20%. See laboratory reports for specific details.

Summary and discussion

The following issues were identified with the data:

Precision

The data shows good precision with no RPD exceedances reported. However, it is noted that the collection rate of field and inter-laboratory duplicate samples was below the acceptance criteria for arsenic and OCPs, and no primary sample was analysed for metals to allow comparison to the duplicate samples.

Laboratory duplicates were analysed at a frequency above the required rate, however multiple RPD exceedances were reported. These exceedances were either marginal, or due to one of the results being non-detect.

Accuracy

The accuracy of the analysis is confirmed by matrix spike and LCS recoveries within the acceptance criteria. Some OCP surrogate spike recovery exceedances were reported, however were marginal and not deemed significant to the quality of the data.

Representativeness

No outliers have been reported for QC samples collected to assist in the qualification of representativeness.

Comparability

The data is considered to be acceptable, with consistent sampling staff, NATA accredited laboratories used and all LORs below the relevant criteria.

Completeness

Laboratory and field documentation is considered to be complete.

Summary

While a lower rate of duplicates and inter-laboratory duplicates were collected for some analytes, based on the number of samples collected, RPD results and concentrations reported, i.e. no marginal results in comparison to the adopted criteria, this is not considered significant enough to impact the precision of the results.

In summary, while some minor outliers were reported, overall, the data is considered to be of an acceptable quality and to be suitable to support the results of the investigation.

Table 1.1: Analytical Summary, Quality Control (mg/kg)

Analyte	LOR mg/kg	LOR mg/kg	TP05 1.3-1.4	QC02	RPD	QC03	RPD
Type	Primary	Interlab Duplicate	Primary	Duplicate	%	Interlab Duplicate	%
Media	Soil	Soil	Soil	Soil	-	Soil	-
Metals							
Arsenic	2	5	< 2	< 2	-	<5	-
Cadmium	0.5	1	-	< 0.5	-	<1	-
Chromium	5	2	-	77	-	84	-
Copper	5	5	-	13	-	11	-
Lead	5	5	-	6.5	-	6	-
Mercury	0.1	0.1	-	< 0.1	-	0.1	-
Nickel	5	2	-	21	-	10	-
Zinc	5	5	-	57	-	29	-
Organochlorine Pesticides							
4,4'-DDD	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
4,4'-DDE	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
4,4'-DDT	< 0.05	<0.2	< 0.05	< 0.05	-	<0.2	-
α-HCH	< 0.05	-	< 0.05	< 0.05	-	-	-
Aldrin	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Aldrin and Dieldrin (Total)*	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
β-HCH	< 0.05	-	< 0.05	< 0.05	-	-	-
Chlordanes - Total	< 0.1	<0.05	< 0.1	< 0.1	-	<0.05	-
DDT + DDE + DDD (Total)*	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
δ-HCH	< 0.05	-	< 0.05	< 0.05	-	-	-
Dieldrin	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Endosulfan I	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Endosulfan II	< 0.05	-	< 0.05	< 0.05	-	-	-
Endosulfan sulphate	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Endrin	< 0.05	-	< 0.05	< 0.05	-	-	-
Endrin aldehyde	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Endrin ketone	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
γ-HCH (Lindane)	< 0.05	-	< 0.05	< 0.05	-	-	-
Heptachlor	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Heptachlor epoxide	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Hexachlorobenzene	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Methoxychlor	< 0.05	<0.2	< 0.05	< 0.05	-	<0.2	-
Toxaphene	< 0.5	-	< 0.5	< 0.5	-	-	-

Table 1.1: Analytical Summary, Quality Control (mg/kg)

Analyte	LOR mg/kg	LOR mg/kg	TP05 1.3-1.4	QC02	RPD	QC03	RPD
Type	Primary	Interlab Duplicate	Primary	Duplicate	%	Interlab Duplicate	%
Media	Soil	Soil	Soil	Soil	-	Soil	-
<i>Organophosphorus Pesticides</i>							
Azinphos-methyl	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Bolstar	< 0.2	-	< 0.2	< 0.2	-	-	-
Chlorfenvinphos	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Chlorpyrifos	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Chlorpyrifos-methyl	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Coumaphos	< 2	-	< 2	< 2	-	-	-
Demeton-O	< 0.2	-	< 0.2	< 0.2	-	-	-
Demeton-S	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Diazinon	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Dichlorvos	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Dimethoate	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Disulfoton	< 0.2	-	< 0.2	< 0.2	-	-	-
EPN	< 0.2	-	< 0.2	< 0.2	-	-	-
Ethion	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Ethoprop	< 0.2	-	< 0.2	< 0.2	-	-	-
Ethyl parathion	< 0.2	-	< 0.2	< 0.2	-	-	-
Fenitrothion	< 0.2	-	< 0.2	< 0.2	-	-	-
Fensulfothion	< 0.2	-	< 0.2	< 0.2	-	-	-
Fenthion	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Malathion	< 0.2	<0.05	< 0.2	< 0.2	-	<0.05	-
Merphos	< 0.2	-	< 0.2	< 0.2	-	-	-
Methyl parathion	< 0.2	-	< 0.2	< 0.2	-	-	-
Mevinphos	< 0.2	-	< 0.2	< 0.2	-	-	-
Monocrotophos	< 2	<0.2	< 2	< 2	-	<0.2	-
Naled	< 0.2	-	< 0.2	< 0.2	-	-	-
Omethoate	< 2	-	< 2	< 2	-	-	-
Phorate	< 0.2	-	< 0.2	< 0.2	-	-	-
Pirimiphos-methyl	< 0.2	<0.2	< 0.2	< 0.2	-	<0.2	-
Pyrazophos	< 0.2	-	< 0.2	< 0.2	-	-	-
Ronnel	< 0.2	-	< 0.2	< 0.2	-	-	-
Terbufos	< 0.2	-	< 0.2	< 0.2	-	-	-
Tetrachlorvinphos	< 0.2	-	< 0.2	< 0.2	-	-	-
Tokuthion	< 0.2	-	< 0.2	< 0.2	-	-	-
Trichloronate	< 0.2	-	< 0.2	< 0.2	-	-	-
Data Quality Indicator	-	-	-	-	<50%	-	<50%

See tables notes at end of section.

Table 1.2: Analytical Summary, Quality Control (mg/kg)

Analyte	LOR mg/kg	LOR mg/kg	TP23 0.7-0.8	QC07	RPD	QC08	RPD
Type	Primary	Interlab Duplicate	Primary	Duplicate	%	Interlab Duplicate	%
Media	Soil	Soil	Soil	Soil	-	Soil	-
Metals							
Arsenic	2	5	8.4	13	43	8	5
Cadmium	0.5	1	-	< 0.5	-	<1	-
Chromium	5	2	-	82	-	79	-
Copper	5	5	-	13	-	10	-
Lead	5	5	-	6.8	-	5	-
Mercury	0.1	0.1	-	< 0.1	-	<0.1	-
Nickel	5	2	-	21	-	9	-
Zinc	5	5	-	66	-	36	-
Organochlorine Pesticides							
4,4'-DDD	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
4,4'-DDE	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
4,4'-DDT	< 0.05	<0.2	< 0.05	< 0.05	-	<0.2	-
α-HCH	< 0.05	-	< 0.05	< 0.05	-	-	-
Aldrin	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Aldrin and Dieldrin (Total)*	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
β-HCH	< 0.05	-	< 0.05	< 0.05	-	-	-
Chlordanes - Total	< 0.1	<0.05	< 0.1	< 0.1	-	<0.05	-
DDT + DDE + DDD (Total)*	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
d-HCH	< 0.05	-	< 0.05	< 0.05	-	-	-
Dieldrin	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Endosulfan I	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-
Endosulfan II	< 0.05	-	< 0.05	< 0.05	-	-	-
Endosulfan sulphate	< 0.05	<0.05	< 0.05	< 0.05	-	<0.05	-

Table 1.3: Analytical Summary, Quality Control (mg/kg)

Analyte	LOR mg/kg	LOR mg/kg	TP11 0.9-1.0	QC09	RPD	QC10	RPD
Type	Primary	Interlab Duplicate	Primary	Duplicate	%	Interlab Duplicate	%
Media	Soil	Soil	Soil	Soil	-	Soil	-
Metals							
Arsenic	2	5	3.3	3.4	3	<5	-

Data Usability Summary Assessment - Groundwater

All site work was completed in accordance with standard Easterly Point sampling protocols, including a quality assurance/quality control (QA/QC) program, standard operating procedures and a set of data quality indicators (DQIs).

A data usability assessment was performed for the groundwater data collected by Easterly Point, as summarised in the following tables:

- Table 1.1, field QC samples summary;
- Table 1.2, summary of field QA/QC; and
- Table 1.3, summary of laboratory QA/QC.

Table 1.1: Field QC samples summary

	Total samples	Field duplicates ¹	Inter-lab duplicates ¹	Trip spike	Trip blank	Rinsate
<i>Groundwater</i>						
Arsenic	2	1 (50%)	1 (50%)	-	-	1
Total OCPs	2	1 (50%)	1 (50%)	-	-	1

Notes:

1. Shows number of duplicate samples collected and the percentage of total samples analysed.
– = not applicable, as trip spike/blank analysed for volatile compounds only.

Table 1.2: Summary of field QA/QC

Parameter	Complies	Comments ¹
<i>Precision</i>		
Standard operating procedures (SOPs) appropriate and complied with	Yes	All sampling was conducted under standard Easterly Point operating procedures, and project specific DQIs. While the sampling methodology altered for each well, the methodology was considered appropriate based on field conditions.
Field duplicates	Yes	≥ 5%. RPD ² criteria < 30% – 50%. An acceptable number of field duplicate samples were collected. No RPD exceedances were reported for any analytes due to all results being below the laboratory LORs.
Inter-laboratory duplicates		≥ 5%. RPD ² criteria < 30% – 50%. An acceptable number of field duplicate samples were collected. No RPD exceedances were reported for any analytes due to all results being below the laboratory LORs.
<i>Accuracy</i>		
Matrix spikes samples appropriate	No	≥ 1/media type. Matrix spike was conducted for arsenic only (on anonymous sample).

Parameter	Complies	Comments ¹
<i>Representativeness</i>		
Sample collection - preservation	Yes	All samples were collected directly into laboratory supplied jars/bottle. All samples were placed immediately into eskies containing ice.
Sample collection - sample splitting	Yes	Duplicate samples were split in the field by filling each container collectively (i.e. co-collected).
Field equipment calibrated	Yes	The YSI water quality meter was calibrated prior to the sampling event by the service provider. Calibration records are shown in Appendix C.
Decontamination procedures	Yes	A new pair of disposable gloves were used for the collection of each sample, all re-usable sampling equipment was decontaminated between uses.
Rinsate samples	Yes	Required ≥ 1 /field batch, < LORs. A rinsate blanks was collected off a disposable sampling glove. All results were non-detect.
Trip blanks	n/a	≥ 1 /field batch (volatiles), < LORs. Volatiles were not considered to be a contaminant of concern, and no volatile compounds were analysed for. As such, trip blanks were not considered to be required.
Trip spikes	n/a	≥ 1 /field batch (volatiles), 70 - 130%, (recovery) or ≤ 30 - 50% (RPDs). As above.
<i>Comparability</i>		
Consistent sampling staff	Yes	All field work was conducted by Hailey Spry and Andre Torre of Easterly Point.
Consistent weather/field conditions	Yes	No extreme weather conditions occurred during or before/after the investigation.
<i>Completeness</i>		
Sample logs and field data	Yes	-
Chain of Custody	Yes	-

Notes:

1. For QC samples, specified frequency and acceptance criteria shown.
2. RPD = relative percentage difference.

Table 1.3: Summary of laboratory QA/QC

Parameter	Complies	Notes ¹
<i>Precision</i>		
Laboratory duplicates	Yes	$\geq 10\%$, laboratory specified.

Parameter	Complies	Notes ¹
		Laboratory duplicate samples were analysed at a frequency above the required rate.
<i>Accuracy</i>		
Surrogate spikes	Yes	Organics by GC, 70% - 130%. All surrogates were within the laboratory specified global acceptance criteria.
Matrix spikes analysis appropriate	Yes	≥ 70% - 130%. Matrix spike was conducted for arsenic with all recoveries within the acceptance criteria. It is noted that no matrix spikes were conducted for OCPs.
Laboratory control samples (LCSs)	Yes	≥ 1/lab batch, 70% - 130%. All LCS recoveries were within the laboratory specified global acceptance criteria.
<i>Representativeness</i>		
Sample condition	Yes	-
Holding times	Yes	-
Laboratory blanks	Yes	≥ 1/lab batch, < LORs.
<i>Comparability</i>		
NATA accredited laboratory	Yes	Eurofins is a NATA accredited laboratory (accreditation number 1261/1254). The secondary laboratory, ALS is also NATA accredited (accreditation number 825).
NEPM methods or similar	Yes	Eurofins and ALS describe their in-house laboratory methods are referenced from NEPC, ASTM and modified USEPA/APHA documents.
Limits of reporting (LORs) consistent and appropriate	Partial	Some LORs were above the aquatic ecosystems criteria for OCPs, however were all below the drinking water criteria.
<i>Completeness</i>		
Sample receipt	Yes	-
Laboratory Reports	Yes	-

Notes:

- For QC samples, acceptance criteria shown. Acceptance criteria can vary based on analyte, statistical data and laboratory specific methods. Laboratory specified relates to detected concentrations based on LORs, e.g. result < 10 x LOR = no limit, 10 – 20 x LOR = 0 - 50%, > 20 x LOR = 0 - 20%. See laboratory reports for specific details.

Summary and discussion

The following issues were identified with the data:

Precision

The data shows good precision with one field duplicate and one inter-laboratory duplicate samples collected and no RPD exceedances reported. Laboratory duplicates were analysed at a frequency above the required rate.

While the sampling methodology was different for each well sampled, the method was considered suitable based on the field conditions encountered. Further, based on the contaminants of concern, the different methodology is not considered to significantly impact on the resulting data. As all concentrations were below the LORs, and no marginal results were reported, this is not considered to impact the conclusions of the investigation.

Accuracy

The accuracy of the analysis is confirmed by matrix spike, surrogate spike and LCS recoveries within the acceptance criteria.

Representativeness

No outliers have been reported for QC samples collected to assist in the qualification of representativeness.

Comparability

The data is considered to be acceptable, with consistent sampling staff, NATA accredited laboratories used and all LORs below the relevant criteria.

Completeness

Laboratory and field documentation is considered to be complete.

Summary

In summary, while some minor outliers were reported, overall, the data is considered to be of an acceptable quality and to be suitable to support the results of the investigation.

Groundwater Analytical Summary, Quality Control (µg/L)

Analyte	LOR mg/kg	Primary	Duplicate	RPD	Interlab Duplicate	RPD	Rinsate
Type				%		%	Lab prep
Date	-	03/03/23	03/03/23	-	03/03/23	-	03/03/23
Media	GW	GW	GW	-	GW	-	GW
Metals							
Arsenic	1	nd	nd	-	nd	-	nd
OCPs							
Total OCPs	0.2 - 2	nd	nd	-	nd	-	nd
Data Quality Indicator		-	-	<50%	-	<50%	<LOR

See tables notes at end of section

Appendix D

Testpit and bore logs



ENVIRONMENTAL TESTPIT TP01

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2.2 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.0	TP01_0.0-0.1			Grassy surface.	
0.1				Roots in top 0 – 0.1 m.	
0.5	TP01_0.5 - 0.6			Moist, Med. Soft.	
1.0				Dark reddish brown clay loam.	
1.2	TP01_1.2 - 1.3			Dark red strongly structured light - medium clay.	Metal peg (10 cm x 10 cm)
1.5				Moist.	Large boulders (~0.5 m diameter) encountered.
2.0					
2.2				EOH @ 2.2 m	
2.5					
3.0					
3.5					





ENVIRONMENTAL TESTPIT TP02

PROJECT NUMBER 22030	DRILLING DATE 02/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 2.4 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP02_0.0-0.1			Grassy surface. Roots. Moist.	Small rocks on surface.
				Dark reddish brown clay loam, grading to dark red strongly structured light - medium clay.	
0.5	TP02_0.4 - 0.5			Dark red strongly structured light - medium clay. Moist. M tight clay pockets.	S – M basalt rocks, 1 – 7 cm diameter.
1					
1.5					
2	TP02_1.7 - 1.8				
2.5	TP02_2.2 - 2.4			EOH @ 2.4 m	
3					
3.5					





ENVIRONMENTAL TESTPIT TP03

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2.4 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP03_0.0-0.1			Grassy surface. Roots. Moist.	Flat 4 x 30 cm piece of bitumen encountered at surface, extending out from TP04 towards Holland St. Some smaller pieces 0.0 – 0.1 m.
				Grassy surface. Roots. Reworked natural material.	
	TP03_0.3 - 0.4		FILL	Dark reddish brown clay loam.	
0.5	TP03_0.5 - 0.6			Capping layer: Tan gravelly clay capping layer. Not consistent thickness across TP03, varying from 0.1 – 0.3 m.	
				Dark red strongly structured light - medium clay.	Minor, small rocks, 2 cm diameter, throughout.
1				Gravelly layer.	
	TP03_1.1 - 1.2				
1.5					
	TP03_1.9 - 2.0				
2				grading to heavier clay.	
	TP03_2.2 - 2.3				
2.5				EOH @ 2.4 m	
3					
3.5					





ENVIRONMENTAL TESTPIT TP04

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3.4 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP04_0.0-0.1			Grassy Surface.	
				Roots. Reworked natural material.	
				Red strongly structured light - medium clay.	
				Dark reddish brown clay loam.	
	TP04_0.4 - 0.5		FILL	Capping layer: Tan gravelly clay capping layer.	
				Geofabric layer.	
	TP04_0.8 - 0.9 QC01			Dark reddish brown clay loam,	
				very gradual grading to dark red strongly structured light - medium clay.	
				Moist. Dark red strongly structured light - medium clay,	
				very gradual grading to heavier clay.	
				Grading to heavier dark brown clay.	
				Weathered basalt, fine roots.	
				Grading to lighter brown/red, high plasticity clay.	
	TP04_2.4 - 2.5				
	TP04_3.3 - 3.4				
				EOH @ 3.4 m	





ENVIRONMENTAL TESTPIT TP05

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3.1 m
DRILLING COMPANY Sarjero
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS Next to drip pad (west)

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP05_0.0 - 0.1			Grassy surface. Roots. Reworked natural material. Dark reddish brown clay loam. Darker brown very thin layer, above following capping layer.	
0.5	TP05_0.4 - 0.5		FILL	Capping layer: Tan gravelly clay capping layer.	
1					
	TP05_1.3 - 1.4 QC02 QC03			Geofabric layer.	
1.5				Dark reddish brown clay loam, grading to dark red strongly structured light - medium clay.	
2	TP05_1.9 - 2.0			Dark red strongly structured light - medium clay, grading to heavier, high plasticity clay.	
2.5					
3	TP05_3.0 - 3.1			EOH @ 3.1 m	
3.5					



ENVIRONMENTAL TESTPIT TP06

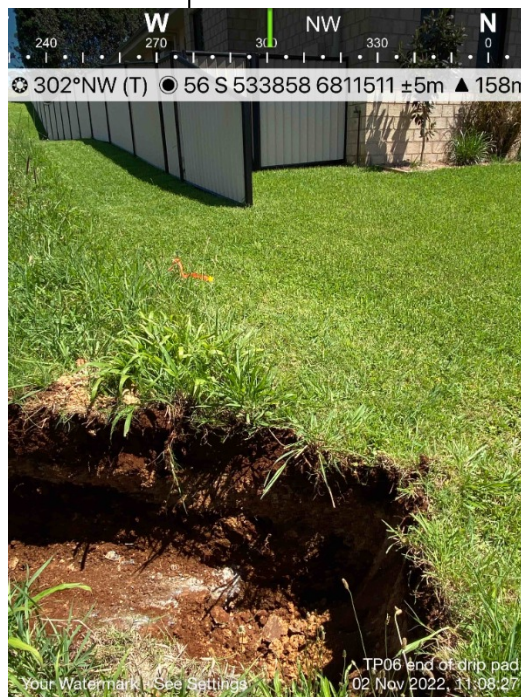
PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 0.9 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Reworked natural material. Dark reddish brown clay loam.	
0.5			FILL	Capping layer: Tan gravelly clay capping layer. Geofabric layer.	
	TP06_0.7 - 0.8			Dark reddish brown clay loam. Small roots.	Strong cattle odour on opening.
1	TP06_0.8 - 0.9 QC04			Concrete pad, black staining in parts. Sampled at the end of the drip pad, under concrete. Dark reddish brown clay loam, decaying sticks, small roots. EOH @ 0.9 m	TP06 extended towards Bristol Cct. neighbour to the North. End of drip pad found in line with manicured lawn of Northern neighbour. Cattle odour. TP06 not extended deeper due to location adjacent to neighbour's fence.
1.5					
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP07

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 2.0 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP07_0.1 - 0.2			Dark reddish brown clay loam. Small roots.	Old degraded shirt found @ 0.1 – 0.2.
	TP07_0.7 - 0.8				Degraded timber found. Mature white/yellow fungus visible in the middle when broken open. Easily broken. Blackened outside.
1	TP07_1.0 - 1.1				
1.5				Dark reddish brown clay loam, grading to dark red strongly structured light - medium clay.	
2					
2.5				EOH @ 2.0 m	
3					
3.5					





ENVIRONMENTAL TESTPIT TP08

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 2.4 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMAPNY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.0 - 0.1	TP08_0.0 - 0.1			Grassy surface.	
0.1 - 0.9				Dark reddish brown clay loam, with loose roots.	Small rocks found at 0.3 m. Soft plastic found at 0.4 m.
0.9 - 1.0	TP08_0.9 - 1.0			Dark red strongly structured light - medium clay, grading to heavier clay with depth.	
1.0 - 2.4					
2.4				EOH @ 2.4 m	





ENVIRONMENTAL TESTPIT TP09

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2.0 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Dark reddish brown clay loam. Small roots. Natural reworked material.	
0.5	TP09_0.5 - 0.6		FILL	Capping layer: Tan gravelly clay capping layer.	
				Dark reddish brown clay loam. Potential former surface. Loose. Soft.	
1	TP09_1.0 - 1.1			Dark reddish brown clay loam, grading to dark red strongly structured light – medium clay.	
1.5	TP09_1.7 - 1.8				
2				EOH @ 2.0 m	
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP10

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 3 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5			FILL	Grassy surface. Brown silty clay. Roots. Capping layer: Tan gravelly clay capping layer.	Various rocks encountered, including up to 20cm wide, and large quarry boulder 1m wide.
1	TP10_1.1 - 1.2			Geofabric layer. Dark reddish brown clay loam. Roots.	
1.5					
2	TP10_1.8 - 1.9			Dark red strongly structured light – medium clay. Dark grey/black clay 'pockets'. Weakened basalt.	
2.5	TP10_2.3 - 2.4				
3	TP10_2.8 - 2.9			EOH @ 3.0 m	
3.5					





ENVIRONMENTAL TESTPIT TP11

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3.2 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Grassy surface.	
				Dark brown silty clay.	
				Reworked natural material.	
0.5			FILL	Capping layer: Tan gravelly clay capping layer.	
1	TP11_0.9 - 1.0 QC09 QC10			Geofabric layer.	
				Brown silty clay.	
				Mottled green tinge in colour, with small gravels.	
1.5	TP11_1.3 - 1.4			Dark reddish brown clay loam, grading to dark red strongly structured light – medium clay.	
2	TP11_2.0 - 2.1			Dark red strongly structured light – medium clay.	
2.5	TP11_2.5 - 2.6			Grey/red mottling, with some weathered basalt	
3	TP11_3.1 - 3.2			EOH @ 3.2 m	
3.5					





ENVIRONMENTAL TESTPIT TP12

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2.5 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP12_0.0 - 0.1			Grassy surface.	
				Dark brown silty clay.	
				Reworked natural material.	
	TP12_0.3 - 0.4		FILL	Capping layer: Tan gravelly clay capping layer.	
0.5					
	TP12_0.8 - 0.9			Geofabric layer.	
1				Dark reddish brown clay loam.	
				Potential former surface.	
				Moist, becoming dry with depth.	
1.5	TP12_1.5 - 1.6				
2					
2.5	TP12_2.4 - 2.5				
				EOH @ 2.5 m	
3					
3.5					





ENVIRONMENTAL TESTPIT TP14

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.2 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP14_ 0.0 - 0.1			Grassy surface. Dark reddish brown clay loam.	
	TP14_ 0.4 - 0.5				
1				Dark red strongly structured light – medium clay. Weakened basalt gravels, and pieces of dark grey, heavier clay.	
1.5				EOH @ 1.2 m	
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP15

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.5 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Grassy surface. Dark reddish brown clay loam. Small roots.	Round fence post, and crushed beer can encountered at 0.2 m.
0.5	TP15_ 0.2 - 0.3				
	TP15_ 0.7 - 0.8			Dark red strongly structured light – medium clay. Grading to grey clay, with highly weathered basalt.	
1.5	TP15_ 1.4 - 1.5			EOH @ 1.5 m	
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP16

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 2 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5		Grassy surface. Brown silty clay. Small roots.			
		FILL		Capping layer: Tan gravelly clay capping layer	
TP16_ 0.6 - 0.7				Dark reddish brown clay loam.	End of geofabric layer visible in northern end of TP.
TP16_ 1.4 - 1.5					
2				Dark red strongly structured light – medium clay.	
				EOH @ 2 m	
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP17

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Dark brown/grey silty clay	
0.5			FILL	Capping layer: Tan gravelly clay capping layer. Geofabric layer.	
1	TP17_0.7 - 0.8			Brown silty clay.	No odour or smell.
	TP17_1.2 - 1.3				
1.5				Dark reddish brown clay loam, grading to heavier clay.	
	TP17_1.6 - 1.7				
2					
2.5				Dark red strongly structured light – medium clay.	
3				EOH @ 3 m	
3.5					





ENVIRONMENTAL TESTPIT TP18

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2.5 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5			FILL	Grassy surface. Brown silty clay. Small roots. Reworked natural material. Capping layer: Tan gravelly clay capping layer.	
1	TP18_0.9 - 1.0			Geofabric layer. Dark reddish brown clay loam.	
1.5					
2	TP18_1.9 - 2.0			Heavier, high plasticity clay.	
2.5	TP18_2.4- 2.5			EOH @ 2.5 m	
3					
3.5					





ENVIRONMENTAL TESTPIT TP19

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.6 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Dark reddish brown clay loam.	
0.5	TP19_0.4 - 0.5		FILL	Capping layer: Tan gravelly clay capping layer.	End of fill layer visible. Fill layer present on one side of the TP only.
1	TP19_0.6-.7			Dark reddish brown clay loam.	
1.5	TP19_1.5 - 1.6			EOH @ 1.6 m	
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP20

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.5 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Grassy surface. Small roots. Reworked natural material. Dark reddish brown clay loam, with some mixed gravels.	Pieces of plastic, old plastic pot, and electrical wire present at 0.2 m.
0.5	TP20_0.1 - 0.2				
	TP20_0.4 - 0.5			Dark red strongly structured light – medium clay, with minor gravels.	Basalt boulder 10 cm wide, present at 0.9 m.
1	TP20_1.0 - 1.1				
1.5				EOH @ 1.5 m	
2					
2.5					
3					
3.5					



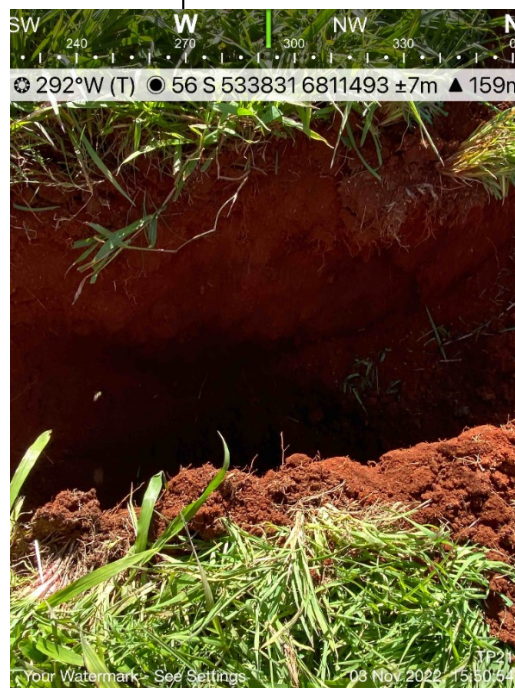


ENVIRONMENTAL TESTPIT TP21

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.3 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP21_ 0.0 - 0.1			Grassy surface.	Round fence post, and crushed beer can encountered at 0.2 m.
				Dark reddish brown clay loam. Small roots.	
	TP21_ 0.2 - 0.3			Dark red strongly structured light – medium clay.	
0.5				Grading to grey clay, with highly weathered basalt.	
1	TP21_ 0.9 - 1.0			EOH @ 1.3 m	
1.5					
2					
2.5					
3					
3.5					



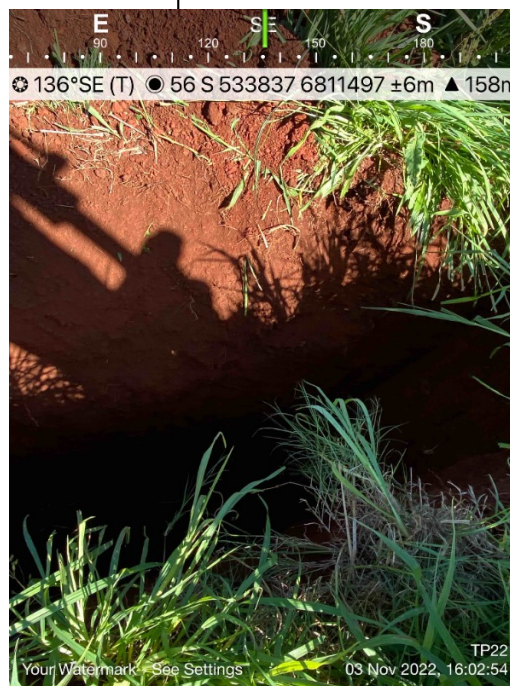


ENVIRONMENTAL TESTPIT TP22

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.7 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Grassy surface. Brown silty clay with some gravels. Small roots.	Plastic pieces encountered.
	TP22_ 0.1 - 0.2				
0.5	TP22_ 0.4 - 0.5			Dark red strongly structured light – medium clay, grading to heavier clay.	
1	T22_ 1.0 - 1.1			Darker brown/grey clay, with highly weathered basalt.	
1.5					
2				EOH @ 1.7 m	
2.5					
3					
3.5					





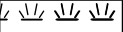
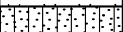
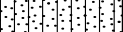
ENVIRONMENTAL TESTPIT TP23

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Grassy surface.	
				Reworked natural material.	
				Dark reddish brown clay loam.	
	TP23 0.2 - 0.3			Brown/grey gravelly silty layer.	
0.5			FILL	Capping layer: Tan gravelly clay capping layer.	
	TP23_0.7 - 0.8 QC07 QC08			Geofabric layer.	
1				Dark reddish brown clay loam.	
1.5					
2	TP23_1.6 - 1.7			Dark reddish brown clay loam, grading to dark red strongly structured light – medium clay.	
2.5	TP23_2.4 - 2.5				
3				EOH @ 3 m	
3.5					



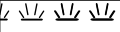
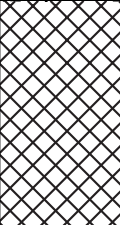
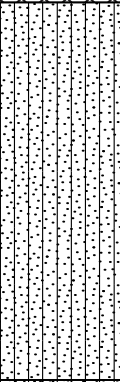
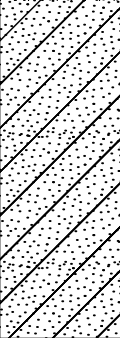
ENVIRONMENTAL TESTPIT TP24

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2.8 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Grassy surface. Brown silty clay with roots.	
0.5	TP24_0.4 - 0.5		FILL	Capping layer: Tan gravelly clay capping layer.	
				Geofabric layer.	
1	TP24_0.9 - 1.0			Dark reddish brown clay loam. Moist	Weathered basalt rocks up to 10 cm wide present.
1.5	TP24_1.5 - 1.6				
2	TP24_2.0 - 2.1			Grading to dark red strongly structured light – medium clay.	
2.5					
3				EOH @ 2.8 m	
3.5					





ENVIRONMENTAL TESTPIT TP25

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Grassy surface. Brown silty clay with roots.	
0.5			FILL	Capping layer: Tan gravelly clay capping layer.	No capping layer present on east or south TP walls. Cap layer can be seen to be thinning.
	TP25_0.6 - 0.7			Dark reddish brown clay loam.	
	TP25_0.8 - 0.9				
1					
1.5	TP25_1.5 - 1.6			Dark reddish brown clay loam, with small gravels and weathered basalt.	
2				EOH @ 2 m	
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP26

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.0 - 0.1	TP26_ 0.0 - 0.1			Grassy surface.	
0.1 - 0.4				Brown silty clay, with small roots and basalt gravels. Reworked natural material.	
0.4 - 0.5	TP26_ 0.4 - 0.5				
0.5 - 1.0				Dark grey clay, with weathered basalt and small rock pieces.	
1.0 - 1.1	T26_ 1.0 - 1.1				
1.1 - 2.0					
2.0				EOH @ 2 m	
2.0 - 2.5					
2.5 - 3.0					
3.0 - 3.5					





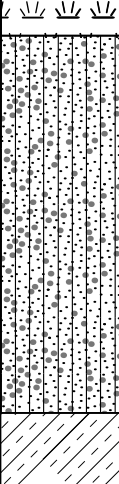
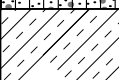
ENVIRONMENTAL TESTPIT TP27

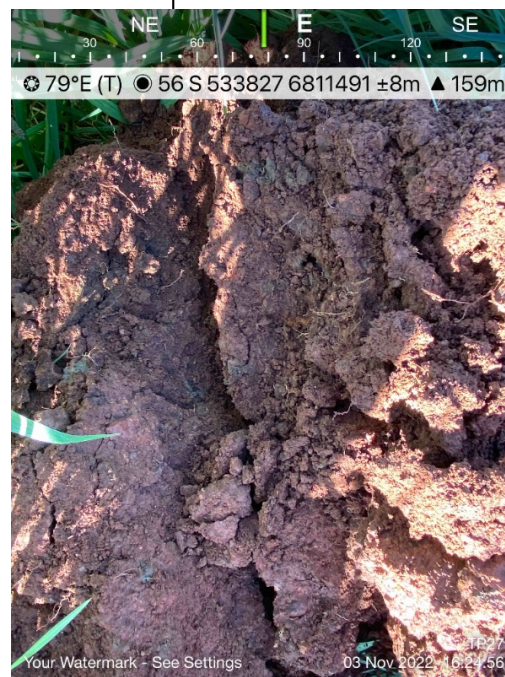
PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.3 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	T27_ 0.0 - 0.1			Grassy surface. Dark reddish brown clay loam, with weathered basalt gravels and black, decomposed roots.	15 cm piece of basalt, 10 cm timber post and small piece of plastic found 0.0 – 0.3 m.
	T27_ 0.4 - 0.5				
1					
	T27_ 1.2 - 1.3			Heavier clays, without gravels.	
1.5				EOH @ 1.3 m	
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP28

PROJECT NUMBER 22030	DRILLING DATE 04/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.8 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.0 - 0.1	TP28_ 0.0 - 0.1			Grassy surface.	
0.1 - 0.6				Dark red strongly structured light – medium clay.	
0.6 - 0.7	TP28_ 0.6 - 0.7			Grading to dark grey mottled clay, with weathered basalt.	
0.7 - 1.5				Grey basalt/clay matrix, with porphyritic basalt with orange/red phenocrysts present.	
1.5 - 1.6	T28_ 1.5 - 1.6				
1.6 - 1.8				EOH @ 1.8 m	
1.8 - 2.0					
2.0 - 2.5					
2.5 - 3.0					
3.0 - 3.5					





ENVIRONMENTAL TESTPIT TP29

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 04/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP29_0.1 - 0.2			Dark reddish brown clay loam, with weathered basalt gravels. Dry.	Plastic pipe present at 0.1 – 0.2, didn't appear to be connected. Large boulders present 0.1 to 0.5 m.
	TP29_0.4 - 0.5				
1				Grading to dark grey/red strongly structured light – medium clay, with less gravels and with weathered basalt. Moist.	
1.5	T29_1.5 - 1.6			Very wet/holding water ashy grey clay. Possible former surface.	30 cm thin piece of plastic, and old black wood found at 1.5 m. Very distinct campher laurel tree/menthol odour. Heavily degraded tree roots/old root system.
2	T29_1.8 - 1.9			EOH @ 2 m	
2.5					
3				TP29B: TP29 extended north to investigate plastic and timber visible. Plastic pipe present at 0.5 m. Large boulder 0.8 m wide present at 1 m. No samples collected.	
3.5					





ENVIRONMENTAL TESTPIT TP30

PROJECT NUMBER 22030	DRILLING DATE 04/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 2.2 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Grassy surface. Brown silty clay. Capping layer: Tan gravelly clay capping layer.	
0.5	TP30_0.1 - 0.2		FILL		
				Geofabric layer.	
1	TP30_0.8 - 0.9			Dark grey/red strongly structured light – medium clay.	
				Grading to heavier clay.	
1.5	TP30_1.4 - 1.5				
2	TP30_1.9 - 2.0				
2.5				EOH @ 2.2 m	
3					
3.5					





ENVIRONMENTAL TESTPIT TP31

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.5 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Brown silty clay. Reworked natural material. Capping layer: Tan gravelly clay capping layer. Geofabric layer.	End of geofabric visible in TP to the south
	TP31_0.3 - 0.4		FILL	Dark reddish brown clay loam, with roots.	
0.5	TP31_0.4 - 0.5				
	TP31_0.7 - 0.8			Grading to dark grey/red strongly structured light – medium clay,	
1				Grading to heavier clay.	
	TP31_1.3 - 1.4				
1.5				EOH @ 1.5 m	
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP32

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.2 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP32_0.5 - 0.6			Brown silty clay, with gravels and larger boulders.	Old, squashed plastic ag. pipe present at 0.6 m.
1	TP32_0.9 - 1.0			Black wet soft clay, with small chunks of basalt.	
1.5				EOH @ 1.2 m	
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP33

PROJECT NUMBER 22030	DRILLING DATE 03/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.2 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP33_0.1 - 0.2			Dark reddish brown clay loam, with weakened basalt gravels. Natural or Reworked natural material?	Chunk of concrete present at 0.3 m.
	TP33_0.3 - 0.4				
0.5	TP33_0.6 - 0.7			Grading to less smaller gravels > 5 cm, in heavier clay.	
1				EOH @ 1.2 m	
1.5					
2					
2.5					
3					
3.5					



ENVIRONMENTAL TESTPIT TP34

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 04/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP34_0.1 - 0.2			Grassy surface. Dark reddish brown clay loam, with roots. Minor gravels present 0.0 – 0.2 m.	
	TP34_0.4 - 0.5				
1				Grading to darker brown/grey strongly structured light – medium clay.	
1.5					
2	TP34_1.7 - 1.8			EOH @ 2.0 m	
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP35

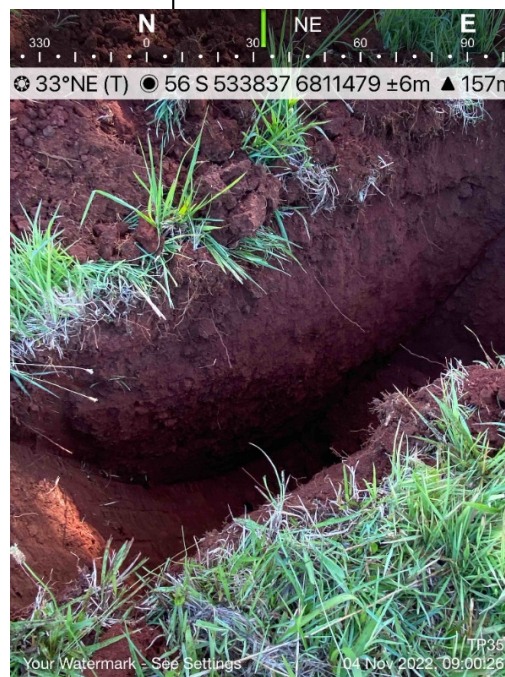
PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 04/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.5 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP35_0.0 - 0.1			Grassy surface.	
				Dark reddish brown clay loam, with roots.	
0.5	TP35_0.5 - 0.6			Grading to darker brown/grey strongly structured light – medium clay.	
1					
1.5	TP35_1.4 - 1.5			Grading to heavier clay.	
				EOH @ 1.5 m	
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP36

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 04/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.5 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP36_0.0 - 0.1			Grassy surface.	
				Dark reddish brown clay loam, with small and large roots.	
0.5	TP36_0.4 - 0.5			Grading to dark red strongly structured light – medium clay.	
1					
1.5	TP36_1.4 - 1.5			EOH @ 1.5 m	
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP37

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.0 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP37_0.0 - 0.1			Grassy surface. Dark reddish brown clay loam, with weakened basalt gravels.	Worn piece of tarpaulin.
	TP37_0.4 - 0.5				
1	TP37_0.8 - 0.9			Grading to heavier clay, with less gravels.	
1.5					
2					
2.5					
3					
3.5					
				EOH @ 1.0 m	





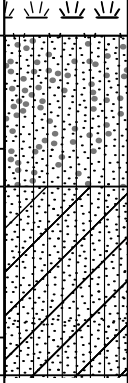
ENVIRONMENTAL TESTPIT TP38

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 04/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.0 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.0	TP38_0.0 - 0.1			Grassy surface. Dark reddish brown clay loam, with gravels. Dry.	20 cm piece of road base encountered at 0.4 m.
0.4	TP38_0.4 - 0.5			Grading to dark brown, heavier clay, with minor gravels. Minor light grey/orange mottling.	
0.9	TP38_0.9 - 1.0			EOH @ 1.0 m	
1.0					
1.5					
2.0					
2.5					
3.0					
3.5					





ENVIRONMENTAL TESTPIT TP39

PROJECT NUMBER 22030	DRILLING DATE 04/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 2.0 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.0	TP39_0.0 - 0.1			Grassy surface.	
0.1				Dark reddish brown clay loam, with minor gravels.	20 cm piece of road base encountered at 0.4 m.
0.4	TP39_0.4 - 0.5			Grading to heavier, darker red/brown clays.	
1.0				Darker red/brown clays.	
1.5				Highly weathered basalt, with light brown/grey mottled sections.	
2.0				EOH @ 2.0 m	
2.5					
3.0					
3.5					



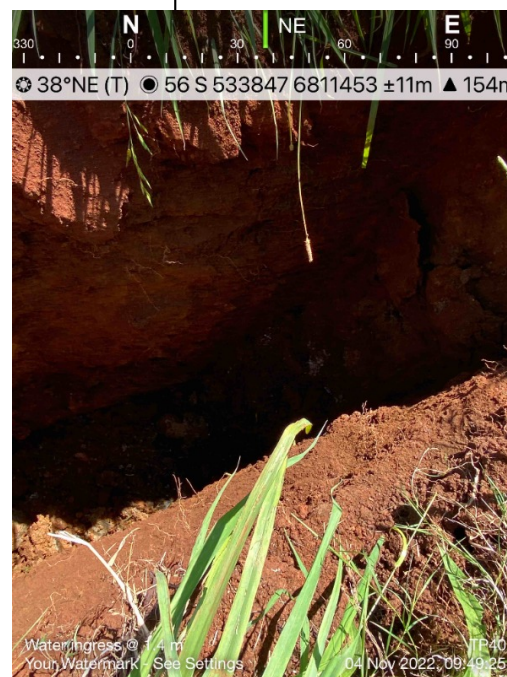


ENVIRONMENTAL TESTPIT TP40

PROJECT NUMBER 22030	DRILLING DATE 04/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.8 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.0 - 0.1	TP40_0.0 - 0.1			Grassy surface.	
0.1 - 0.8				Dark reddish brown clay loam.	
0.8 - 0.9	TP40_0.8 - 0.9			Dark grey/red strongly structured light – medium clay, with dark grey/light orange mottled patches.	
0.9 - 1.4				Moist, lighter brown clays.	
1.4 - 1.5	TP40_1.4 - 1.5 QC11 QC12			Light grey/orange clay in large patches. Wet.	Large boulders.
1.5 - 1.8				EOH @ 1.8 m	





ENVIRONMENTAL TESTPIT TP41

PROJECT NUMBER 22030	DRILLING DATE 04/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.5 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS					
Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.0 - 0.1	TP41_0.0 - 0.1			Grassy surface.	
0.1 - 0.4				Dark reddish brown clay loam, with roots and dark grey, loose gravels.	
0.4 - 0.5	TP41_0.4 - 0.5				
0.5 - 0.8				Light grey/orange mottled clay, in patches. Similar to TP40.	
0.8 - 0.9	TP41_0.8 - 0.9			Water ingress from 0.8 m.	
0.9 - 1.5				Very wet grey/orange clays.	Decomposed sticks/wood present at 0.7 m. Disused plastic pipe, 15 cm wide, with gravels around and water in pipe at 1 m. Appears tree branches etc re-buried on top of area where water pipe dug.
1.5				EOH @ 1.5 m	
2.0					
2.5					
3.0					
3.5					



ENVIRONMENTAL TESTPIT TP42

PROJECT NUMBER 22030	DRILLING DATE 04/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 1.4 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP42_0.0 - 0.1			Dark reddish brown clay loam, with roots and gravels. Moist.	20 cm piece of road base encountered at 0.4 m.
	TP42_0.4 - 0.5				
1	TP42_0.9 - 1.0			Dark red strongly structured light – medium clay.	
1.5				EOH @ 1.4 m	
2					
2.5					
3					
3.5					





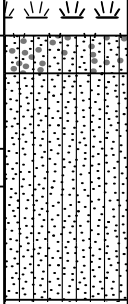
ENVIRONMENTAL TESTPIT TP43

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 04/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 0.8 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP43_0.0 - 0.1			Grassy surface. Dark reddish brown clay loam, with gravels.	
				Dark reddish brown clay loam.	
	TP43_0.4 - 0.5				
				EOH @ 0.8 m	Large boulder at 0.7 m.
1					
1.5					
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP44

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 04/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 0.6 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP44_0.0 - 0.1			Dark reddish brown clay loam, with roots and gravels.	Fence post at 0.1 m.
				Brown silty clay, with light grey/orange/dark grey mottling. Moist to wet.	
0.5	TP44_0.5 - 0.6			EOH @ 0.6 m due to services.	
1					
1.5					
2					
2.5					
3					
3.5					





ENVIRONMENTAL TESTPIT TP101 - Targeted

PROJECT NUMBER 22030	DRILLING DATE 02/11/22	LOGGED BY Hailey Spry
PROJECT NAME Sellick's Dip	DRILLING METHOD Excavator	CHECKED BY Mandy Champion
CLIENT Landcom	TOTAL DEPTH 3.5 m	
ADDRESS Bristol Cct., Lismore	DRILLING COMPANY Sarjaro	
	DRILLER Chris Skimming (excavator driver)	

COMMENTS Adjacent to dip bath and drip pad

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Dark reddish brown clay loam.	Very strong cattle odour.
0.5	TP101_0.7 - 0.8 TP101_D (bath drain pipe targeted sample)		FILL	Capping layer: Tan gravelly clay capping layer. Geofabric layer.	Very strong cattle odour. O-ring from drum , loose wire.
1	TP101_1.3 - 1.4 (0.5 m below top of bath)			Brown silty clay, less dense. Moist. Area next to bath drain pipe: Dark brown sandy clay, moist, strong odour.	Very strong cattle odour. Top of dip bath on western edge of TP at 0.7 m. Metal drain pipe near top of bath in concrete. Sample taken 20 cm from top of concrete.
1.5	TP101_1.8 - 1.9 (1 m below top of bath)			Dark reddish brown clay loam.	No odour or smell.
2					
2.5	TP101_2.7 - 2.8			Grading to dark grey/red strongly structured light -medium clay.	
3	TP101_3.1 - 3.2				
3.5				EOH @ 3.5 m	





ENVIRONMENTAL TESTPIT TP102

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP102_0.0 - 0.1		FILL	Dark brown silty clay. Reworked natural material.	
	TP102_0.2 - 0.3			Capping layer: Tan gravelly clay capping layer.	
				Geofabric layer.	
1	TP102_0.7 - 0.8			Dark brown, sandy silty clay with smaller gravels. Chunks of high plasticity grey clay, with roots and rocks throughout.	0.7 – 2.7 m, whole depth of dip bath. No odour or smells.
	TP102_1.2 - 1.3				
1.5					
2					
2.5					
3				Dark grey/red strongly structured light – medium clay.	
				EOH @ 3 m	
3.5					





ENVIRONMENTAL TESTPIT TP103

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3.5 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5			FILL	Dark brown silty clay. Reworked natural material. Capping layer: Tan gravelly clay capping layer.	
	TP103_0.7 - 0.8			Geofabric layer.	
1				Light/Dark brown silty clay with dark red/maroon mottling. Roots. Small rocks.	
	TP103_1.2 - 1.3 QC05			Light brown sandy, silty clay with rocks < 5 cm	10 cm diameter metal pipe present at 1.1 m, appears to run parallel to the bath and smaller 3 cm diameter pipe.
1.5					
2	TP103_1.9 - 2.0			Dark grey/red strongly structured light – medium clay.	
2.5					
	TP103_2.7 - 2.8			Grading to darker red clay. Moist.	
3					
3.5				EOH @ 3.5 m	





ENVIRONMENTAL TESTPIT TP104

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2.1 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5				Dark brown silty clay.	
			FILL	Capping layer: Tan gravelly clay capping layer.	
	TP104_0.6 - 0.7 QC06			Dark grey clay pockets, small area.	Thin, small metal pipes.
	TP104_0.7 - 0.8			Geofabric layer.	
1				Dark grey/red strongly structured light – medium clay.	
	TP104_1.0 - 1.1				
1.5					
2	TP104_2.0 - 2.1			Brown sandy clay	
				EOH @ 2.1 m	
2.5					
3					
3.5					

348°N (T) 56 S 533854 6811502 ±10m ▲ 158m

TP104 A under crush



ENVIRONMENTAL TESTPIT TP104B

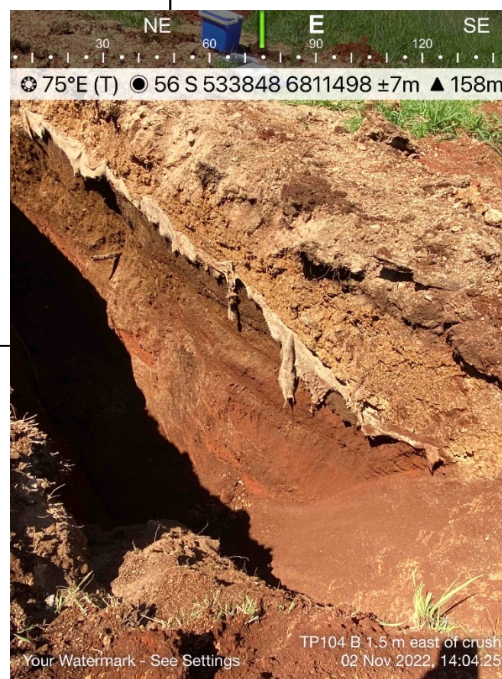
PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 02/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3.1 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS Different profile either side of testpit. TP104A approx 1.5 m east of crush.

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
				Dark brown silty clay.	
0.5			FILL	Capping layer: Tan gravelly clay capping layer.	
				Geofabric layer.	
1	TP104B_0.7 - 0.8			Dark brown silt clay. Metal pipe.	
	TP104B_1.0 - 1.1			Dark reddish brown clay loam.	
1.5					
2	TP104B_2.0 - 2.1				
2.5					
3	TP104B_3.0 - 3.1				
3.5				EOH @ 3.1 m	





ENVIRONMENTAL TESTPIT TP105

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 3.0 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
	TP105_0.1 - 0.2			Dark brown silty sand, with roots.	
0.5			FILL	Capping layer: Tan gravelly clay capping layer.	
1	TP105_1.0 - 1.1			Geofabric layer.	
				Brown silty clay, with weathered basalt. Dark grey/black clay chunks.	
1.5	TP105_1.4 - 1.5			Grading to reddish/brown silty clay.	
2	TP105_1.9 - 2.0			Grading to red strongly structured light – medium clay, with weathered basalt from 2.9 m.	
2.5					
	TP105_2.9 - 3.0				
3				EOH @ 3.0 m	
3.5					





ENVIRONMENTAL TESTPIT TP106

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 03/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 2.5 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5				Grassy surface. Brown silty clay, with some roots. Reworked natural material.	End of geofabric layer visible on one wall of TP. No odour or smells.
	TP106_0.3 - 0.4		FILL	Capping layer: Tan gravelly clay capping layer.	
1	TP106_0.6 - 0.7			Dark reddish brown clay loam. Pockets of wet, dark black clay.	
	TP106_1.0 - 1.1			Grading to dark red strongly structured light – medium clay.	
2.5					
	TP106_2.4 - 2.5				
3				EOH @ 2.5 m	
3.5					





ENVIRONMENTAL TESTPIT TP107

PROJECT NUMBER 22030
PROJECT NAME Sellick's Dip
CLIENT Landcom
ADDRESS Bristol Cct., Lismore

DRILLING DATE 04/11/22
DRILLING METHOD Excavator
TOTAL DEPTH 1.3 m
DRILLING COMPANY Sarjaro
DRILLER Chris Skimming (excavator driver)

LOGGED BY Hailey Spry
CHECKED BY Mandy Champion

COMMENTS

Depth (m)	Samples	Graphic Log	USCS	Material Description	Additional Observations
0.5				Dark reddish brown clay loam. Reworked natural material.	
1			FILL	Capping layer: Tan gravelly clay capping layer.	
1.5	TP107_1.2 - 1.3 TP107_1.2 - 1.3B			Dark reddish brown clay loam. Reworked natural material.	
				Concrete drip pad.	
				EOH @ 1.3 m	Large, decomposing campher laurel root found at end of drip pad. Strong campher laurel/menthol odour.
2					
2.5					
3					
3.5					



ENVIRONMENTAL WELL MW01

PROJECT NUMBER 22030	DRILLING COMPANY Proactive	COORDINATES
PROJECT NAME Sellicks Dip	DRILLER Brendon	COORD SYS
CLIENT Landcom	DRILL RIG Geoprobe	SURFACE ELEVATION
ADDRESS 44 Bristol Circuit Goonellabah	DRILLING METHOD Solid Flight Auger	WELL TOC
DRILLING DATE 25/02/2023	TOTAL DEPTH 7.8 m	LOGGED BY AT
LICENCE NO. NA	DIAMETER 50 mm	CHECKED BY HS

COMPLETION	CASING 4.7 m	SCREEN 3.0 m
-------------------	---------------------	---------------------

COMMENTS Up-gradient of dip bath

Depth (m)	Drilling Method	Samples	Water	Well Installation	Graphic Log	Material Description	Moisture	Consistency	Additional Observations	Elevation (m)
1	Solid Flight Auger					FILL. Brown silty clay FILL. Tan gravelly clay (capping layer)				210
2						Dark reddish brown clay loam				209
3						Dark red strongly structured light medium clay				208
4										207
5										206
6						Dark red strongly structured light medium clay with minor weathered basalt gravels	moist			205
7						Dark red strongly structured light medium clay		moist to wet		204
8						Basalt - refusal				203
9										202
10										201
11										200
12										199
13										198
14						End of hole at 7.8 m due to refusal on rock (basalt)				197

Disclaimer This bore log is intended for environmental not geotechnical purposes.

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ENVIRONMENTAL WELL MW02

PROJECT NUMBER 22030			DRILLING COMPANY Proactive			COORDINATES				
PROJECT NAME Sellicks Dip			DRILLER Brendon			COORD SYS				
CLIENT Landcom			DRILL RIG Geoprobe			SURFACE ELEVATION				
ADDRESS 44 Bristol Circuit Goonellabah			DRILLING METHOD Solid Flight Auger			WELL TOC				
DRILLING DATE 25/02/2023			TOTAL DEPTH 4.5 m			LOGGED BY AT				
LICENCE NO. NA			DIAMETER 50 mm			CHECKED BY HS				
COMPLETION			CASING 1.5 m			SCREEN 3.0 m				
COMMENTS Down-gradient of dip bath. Away from dip and services										
Depth (m)	Drilling Method	Samples	Water	Well Installation	Graphic Log	Material Description	Moisture	Consistency	Additional Observations	Elevation (m)
1	Hand Auger					FILL. Brown silty clay				198
						FILL. Tan gravelly clay (capping layer)				
						Dark reddish brown clay loam				
2	Solid Flight Auger									197
3										196
4						lighter brown clay with some basalt gravels	moist to wet			195
						clay with highly weathered basalt	wet			194
5						Basalt - refusal				194
6										193
7										192
8										191
9										190
10										189
11										188
12										187
13										186
14						End of hole at 4.5 m due to refusal on rock (basalt)				185
										184



ENVIRONMENTAL WELL MW03

PROJECT NUMBER 22030 PROJECT NAME Sellicks Dip CLIENT Landcom ADDRESS 44 Bristol Circuit Goonellabah DRILLING DATE 25/02/2023 LICENCE NO. NA				DRILLING COMPANY Proactive DRILLER Brendon DRILL RIG Geoprobe DRILLING METHOD Solid Flight Auger TOTAL DEPTH 4.7 m DIAMETER 50 mm				COORDINATES COORD SYS SURFACE ELEVATION WELL TOC LOGGED BY AT CHECKED BY HS			
COMPLETION				CASING 1.7 m				SCREEN 3.0 m			
COMMENTS Down-gradient of dip bath.											
Depth (m)	Drilling Method	Samples	Water	Well Installation	Graphic Log	Material Description	Moisture	Consistency	Additional Observations	Elevation (m)	
1	Solid Flight Auger					FILL. Brown silty clay FILL. Tan gravelly clay (capping layer)				198	
2						Dark reddish brown clay loam				197	
3						Dark red strongly structured light medium clay with minor weathered basalt gravels				196	
4						lighter brown clay with basalt gravels				195	
5						Basalt - refusal	moist to wet wet			194	
6										193	
7										192	
8										191	
9										190	
10										189	
11										188	
12										187	
13										186	
14										185	
						End of hole at 4.7 m due to refusal on rock (basalt)				184	

Disclaimer This bore log is intended for environmental not geotechnical purposes.

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Appendix E

Laboratory reports

Easterly Point Environmental Pty Ltd
1/64 Kingsley Street
Byron Bay
NSW 2481



NATA Accredited
Accreditation Number 1261
Site Number 20794

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: **Hailey**

Report **938938-S**
Project name **SELICKS DIP GOONELLABAH**
Project ID **22030**
Received Date **Nov 08, 2022**

Client Sample ID			TP04 0.8-0.9	TP05 0-0.1	TP05 0.4-0.5	TP05 1.3-1.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017470	B22- No0017471	B22- No0017472	B22- No0017473
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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	0.34	< 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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.34	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.34	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	60	118	117	121
Tetrachloro-m-xylene (surr.)	1	%	56	103	101	103
Heavy Metals						
Arsenic	2	mg/kg	85	2.3	13	< 2
Cadmium	0.5	mg/kg	-	< 0.5	< 0.5	-
Chromium	5	mg/kg	-	70	5.8	-
Copper	5	mg/kg	-	15	15	-
Lead	5	mg/kg	-	6.1	17	-
Mercury	0.1	mg/kg	-	0.1	< 0.1	-
Nickel	5	mg/kg	-	19	< 5	-
Zinc	5	mg/kg	-	52	42	-

Client Sample ID			TP04 0.8-0.9	TP05 0-0.1	TP05 0.4-0.5	TP05 1.3-1.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017470	B22- No0017471	B22- No0017472	B22- No0017473
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
% Moisture	1	%	33	27	21	27
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
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	%	-	-	-	86

Client Sample ID			TP05 1.9-2.0	TP05 3.0-3.1	TP06 0.7-0.8	TP06 0.8-0.9
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017474	B22- No0017475	B22- No0017476	B22- No0017477
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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	0.10
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	1.9
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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	2
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	113	108	116	119
Tetrachloro-m-xylene (surr.)	1	%	101	98	100	90
Heavy Metals						
Arsenic	2	mg/kg	< 2	-	34	33
Cadmium	0.5	mg/kg	-	-	< 0.5	< 0.5
Chromium	5	mg/kg	-	-	28	44
Copper	5	mg/kg	-	-	15	13
Lead	5	mg/kg	-	-	11	6.5
Mercury	0.1	mg/kg	-	-	< 0.1	< 0.1
Nickel	5	mg/kg	-	-	17	14
Zinc	5	mg/kg	-	-	77	49
% Moisture	1	%	28	31	26	28
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	-

Client Sample ID			TP05 1.9-2.0	TP05 3.0-3.1	TP06 0.7-0.8	TP06 0.8-0.9
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017474	B22- No0017475	B22- No0017476	B22- No0017477
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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	-
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	%	-	-	81	-

Client Sample ID			TP07 0.1-0.2	TP08 0.0-0.1	TP10 1.1-1.2	TP11 0.9-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017478	B22- No0017479	B22- No0017480	B22- No0017481
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
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	0.07	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	0.06	< 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

Client Sample ID			TP07 0.1-0.2	TP08 0.0-0.1	TP10 1.1-1.2	TP11 0.9-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017478	B22- No0017479	B22- No0017480	B22- No0017481
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	0.13	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	0.13	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorodate (surr.)	1	%	108	108	114	115
Tetrachloro-m-xylene (surr.)	1	%	91	102	103	98
Heavy Metals						
Arsenic	2	mg/kg	2.8	2.7	10	3.3
Cadmium	0.5	mg/kg	< 0.5	-	-	-
Chromium	5	mg/kg	61	-	-	-
Copper	5	mg/kg	7.7	-	-	-
Lead	5	mg/kg	12	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Nickel	5	mg/kg	13	-	-	-
Zinc	5	mg/kg	44	-	-	-
% Moisture	1	%	28	24	32	17
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
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

Client Sample ID			TP07 0.1-0.2	TP08 0.0-0.1	TP10 1.1-1.2	TP11 0.9-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017478	B22- No0017479	B22- No0017480	B22- No0017481
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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	%	-	-	-	79

Client Sample ID			TP11 1.3-1.4	TP11 2.0-2.1	TP12 0.0-0.1	TP12 0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017482	B22- No0017483	B22- No0017484	B22- No0017485
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	116	114	112	124
Tetrachloro-m-xylene (surr.)	1	%	99	99	95	108

Client Sample ID			TP11 1.3-1.4	TP11 2.0-2.1	TP12 0.0-0.1	TP12 0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017482	B22- No0017483	B22- No0017484	B22- No0017485
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	230	3.0	2.9	20
Cadmium	0.5	mg/kg	-	-	< 0.5	< 0.5
Chromium	5	mg/kg	-	-	61	10
Copper	5	mg/kg	-	-	15	15
Lead	5	mg/kg	-	-	5.3	20
Mercury	0.1	mg/kg	-	-	< 0.1	< 0.1
Nickel	5	mg/kg	-	-	20	5.2
Zinc	5	mg/kg	-	-	38	44
% Moisture	1	%	28	30	29	19

Client Sample ID			TP12 0.8-0.9	TP15 0.2-0.3	TP16 0.6-0.7	TP19 0.6-0.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017486	B22- No0017487	B22- No0017488	B22- No0017489
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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	0.06	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	0.13	< 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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.19	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.19	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	112	130	122	117
Tetrachloro-m-xylene (surr.)	1	%	99	105	99	101

Client Sample ID			TP12 0.8-0.9	TP15 0.2-0.3	TP16 0.6-0.7	TP19 0.6-0.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-No0017486	B22-No0017487	B22-No0017488	B22-No0017489
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	31	5.6	350	6.7
Cadmium	0.5	mg/kg	-	< 0.5	-	-
Chromium	5	mg/kg	-	59	-	-
Copper	5	mg/kg	-	15	-	-
Lead	5	mg/kg	-	7.1	-	-
Mercury	0.1	mg/kg	-	< 0.1	-	-
Nickel	5	mg/kg	-	16	-	-
Zinc	5	mg/kg	-	54	-	-
% Moisture	1	%	29	27	29	27

Client Sample ID			TP20 0.1-0.2	TP21 0.0-0.1	TP22 0.1-0.2	TP23 0.7-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-No0017490	B22-No0017491	B22-No0017492	B22-No0017494
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
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	0.30	< 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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	0.3	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	0.3	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	114	107	113	115
Tetrachloro-m-xylene (surr.)	1	%	112	106	99	100

Client Sample ID			TP20 0.1-0.2	TP21 0.0-0.1	TP22 0.1-0.2	TP23 0.7-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017490	B22- No0017491	B22- No0017492	B22- No0017494
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	2.6	< 2	2.3	8.4
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chromium	5	mg/kg	64	73	54	-
Copper	5	mg/kg	8.3	9.4	13	-
Lead	5	mg/kg	13	< 5	6.6	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	12	27	15	-
Zinc	5	mg/kg	53	46	43	-
% Moisture	1	%	25	29	27	29

Client Sample ID			TP24 0.9-1.0	TP29 0.1-0.2	TP29 0.4-0.5	TP29 1.5-1.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017495	B22- No0017496	B22- No0017497	B22- No0017498
Date Sampled			Nov 03, 2022	Nov 04, 2022	Nov 04, 2022	Nov 04, 2022
Test/Reference	LOR	Unit				
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	0.11
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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.16
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.16
Dibutylchloroendate (surr.)	1	%	138	135	102	168
Tetrachloro-m-xylene (surr.)	1	%	106	103	95	104

Client Sample ID			TP24 0.9-1.0	TP29 0.1-0.2	TP29 0.4-0.5	TP29 1.5-1.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017495	B22- No0017496	B22- No0017497	B22- No0017498
Date Sampled			Nov 03, 2022	Nov 04, 2022	Nov 04, 2022	Nov 04, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	18	2.6	< 2	2.4
Cadmium	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	-	67	59	58
Copper	5	mg/kg	-	11	12	19
Lead	5	mg/kg	-	7.3	6.1	7.1
Mercury	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	-	16	15	17
Zinc	5	mg/kg	-	46	46	71
% Moisture	1	%	30	29	29	62

Client Sample ID			TP30 0.1-0.2	TP30 0.8-0.9	TP31 0.3-0.4	TP32 0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017499	B22- No0017500	B22- No0017501	B22- No0017502
Date Sampled			Nov 04, 2022	Nov 04, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
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	0.10	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	1.1	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	0.51	< 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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	1.71	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	1.71	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	117	131	134	143
Tetrachloro-m-xylene (surr.)	1	%	99	101	101	105

Client Sample ID			TP30 0.1-0.2	TP30 0.8-0.9	TP31 0.3-0.4	TP32 0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017499	B22- No0017500	B22- No0017501	B22- No0017502
Date Sampled			Nov 04, 2022	Nov 04, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	6.0	3.3	9.9	2.8
Cadmium	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chromium	5	mg/kg	< 5	74	-	59
Copper	5	mg/kg	13	13	-	15
Lead	5	mg/kg	9.7	10.0	-	5.3
Mercury	0.1	mg/kg	< 0.1	0.1	-	0.1
Nickel	5	mg/kg	< 5	20	-	19
Zinc	5	mg/kg	40	59	-	45
% Moisture	1	%	13	34	29	26

Client Sample ID			TP37 0.0-0.1	TP38 0.4-0.5	TP39 0.4-0.5	TP40 1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017503	B22- No0017504	B22- No0017505	B22- No0017507
Date Sampled			Nov 03, 2022	Nov 04, 2022	Nov 04, 2022	Nov 04, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	131	-	138	129
Tetrachloro-m-xylene (surr.)	1	%	99	-	101	97

Client Sample ID			TP37 0.0-0.1	TP38 0.4-0.5	TP39 0.4-0.5	TP40 1.4-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017503	B22- No0017504	B22- No0017505	B22- No0017507
Date Sampled			Nov 03, 2022	Nov 04, 2022	Nov 04, 2022	Nov 04, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	2.5	< 2	3.2	< 2
Cadmium	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	-	51	57	110
Copper	5	mg/kg	-	15	7.4	8.3
Lead	5	mg/kg	-	5.6	12	< 5
Mercury	0.1	mg/kg	-	0.1	< 0.1	< 0.1
Nickel	5	mg/kg	-	19	13	45
Zinc	5	mg/kg	-	45	46	50
% Moisture	1	%	26	24	26	32

Client Sample ID			TP41 0.8-0.9	TP43 0.0-0.1	TP44 0.0-0.1	TP101 0.7-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017508	B22- No0017509	B22- No0017610	B22- No0017612
Date Sampled			Nov 04, 2022	Nov 04, 2022	Nov 04, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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	0.38	< 0.05	< 0.05	0.15
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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.38	< 0.05	< 0.05	0.15
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.38	< 0.1	< 0.1	0.15
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	139	166	96	90
Tetrachloro-m-xylene (surr.)	1	%	104	126	110	143

Client Sample ID			TP41 0.8-0.9	TP43 0.0-0.1	TP44 0.0-0.1	TP101 0.7-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017508	B22- No0017509	B22- No0017610	B22- No0017612
Date Sampled			Nov 04, 2022	Nov 04, 2022	Nov 04, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.3	140
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	64	77	94	29
Copper	5	mg/kg	18	12	20	16
Lead	5	mg/kg	6.3	7.8	8.4	9.5
Mercury	0.1	mg/kg	< 0.1	0.1	0.1	< 0.1
Nickel	5	mg/kg	21	21	30	18
Zinc	5	mg/kg	75	53	86	100
% Moisture	1	%	39	30	47	14

Client Sample ID			TP101 1.3-1.4	TP101 1.8-1.9	TP101_D	TP102 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017613	B22- No0017614	B22- No0017617	B22- No0017618
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
4,4'-DDT	0.05	mg/kg	0.42	< 0.05	0.31	-
α-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
β-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
δ-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
γ-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.42	< 0.05	0.31	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.42	< 0.1	0.31	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Dibutylchloroendate (surr.)	1	%	106	104	113	-
Tetrachloro-m-xylene (surr.)	1	%	140	141	133	-

Client Sample ID			TP101 1.3-1.4	TP101 1.8-1.9	TP101_D	TP102 0.0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-No0017613	B22-No0017614	B22-No0017617	B22-No0017618
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	260	10	110	< 2
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	85	130	13	62
Copper	5	mg/kg	14	20	12	19
Lead	5	mg/kg	7.5	9.8	< 5	7.2
Mercury	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	23	32	17	25
Zinc	5	mg/kg	65	74	150	60
% Moisture	1	%	27	28	28	32

Client Sample ID			TP102 0.2-0.3	TP102 0.7-0.8	TP103 0.7-0.8	TP104B 0.7-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-No0017619	B22-No0017620	B22-No0017623	B22-No0017632
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
α-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
β-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
δ-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
γ-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	-	89	109	89
Tetrachloro-m-xylene (surr.)	1	%	-	135	107	147

Client Sample ID			TP102 0.2-0.3	TP102 0.7-0.8	TP103 0.7-0.8	TP104B 0.7-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017619	B22- No0017620	B22- No0017623	B22- No0017632
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	10.0	4.9	4.3	3.5
Cadmium	0.5	mg/kg	< 0.5	-	-	-
Chromium	5	mg/kg	5.4	-	-	-
Copper	5	mg/kg	15	-	-	-
Lead	5	mg/kg	15	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Nickel	5	mg/kg	< 5	-	-	-
Zinc	5	mg/kg	39	-	-	-
% Moisture	1	%	15	25	28	25
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Bolstar	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Coumaphos	2	mg/kg	-	< 2	< 2	-
Demeton-S	0.2	mg/kg	-	< 0.2	< 0.2	-
Demeton-O	0.2	mg/kg	-	< 0.2	< 0.2	-
Diazinon	0.2	mg/kg	-	< 0.2	< 0.2	-
Dichlorvos	0.2	mg/kg	-	< 0.2	< 0.2	-
Dimethoate	0.2	mg/kg	-	< 0.2	< 0.2	-
Disulfoton	0.2	mg/kg	-	< 0.2	< 0.2	-
EPN	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethion	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethoprop	0.2	mg/kg	-	< 0.2	< 0.2	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenitrothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fensulfothion	0.2	mg/kg	-	< 0.2	< 0.2	-
Fenthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Malathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Merphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Methyl parathion	0.2	mg/kg	-	< 0.2	< 0.2	-
Mevinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Monocrotophos	2	mg/kg	-	< 2	< 2	-
Naled	0.2	mg/kg	-	< 0.2	< 0.2	-
Omethoate	2	mg/kg	-	< 2	< 2	-
Phorate	0.2	mg/kg	-	< 0.2	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	< 0.2	-
Pyrazophos	0.2	mg/kg	-	< 0.2	< 0.2	-
Ronnel	0.2	mg/kg	-	< 0.2	< 0.2	-
Terbufos	0.2	mg/kg	-	< 0.2	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	< 0.2	-
Tokuthion	0.2	mg/kg	-	< 0.2	< 0.2	-
Trichloronate	0.2	mg/kg	-	< 0.2	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	94	118	-

Client Sample ID			TP105 1.0-1.1	TP106 0.6-0.7	TP107 1.2-1.3	TP108
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22- No0017637	B22- No0017642	B22- No0017645	B22- No0017647
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 04, 2022	Oct 05, 2022
Test/Reference	LOR	Unit				
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	0.06	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	0.07	0.91	< 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	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.13	0.91	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.13	0.91	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	91	71	116	82
Tetrachloro-m-xylene (surr.)	1	%	148	107	142	128
Heavy Metals						
Arsenic	2	mg/kg	18	39	5.5	2.4
Cadmium	0.5	mg/kg	-	-	< 0.5	-
Chromium	5	mg/kg	-	-	51	-
Copper	5	mg/kg	-	-	22	-
Lead	5	mg/kg	-	-	12	-
Mercury	0.1	mg/kg	-	-	< 0.1	-
Nickel	5	mg/kg	-	-	32	-
Zinc	5	mg/kg	-	-	100	-
% Moisture	1	%	28	42	28	27
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

Client Sample ID			TP105 1.0-1.1	TP106 0.6-0.7	TP107 1.2-1.3	TP108
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-No0017637	B22-No0017642	B22-No0017645	B22-No0017647
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 04, 2022	Oct 05, 2022
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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
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	%	-	-	-	90

Client Sample ID			QC02	QC07	QC09
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			B22-No0017649	B22-No0017654	B22-No0017656
Date Sampled			Nov 02, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-

Client Sample ID			QC02	QC07	QC09
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			B22- No0017649	B22- No0017654	B22- No0017656
Date Sampled			Nov 02, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-
Dibutylchlorodate (surr.)	1	%	92	95	-
Tetrachloro-m-xylene (surr.)	1	%	142	142	-
Heavy Metals					
Arsenic	2	mg/kg	< 2	13	3.4
Cadmium	0.5	mg/kg	< 0.5	< 0.5	-
Chromium	5	mg/kg	77	82	-
Copper	5	mg/kg	13	13	-
Lead	5	mg/kg	6.5	6.8	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	-
Nickel	5	mg/kg	21	21	-
Zinc	5	mg/kg	57	66	-
% Moisture	1	%	27	29	26
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	-	-
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	-	-

Client Sample ID			QC02	QC07	QC09
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			B22- No0017649	B22- No0017654	B22- No0017656
Date Sampled			Nov 02, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit			
Organophosphorus Pesticides					
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	%	94	-	-

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
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP and PCB in Soil and Water (USEPA 8270)	Brisbane	Nov 14, 2022	14 Days
Heavy Metals - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Brisbane	Nov 14, 2022	28 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Brisbane	Nov 14, 2022	28 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8270)	Brisbane	Nov 14, 2022	14 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Brisbane	Nov 10, 2022	14 Days

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Byron Bay
NSW 2481

Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.: N/A
Report #: 938938
Phone: 02 6685 6681
Fax:

Received: Nov 8, 2022 11:25 AM
Due: Nov 15, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
External Laboratory												
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
1	TP04 0.4-0.5	Nov 02, 2022		Soil	B22-No0017469		X					
2	TP04 0.8-0.9	Nov 02, 2022		Soil	B22-No0017470	X			X			X
3	TP05 0-0.1	Nov 02, 2022		Soil	B22-No0017471				X		X	X
4	TP05 0.4-0.5	Nov 02, 2022		Soil	B22-No0017472				X		X	X
5	TP05 1.3-1.4	Nov 02, 2022		Soil	B22-No0017473	X			X	X		X
6	TP05 1.9-2.0	Nov 02, 2022		Soil	B22-No0017474	X			X			X
7	TP05 3.0-3.1	Nov 02, 2022		Soil	B22-No0017475				X			X
8	TP06 0.7-0.8	Nov 02, 2022		Soil	B22-No0017476				X	X	X	X
9	TP06 0.8-0.9	Nov 02, 2022		Soil	B22-No0017477				X		X	X
10	TP07 0.1-0.2	Nov 03, 2022		Soil	B22-No0017478				X		X	X
11	TP08 0.0-0.1	Nov 03, 2022		Soil	B22-No0017479	X			X			X
12	TP10 1.1-1.2	Nov 03, 2022		Soil	B22-No0017480	X			X			X
13	TP11 0.9-1.0	Nov 03, 2022		Soil	B22-No0017481	X			X	X		X

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Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
14	TP11 1.3-1.4	Nov 03, 2022		Soil	B22-No0017482	X			X			X
15	TP11 2.0-2.1	Nov 03, 2022		Soil	B22-No0017483	X			X			X
16	TP12 0.0-0.1	Nov 03, 2022		Soil	B22-No0017484				X		X	X
17	TP12 0.3-0.4	Nov 03, 2022		Soil	B22-No0017485				X		X	X
18	TP12 0.8-0.9	Nov 03, 2022		Soil	B22-No0017486	X			X			X
19	TP15 0.2-0.3	Nov 03, 2022		Soil	B22-No0017487				X		X	X
20	TP16 0.6-0.7	Nov 03, 2022		Soil	B22-No0017488	X			X			X
21	TP19 0.6-0.7	Nov 02, 2022		Soil	B22-No0017489	X			X			X
22	TP20 0.1-0.2	Nov 03, 2022		Soil	B22-No0017490				X		X	X
23	TP21 0.0-0.1	Nov 03, 2022		Soil	B22-No0017491				X		X	X
24	TP22 0.1-0.2	Nov 03, 2022		Soil	B22-No0017492				X		X	X
25	TP23 0.2-0.3	Nov 03, 2022		Soil	B22-No0017493		X					
26	TP23 0.7-0.8	Nov 03, 2022		Soil	B22-No0017494	X			X			X
27	TP24 0.9-1.0	Nov 03, 2022		Soil	B22-No0017495	X			X			X
28	TP29 0.1-0.2	Nov 04, 2022		Soil	B22-No0017496				X		X	X
29	TP29 0.4-0.5	Nov 04, 2022		Soil	B22-No0017497				X		X	X

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Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
30	TP29 1.5-1.6	Nov 04, 2022		Soil	B22-No0017498				X		X	X
31	TP30 0.1-0.2	Nov 04, 2022		Soil	B22-No0017499				X		X	X
32	TP30 0.8-0.9	Nov 04, 2022		Soil	B22-No0017500				X		X	X
33	TP31 0.3-0.4	Nov 03, 2022		Soil	B22-No0017501	X			X			X
34	TP32 0.5-0.6	Nov 03, 2022		Soil	B22-No0017502				X		X	X
35	TP37 0.0-0.1	Nov 03, 2022		Soil	B22-No0017503	X			X			X
36	TP38 0.4-0.5	Nov 04, 2022		Soil	B22-No0017504						X	X
37	TP39 0.4-0.5	Nov 04, 2022		Soil	B22-No0017505				X		X	X
38	TP40 0.0-0.1	Nov 04, 2022		Soil	B22-No0017506		X					
39	TP40 1.4-1.5	Nov 04, 2022		Soil	B22-No0017507				X		X	X
40	TP41 0.8-0.9	Nov 04, 2022		Soil	B22-No0017508				X		X	X
41	TP43 0.0-0.1	Nov 04, 2022		Soil	B22-No0017509				X		X	X
42	TP01 0-0.1	Nov 02, 2022		Soil	B22-No0017510			X				
43	TP01 0.5-0.6	Nov 02, 2022		Soil	B22-No0017511			X				
44	TP01 1.0-1.1	Nov 02, 2022		Soil	B22-No0017512			X				
45	TP01 1.2-1.3	Nov 02, 2022		Soil	B22-No0017513			X				

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Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
46	TP02 0.0-0.1	Nov 02, 2022		Soil	B22-No0017514			X				
47	TP02 0.4-0.5	Nov 02, 2022		Soil	B22-No0017515			X				
48	TP02 1.7-1.8	Nov 02, 2022		Soil	B22-No0017516			X				
49	TP02 2.2-2.4	Nov 02, 2022		Soil	B22-No0017517			X				
50	TP03 0.0-0.1	Nov 02, 2022		Soil	B22-No0017518			X				
51	TP03 0.3-0.4	Nov 02, 2022		Soil	B22-No0017519			X				
52	TP03 0.5-0.6	Nov 02, 2022		Soil	B22-No0017520			X				
53	TP03 1.1-1.2	Nov 02, 2022		Soil	B22-No0017521			X				
54	TP03 1.9-2.0	Nov 02, 2022		Soil	B22-No0017522			X				
55	TP03 2.2-2.3	Nov 02, 2022		Soil	B22-No0017523			X				
56	TP03B 0.0-0.1	Nov 02, 2022		Soil	B22-No0017524			X				
57	TP04 0.0-0.1	Nov 02, 2022		Soil	B22-No0017525			X				
58	TP04 2.4-2.5	Nov 02, 2022		Soil	B22-No0017526			X				
59	TP04 3.3-3.4	Nov 02, 2022		Soil	B22-No0017527			X				
60	TP07 0.7-0.8	Nov 03, 2022		Soil	B22-No0017528			X				
61	TP07 1.0-1.1	Nov 03, 2022		Soil	B22-No0017529			X				

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Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
62	TP08 0.9-1.0	Nov 03, 2022		Soil	B22-No0017530			X				
63	TP09 0.5-0.6	Nov 03, 2022		Soil	B22-No0017531			X				
64	TP09 1.0-1.1	Nov 03, 2022		Soil	B22-No0017532			X				
65	TP09 1.7-1.8	Nov 03, 2022		Soil	B22-No0017533			X				
66	TP10 1.8-1.9	Nov 03, 2022		Soil	B22-No0017534			X				
67	TP10 2.3-2.4	Nov 03, 2022		Soil	B22-No0017535			X				
68	TP10 2.8-2.9	Nov 03, 2022		Soil	B22-No0017536			X				
69	TP11 2.5-2.6	Nov 03, 2022		Soil	B22-No0017537			X				
70	TP11 3.1-3.2	Nov 03, 2022		Soil	B22-No0017538			X				
71	TP12 1.5-1.6	Nov 03, 2022		Soil	B22-No0017539			X				
72	TP12 2.4-2.5	Nov 03, 2022		Soil	B22-No0017540			X				
73	TP14 0.0-0.1	Nov 03, 2022		Soil	B22-No0017541			X				
74	TP15 0.7-0.8	Nov 03, 2022		Soil	B22-No0017542			X				
75	TP15 1.4-1.5	Nov 03, 2022		Soil	B22-No0017543			X				
76	TP16 1.4-1.5	Nov 03, 2022		Soil	B22-No0017544			X				
77	TP17 0.7-0.8	Nov 03, 2022		Soil	B22-No0017545			X				

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Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
78	TP17 1.2-1.3	Nov 03, 2022		Soil	B22-No0017546			X				
79	TP17 1.6-1.7	Nov 03, 2022		Soil	B22-No0017547			X				
80	TP17 2.4-2.5	Nov 03, 2022		Soil	B22-No0017548			X				
81	TP18 0.9-1.0	Nov 02, 2022		Soil	B22-No0017549			X				
82	TP18 1.9-2.0	Nov 02, 2022		Soil	B22-No0017550			X				
83	TP18 2.4-2.5	Nov 02, 2022		Soil	B22-No0017551			X				
84	TP19 0.4-0.5	Nov 02, 2022		Soil	B22-No0017552			X				
85	TP19 1.5-1.6	Nov 02, 2022		Soil	B22-No0017553			X				
86	TP20 0.4-0.5	Nov 03, 2022		Soil	B22-No0017554			X				
87	TP20 1.0-1.1	Nov 03, 2022		Soil	B22-No0017555			X				
88	TP21 0.2-0.3	Nov 03, 2022		Soil	B22-No0017556			X				
89	TP21 0.9-1.0	Nov 03, 2022		Soil	B22-No0017557			X				
90	TP22 0.4-0.5	Nov 03, 2022		Soil	B22-No0017558			X				
91	TP22 1.0-1.1	Nov 03, 2022		Soil	B22-No0017559			X				
92	TP23 1.0-1.2	Nov 03, 2022		Soil	B22-No0017560			X				
93	TP23 1.6-1.7	Nov 03, 2022		Soil	B22-No0017561			X				

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Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
94	TP23 2.4-2.5	Nov 03, 2022		Soil	B22-No0017562			X				
95	TP24 0.4-0.5	Nov 03, 2022		Soil	B22-No0017563			X				
96	TP24 1.5-1.6	Nov 03, 2022		Soil	B22-No0017564			X				
97	TP24 2.0-2.1	Nov 03, 2022		Soil	B22-No0017565			X				
98	TP25 0.6-0.7	Nov 03, 2022		Soil	B22-No0017566			X				
99	TP25 0.8-0.9	Nov 03, 2022		Soil	B22-No0017567			X				
100	TP25 1.5-1.6	Nov 03, 2022		Soil	B22-No0017568			X				
101	TP26 0.0-0.1	Nov 03, 2022		Soil	B22-No0017569			X				
102	TP26 0.4-0.5	Nov 03, 2022		Soil	B22-No0017570			X				
103	TP26 1.0-1.1	Nov 03, 2022		Soil	B22-No0017571			X				
104	TP27 0.0-0.1	Nov 03, 2022		Soil	B22-No0017572			X				
105	TP27 0.4-0.5	Nov 03, 2022		Soil	B22-No0017573			X				
106	TP27 1.2-1.3	Nov 03, 2022		Soil	B22-No0017574			X				
107	TP28 0.0-0.1	Nov 04, 2022		Soil	B22-No0017575			X				
108	TP28 0.6-0.7	Nov 04, 2022		Soil	B22-No0017576			X				
109	TP28 1.5-1.6	Nov 04, 2022		Soil	B22-No0017577			X				

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NSW 2481

Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.: N/A
Report #: 938938
Phone: 02 6685 6681
Fax:

Received: Nov 8, 2022 11:25 AM
Due: Nov 15, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
110	TP29 1.8-1.9	Nov 04, 2022		Soil	B22-No0017578			X				
111	TP30 1.4-1.5	Nov 04, 2022		Soil	B22-No0017579			X				
112	TP30 1.9-2.0	Nov 04, 2022		Soil	B22-No0017580			X				
113	TP31 0.7-0.8	Nov 03, 2022		Soil	B22-No0017581			X				
114	TP31 1.3-1.4	Nov 03, 2022		Soil	B22-No0017582			X				
115	TP31 0.4-0.5	Nov 03, 2022		Soil	B22-No0017583		X					
116	TP32 0.9-1.0	Nov 03, 2022		Soil	B22-No0017584			X				
117	TP33 0.1-0.2	Nov 03, 2022		Soil	B22-No0017585			X				
118	TP33 0.3-0.4	Nov 03, 2022		Soil	B22-No0017586			X				
119	TP33 0.6-0.7	Nov 03, 2022		Soil	B22-No0017587			X				
120	TP34 0.0-0.1	Nov 04, 2022		Soil	B22-No0017588			X				
121	TP34 0.4-0.5	Nov 04, 2022		Soil	B22-No0017589			X				
122	TP34 1.7-1.8	Nov 04, 2022		Soil	B22-No0017590			X				
123	TP35 0.0-0.1	Nov 04, 2022		Soil	B22-No0017591			X				
124	TP35 0.5-0.6	Nov 04, 2022		Soil	B22-No0017592			X				
125	TP35 1.4-1.5	Nov 04, 2022		Soil	B22-No0017593			X				

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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
126	TP36 0.0-0.1	Nov 04, 2022		Soil	B22-No0017594			X				
127	TP36 0.4-0.5	Nov 04, 2022		Soil	B22-No0017595			X				
128	TP36 1.4-1.5	Nov 04, 2022		Soil	B22-No0017596			X				
129	TP37 0.4-0.5	Nov 03, 2022		Soil	B22-No0017597			X				
130	TP37 0.8-0.9	Nov 03, 2022		Soil	B22-No0017598			X				
131	TP38 0.0-0.1	Nov 04, 2022		Soil	B22-No0017599			X				
132	TP38 0.9-1.0	Nov 04, 2022		Soil	B22-No0017600			X				
133	TP39 0.0-0.1	Nov 04, 2022		Soil	B22-No0017601			X				
134	TP40 0.8-0.9	Nov 04, 2022		Soil	B22-No0017602			X				
135	TP40 WATER SAMPLE	Nov 04, 2022		Water	B22-No0017603			X				
136	TP41 0.0-0.1	Nov 04, 2022		Soil	B22-No0017604			X				
137	TP41 0.4-0.5	Nov 04, 2022		Soil	B22-No0017605			X				
138	TP42 0.0-0.1	Nov 04, 2022		Soil	B22-No0017606			X				
139	TP42 0.4-0.5	Nov 04, 2022		Soil	B22-No0017607			X				
140	TP42 0.9-1.0	Nov 04, 2022		Soil	B22-No0017608			X				

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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
141	TP43 0.4-0.5	Nov 04, 2022		Soil	B22-No0017609			X				
142	TP44 0.0-0.1	Nov 04, 2022		Soil	B22-No0017610				X		X	X
143	TP44 0.5-0.6	Nov 04, 2022		Soil	B22-No0017611			X				
144	TP101 0.7-0.8	Nov 02, 2022		Soil	B22-No0017612				X		X	X
145	TP101 1.3-1.4	Nov 02, 2022		Soil	B22-No0017613				X		X	X
146	TP101 1.8-1.9	Nov 02, 2022		Soil	B22-No0017614				X		X	X
147	TP101 2.7-2.8	Nov 02, 2022		Soil	B22-No0017615			X				
148	TP101 3.1-3.2	Nov 02, 2022		Soil	B22-No0017616			X				
149	TP101_D	Nov 02, 2022		Soil	B22-No0017617				X		X	X
150	TP102 0.0-0.1	Nov 02, 2022		Soil	B22-No0017618						X	X
151	TP102 0.2-0.3	Nov 02, 2022		Soil	B22-No0017619						X	X
152	TP102 0.7-0.8	Nov 02, 2022		Soil	B22-No0017620	X			X	X		X
153	TP102 1.2-1.3	Nov 02, 2022		Soil	B22-No0017621			X				
154	TP102 2.9-3.0	Nov 02, 2022		Soil	B22-No0017622		X					
155	TP103 0.7-0.8	Nov 02, 2022		Soil	B22-No0017623	X			X	X		X
156	TP103 1.2-1.3	Nov 02, 2022		Soil	B22-No0017624			X				

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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
157	TP103 1.9-2.0	Nov 02, 2022		Soil	B22-No0017625			X				
158	TP103 2.7-2.8	Nov 02, 2022		Soil	B22-No0017626			X				
159	TP104A 0.6-0.7	Nov 02, 2022		Soil	B22-No0017627			X				
160	TP104A 0.7-0.8	Nov 02, 2022		Soil	B22-No0017628			X				
161	TP104A 1.0-1.1	Nov 02, 2022		Soil	B22-No0017629			X				
162	TP104A 2.0-2.1	Nov 02, 2022		Soil	B22-No0017630			X				
163	TP104B 0.5-0.6	Nov 02, 2022		Soil	B22-No0017631			X				
164	TP104B 0.7-0.8	Nov 02, 2022		Soil	B22-No0017632	X			X			X
165	TP104B 1.0-1.1	Nov 02, 2022		Soil	B22-No0017633			X				
166	TP104B 2.0-2.1	Nov 02, 2022		Soil	B22-No0017634			X				

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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
167	TP104B 3.0-3.1	Nov 02, 2022		Soil	B22-No0017635			X				
168	TP105 0.0-0.1	Nov 03, 2022		Soil	B22-No0017636			X				
169	TP105 1.0-1.1	Nov 03, 2022		Soil	B22-No0017637	X			X			X
170	TP105 1.4-1.5	Nov 03, 2022		Soil	B22-No0017638			X				
171	TP105 1.9-2.0	Nov 03, 2022		Soil	B22-No0017639			X				
172	TP105 2.9-3.0	Nov 03, 2022		Soil	B22-No0017640			X				
173	TP106 0.3-0.4	Nov 03, 2022		Soil	B22-No0017641			X				
174	TP106 0.6-0.7	Nov 03, 2022		Soil	B22-No0017642	X		X	X			X
175	TP106 1.0-1.1	Nov 03, 2022		Soil	B22-No0017643			X				
176	TP106 2.4-2.5	Nov 03, 2022		Soil	B22-No0017644			X				
177	TP107 1.2-1.3	Nov 04, 2022		Soil	B22-No0017645				X		X	X
178	TP107 1.2-1.3B	Nov 04, 2022		Soil	B22-No0017646			X				
179	TP108	Oct 05, 2022		Soil	B22-No0017647	X			X	X		X
180	QC01	Nov 02, 2022		Soil	B22-No0017648			X				

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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
181	QC02	Nov 02, 2022		Soil	B22-No0017649				X	X	X	X
182	QC03	Nov 02, 2022		Soil	B22-No0017650		X					
183	QC04	Nov 02, 2022		Soil	B22-No0017651			X				
184	QC05	Nov 02, 2022		Soil	B22-No0017652			X				
185	QC06	Nov 02, 2022		Soil	B22-No0017653			X				
186	QC07	Nov 03, 2022		Soil	B22-No0017654				X		X	X
187	QC08	Nov 03, 2022		Soil	B22-No0017655		X					
188	QC09	Nov 03, 2022		Soil	B22-No0017656	X						X
189	QC10	Nov 03, 2022		Soil	B22-No0017657		X					
190	QC11	Nov 04, 2022		Soil	B22-No0017658			X				
191	QC12	Nov 04, 2022		Soil	B22-No0017659			X				
192	TP14 0.4-0.5	Nov 04, 2022		Soil	B22-No0018423			X				
Test Counts						22	8	130	51	7	32	55

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 (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 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							
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	
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	
Aldrin and Dieldrin (Total)*	mg/kg	< 0.05			0.05	Pass	
DDT + DDE + DDD (Total)*	mg/kg	< 0.05			0.05	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.5			0.5	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	
Zinc	mg/kg	< 5			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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	100			70-130	Pass	
4.4'-DDD	%	93			70-130	Pass	
4.4'-DDE	%	92			70-130	Pass	
4.4'-DDT	%	109			70-130	Pass	
a-HCH	%	95			70-130	Pass	
Aldrin	%	105			70-130	Pass	
b-HCH	%	99			70-130	Pass	
d-HCH	%	100			70-130	Pass	
Dieldrin	%	101			70-130	Pass	
Endosulfan I	%	101			70-130	Pass	
Endosulfan II	%	94			70-130	Pass	
Endosulfan sulphate	%	102			70-130	Pass	
Endrin	%	109			70-130	Pass	
Endrin aldehyde	%	92			70-130	Pass	
Endrin ketone	%	96			70-130	Pass	
g-HCH (Lindane)	%	101			70-130	Pass	
Heptachlor	%	104			70-130	Pass	
Heptachlor epoxide	%	95			70-130	Pass	
Hexachlorobenzene	%	103			70-130	Pass	
Methoxychlor	%	113			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	102			80-120	Pass	
Arsenic	%	85			80-120	Pass	
Cadmium	%	84			80-120	Pass	
Chromium	%	81			80-120	Pass	
Copper	%	81			80-120	Pass	
Lead	%	105			80-120	Pass	
Mercury	%	100			80-120	Pass	
Nickel	%	82			80-120	Pass	
Zinc	%	81			80-120	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Azinphos-methyl				%	112			70-130	Pass	
Bolstar				%	95			70-130	Pass	
Chlorfenvinphos				%	97			70-130	Pass	
Chlorpyrifos				%	114			70-130	Pass	
Chlorpyrifos-methyl				%	117			70-130	Pass	
Coumaphos				%	118			70-130	Pass	
Demeton-S				%	96			70-130	Pass	
Demeton-O				%	123			70-130	Pass	
Diazinon				%	98			70-130	Pass	
Dichlorvos				%	93			70-130	Pass	
Dimethoate				%	104			70-130	Pass	
Disulfoton				%	118			70-130	Pass	
EPN				%	110			70-130	Pass	
Ethion				%	122			70-130	Pass	
Ethoprop				%	91			70-130	Pass	
Ethyl parathion				%	115			70-130	Pass	
Fenitrothion				%	108			70-130	Pass	
Fensulfothion				%	123			70-130	Pass	
Fenthion				%	117			70-130	Pass	
Malathion				%	115			70-130	Pass	
Merphos				%	72			70-130	Pass	
Methyl parathion				%	109			75-125	Pass	
Mevinphos				%	97			70-130	Pass	
Monocrotophos				%	117			70-130	Pass	
Naled				%	81			70-130	Pass	
Omethoate				%	100			70-130	Pass	
Phorate				%	127			70-130	Pass	
Pirimiphos-methyl				%	96			70-130	Pass	
Pyrazophos				%	122			70-130	Pass	
Ronnell				%	114			70-130	Pass	
Terbufos				%	111			70-130	Pass	
Tetrachlorvinphos				%	106			70-130	Pass	
Tokuthion				%	112			70-130	Pass	
Trichloronate				%	120			70-130	Pass	
Test	Lab Sample ID	QA Source		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Organochlorine Pesticides					Result 1					
Methoxychlor	B22-No0018741	NCP		%	127			70-130	Pass	
Spike - % Recovery										
Heavy Metals					Result 1					
Cadmium	B22-No0017471	CP		%	85			75-125	Pass	
Chromium	B22-No0017471	CP		%	80			75-125	Pass	
Copper	B22-No0017471	CP		%	75			75-125	Pass	
Lead	B22-No0017471	CP		%	78			75-125	Pass	
Mercury	B22-No0017471	CP		%	87			75-125	Pass	
Nickel	B22-No0017471	CP		%	75			75-125	Pass	
Spike - % Recovery										
Organophosphorus Pesticides					Result 1					
Demeton-O	B22-No0018741	NCP		%	130			70-130	Pass	
Spike - % Recovery										
Organochlorine Pesticides					Result 1					
Chlordanes - Total	B22-No0017476	CP		%	99			70-130	Pass	
4,4'-DDD	B22-No0017476	CP		%	99			70-130	Pass	
4,4'-DDE	B22-No0017476	CP		%	90			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
a-HCH	B22-No0017476	CP	%	97			70-130	Pass	
Aldrin	B22-No0017476	CP	%	109			70-130	Pass	
b-HCH	B22-No0017476	CP	%	99			70-130	Pass	
d-HCH	B22-No0017476	CP	%	99			70-130	Pass	
Dieldrin	B22-No0017476	CP	%	101			70-130	Pass	
Endosulfan I	B22-No0017476	CP	%	91			70-130	Pass	
Endosulfan II	B22-No0017476	CP	%	96			70-130	Pass	
Endosulfan sulphate	B22-No0017476	CP	%	101			70-130	Pass	
Endrin	B22-No0017476	CP	%	116			70-130	Pass	
Endrin ketone	B22-No0017476	CP	%	99			70-130	Pass	
g-HCH (Lindane)	B22-No0017476	CP	%	100			70-130	Pass	
Heptachlor	B22-No0017476	CP	%	109			70-130	Pass	
Heptachlor epoxide	B22-No0017476	CP	%	98			70-130	Pass	
Hexachlorobenzene	B22-No0017476	CP	%	102			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Bolstar	B22-No0017476	CP	%	114			70-130	Pass	
Chlorfenvinphos	B22-No0017476	CP	%	97			70-130	Pass	
Chlorpyrifos	B22-No0017476	CP	%	98			70-130	Pass	
Chlorpyrifos-methyl	B22-No0017476	CP	%	93			70-130	Pass	
Demeton-S	B22-No0017476	CP	%	93			70-130	Pass	
Diazinon	B22-No0017476	CP	%	94			70-130	Pass	
Dichlorvos	B22-No0017476	CP	%	128			70-130	Pass	
Dimethoate	B22-No0017476	CP	%	99			70-130	Pass	
Disulfoton	B22-No0017476	CP	%	98			70-130	Pass	
Ethoprop	B22-No0017476	CP	%	91			70-130	Pass	
Ethyl parathion	B22-No0017476	CP	%	107			70-130	Pass	
Fenitrothion	B22-No0017476	CP	%	122			70-130	Pass	
Fenthion	B22-No0017476	CP	%	89			70-130	Pass	
Malathion	B22-No0017476	CP	%	122			70-130	Pass	
Methyl parathion	B22-No0017476	CP	%	107			70-130	Pass	
Omethoate	B22-No0017476	CP	%	127			70-130	Pass	
Phorate	B22-No0017476	CP	%	117			70-130	Pass	
Pirimiphos-methyl	B22-No0017476	CP	%	93			70-130	Pass	
Pyrazophos	B22-No0017476	CP	%	130			70-130	Pass	
Ronnel	B22-No0017476	CP	%	94			70-130	Pass	
Terbufos	B22-No0017476	CP	%	94			70-130	Pass	
Tokuthion	B22-No0017476	CP	%	109			70-130	Pass	
Trichloronate	B22-No0017476	CP	%	93			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-No0017480	CP	%	98			70-130	Pass	
4,4'-DDD	B22-No0017480	CP	%	92			70-130	Pass	
4,4'-DDE	B22-No0017480	CP	%	84			70-130	Pass	
a-HCH	B22-No0017480	CP	%	94			70-130	Pass	
Aldrin	B22-No0017480	CP	%	102			70-130	Pass	
b-HCH	B22-No0017480	CP	%	99			70-130	Pass	
d-HCH	B22-No0017480	CP	%	97			70-130	Pass	
Dieldrin	B22-No0017480	CP	%	100			70-130	Pass	
Endosulfan I	B22-No0017480	CP	%	96			70-130	Pass	
Endosulfan II	B22-No0017480	CP	%	94			70-130	Pass	
Endosulfan sulphate	B22-No0017480	CP	%	101			70-130	Pass	
Endrin	B22-No0017480	CP	%	113			70-130	Pass	
Endrin aldehyde	B22-No0017480	CP	%	81			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	B22-No0017480	CP	%	92			70-130	Pass	
g-HCH (Lindane)	B22-No0017480	CP	%	98			70-130	Pass	
Heptachlor	B22-No0017480	CP	%	103			70-130	Pass	
Heptachlor epoxide	B22-No0017480	CP	%	94			70-130	Pass	
Hexachlorobenzene	B22-No0017480	CP	%	100			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Bolstar	B22-No0017480	CP	%	113			70-130	Pass	
Chlorfenvinphos	B22-No0017480	CP	%	85			70-130	Pass	
Chlorpyrifos	B22-No0017480	CP	%	94			70-130	Pass	
Chlorpyrifos-methyl	B22-No0017480	CP	%	91			70-130	Pass	
Demeton-S	B22-No0017480	CP	%	83			70-130	Pass	
Diazinon	B22-No0017480	CP	%	91			70-130	Pass	
Dichlorvos	B22-No0017480	CP	%	114			70-130	Pass	
Dimethoate	B22-No0017480	CP	%	100			70-130	Pass	
Disulfoton	B22-No0017480	CP	%	90			70-130	Pass	
Ethoprop	B22-No0017480	CP	%	87			70-130	Pass	
Ethyl parathion	B22-No0017480	CP	%	104			70-130	Pass	
Fenitrothion	B22-No0017480	CP	%	122			70-130	Pass	
Fenthion	B22-No0017480	CP	%	85			70-130	Pass	
Malathion	B22-No0017480	CP	%	116			70-130	Pass	
Methyl parathion	B22-No0017480	CP	%	104			70-130	Pass	
Naled	B22-No0017480	CP	%	71			70-130	Pass	
Phorate	B22-No0017480	CP	%	118			70-130	Pass	
Pirimiphos-methyl	B22-No0017480	CP	%	84			70-130	Pass	
Ronnel	B22-No0017480	CP	%	89			70-130	Pass	
Terbufos	B22-No0017480	CP	%	88			70-130	Pass	
Tokuthion	B22-No0017480	CP	%	106			70-130	Pass	
Trichloronate	B22-No0017480	CP	%	88			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	B22-No0017481	CP	%	85			75-125	Pass	
Cadmium	B22-No0017481	CP	%	97			75-125	Pass	
Chromium	B22-No0017481	CP	%	86			75-125	Pass	
Copper	B22-No0017481	CP	%	84			75-125	Pass	
Lead	B22-No0017481	CP	%	84			75-125	Pass	
Mercury	B22-No0017481	CP	%	81			75-125	Pass	
Nickel	B22-No0017481	CP	%	89			75-125	Pass	
Zinc	B22-No0017481	CP	%	89			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-No0017491	CP	%	104			70-130	Pass	
4.4'-DDD	B22-No0017491	CP	%	97			70-130	Pass	
4.4'-DDE	B22-No0017491	CP	%	91			70-130	Pass	
4.4'-DDT	B22-No0017491	CP	%	116			70-130	Pass	
a-HCH	B22-No0017491	CP	%	101			70-130	Pass	
Aldrin	B22-No0017491	CP	%	111			70-130	Pass	
b-HCH	B22-No0017491	CP	%	99			70-130	Pass	
d-HCH	B22-No0017491	CP	%	97			70-130	Pass	
Dieldrin	B22-No0017491	CP	%	112			70-130	Pass	
Endosulfan I	B22-No0017491	CP	%	97			70-130	Pass	
Endosulfan II	B22-No0017491	CP	%	98			70-130	Pass	
Endosulfan sulphate	B22-No0017491	CP	%	100			70-130	Pass	
Endrin	B22-No0017491	CP	%	116			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	B22-No0017491	CP	%	84			70-130	Pass	
Endrin ketone	B22-No0017491	CP	%	93			70-130	Pass	
g-HCH (Lindane)	B22-No0017491	CP	%	104			70-130	Pass	
Heptachlor	B22-No0017491	CP	%	119			70-130	Pass	
Heptachlor epoxide	B22-No0017491	CP	%	96			70-130	Pass	
Hexachlorobenzene	B22-No0017491	CP	%	107			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	B22-No0017491	CP	%	83			75-125	Pass	
Cadmium	B22-No0017491	CP	%	102			75-125	Pass	
Chromium	B22-No0017491	CP	%	125			75-125	Pass	
Copper	B22-No0017491	CP	%	92			75-125	Pass	
Lead	B22-No0017491	CP	%	94			75-125	Pass	
Mercury	B22-No0017491	CP	%	103			75-125	Pass	
Nickel	B22-No0017491	CP	%	94			75-125	Pass	
Zinc	B22-No0017491	CP	%	104			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-No0017502	CP	%	99			70-130	Pass	
4.4'-DDD	B22-No0017502	CP	%	104			70-130	Pass	
4.4'-DDE	B22-No0017502	CP	%	88			70-130	Pass	
4.4'-DDT	B22-No0017502	CP	%	116			70-130	Pass	
a-HCH	B22-No0017502	CP	%	94			70-130	Pass	
Aldrin	B22-No0017502	CP	%	102			70-130	Pass	
b-HCH	B22-No0017502	CP	%	92			70-130	Pass	
d-HCH	B22-No0017502	CP	%	89			70-130	Pass	
Dieldrin	B22-No0017502	CP	%	98			70-130	Pass	
Endosulfan I	B22-No0017502	CP	%	100			70-130	Pass	
Endosulfan II	B22-No0017502	CP	%	96			70-130	Pass	
Endosulfan sulphate	B22-No0017502	CP	%	97			70-130	Pass	
Endrin	B22-No0017502	CP	%	116			70-130	Pass	
Endrin aldehyde	B22-No0017502	CP	%	111			70-130	Pass	
Endrin ketone	B22-No0017502	CP	%	95			70-130	Pass	
g-HCH (Lindane)	B22-No0017502	CP	%	95			70-130	Pass	
Heptachlor	B22-No0017502	CP	%	111			70-130	Pass	
Heptachlor epoxide	B22-No0017502	CP	%	97			70-130	Pass	
Hexachlorobenzene	B22-No0017502	CP	%	95			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Cadmium	B22-No0017613	CP	%	97			75-125	Pass	
Chromium	B22-No0017613	CP	%	94			75-125	Pass	
Copper	B22-No0017613	CP	%	91			75-125	Pass	
Lead	B22-No0017613	CP	%	96			75-125	Pass	
Mercury	B22-No0017613	CP	%	86			75-125	Pass	
Nickel	B22-No0017613	CP	%	94			75-125	Pass	
Zinc	B22-No0017613	CP	%	94			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-No0017614	CP	%	129			70-130	Pass	
4.4'-DDD	B22-No0017614	CP	%	122			70-130	Pass	
4.4'-DDE	B22-No0017614	CP	%	107			70-130	Pass	
4.4'-DDT	B22-No0017614	CP	%	125			70-130	Pass	
a-HCH	B22-No0017614	CP	%	111			70-130	Pass	
Aldrin	B22-No0017614	CP	%	110			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
b-HCH	B22-No0017614	CP	%	99			70-130	Pass	
d-HCH	B22-No0017614	CP	%	106			70-130	Pass	
Dieldrin	B22-No0017614	CP	%	129			70-130	Pass	
Endosulfan I	B22-No0017614	CP	%	120			70-130	Pass	
Endosulfan II	B22-No0017614	CP	%	116			70-130	Pass	
Endosulfan sulphate	B22-No0017614	CP	%	104			70-130	Pass	
Endrin	B22-No0017614	CP	%	124			70-130	Pass	
Endrin aldehyde	B22-No0017614	CP	%	72			70-130	Pass	
Endrin ketone	B22-No0017614	CP	%	89			70-130	Pass	
g-HCH (Lindane)	B22-No0017614	CP	%	110			70-130	Pass	
Heptachlor	B22-No0017614	CP	%	120			70-130	Pass	
Heptachlor epoxide	B22-No0017614	CP	%	99			70-130	Pass	
Hexachlorobenzene	B22-No0017614	CP	%	106			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Azinphos-methyl	B22-No0017614	CP	%	110			70-130	Pass	
Bolstar	B22-No0017614	CP	%	102			70-130	Pass	
Chlorfenvinphos	B22-No0017614	CP	%	99			70-130	Pass	
Chlorpyrifos	B22-No0017614	CP	%	128			70-130	Pass	
Coumaphos	B22-No0017614	CP	%	116			70-130	Pass	
Demeton-S	B22-No0017614	CP	%	106			70-130	Pass	
Diazinon	B22-No0017614	CP	%	112			70-130	Pass	
Dichlorvos	B22-No0017614	CP	%	97			70-130	Pass	
Dimethoate	B22-No0017614	CP	%	123			70-130	Pass	
EPN	B22-No0017614	CP	%	116			70-130	Pass	
Ethoprop	B22-No0017614	CP	%	102			70-130	Pass	
Ethyl parathion	B22-No0017614	CP	%	124			70-130	Pass	
Fenitrothion	B22-No0017614	CP	%	118			70-130	Pass	
Methyl parathion	B22-No0017614	CP	%	120			70-130	Pass	
Mevinphos	B22-No0017614	CP	%	111			70-130	Pass	
Monocrotophos	B22-No0017614	CP	%	113			70-130	Pass	
Naled	B22-No0017614	CP	%	71			70-130	Pass	
Omethoate	B22-No0017614	CP	%	84			70-130	Pass	
Pirimiphos-methyl	B22-No0017614	CP	%	119			70-130	Pass	
Ronnel	B22-No0017614	CP	%	129			70-130	Pass	
Tetrachlorvinphos	B22-No0017614	CP	%	102			70-130	Pass	
Tokuthion	B22-No0017614	CP	%	122			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	B22-No0017645	CP	%	92			75-125	Pass	
Cadmium	B22-No0017645	CP	%	111			75-125	Pass	
Chromium	B22-No0017645	CP	%	93			75-125	Pass	
Copper	B22-No0017645	CP	%	93			75-125	Pass	
Lead	B22-No0017645	CP	%	99			75-125	Pass	
Mercury	B22-No0017645	CP	%	94			75-125	Pass	
Nickel	B22-No0017645	CP	%	97			75-125	Pass	
Zinc	B22-No0017645	CP	%	97			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4,4'-DDD	B22-No0017649	CP	%	130			70-130	Pass	
4,4'-DDE	B22-No0017649	CP	%	124			70-130	Pass	
4,4'-DDT	B22-No0017649	CP	%	125			70-130	Pass	
a-HCH	B22-No0017649	CP	%	128			70-130	Pass	
Aldrin	B22-No0017649	CP	%	127			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
b-HCH	B22-No0017649	CP	%	113			70-130	Pass	
d-HCH	B22-No0017649	CP	%	120			70-130	Pass	
Endosulfan sulphate	B22-No0017649	CP	%	119			70-130	Pass	
Endrin aldehyde	B22-No0017649	CP	%	106			70-130	Pass	
Endrin ketone	B22-No0017649	CP	%	95			70-130	Pass	
g-HCH (Lindane)	B22-No0017649	CP	%	124			70-130	Pass	
Heptachlor	B22-No0017649	CP	%	121			70-130	Pass	
Heptachlor epoxide	B22-No0017649	CP	%	109			70-130	Pass	
Hexachlorobenzene	B22-No0017649	CP	%	123			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Azinphos-methyl	B22-No0017649	CP	%	104			70-130	Pass	
Bolstar	B22-No0017649	CP	%	100			70-130	Pass	
Chlorfenvinphos	B22-No0017649	CP	%	106			70-130	Pass	
Chlorpyrifos	B22-No0017649	CP	%	130			70-130	Pass	
Coumaphos	B22-No0017649	CP	%	116			70-130	Pass	
Demeton-S	B22-No0017649	CP	%	111			70-130	Pass	
Diazinon	B22-No0017649	CP	%	109			70-130	Pass	
Dichlorvos	B22-No0017649	CP	%	99			70-130	Pass	
Dimethoate	B22-No0017649	CP	%	115			70-130	Pass	
EPN	B22-No0017649	CP	%	115			70-130	Pass	
Ethion	B22-No0017649	CP	%	118			70-130	Pass	
Ethoprop	B22-No0017649	CP	%	101			70-130	Pass	
Fenitrothion	B22-No0017649	CP	%	124			70-130	Pass	
Fensulfothion	B22-No0017649	CP	%	125			70-130	Pass	
Fenthion	B22-No0017649	CP	%	128			70-130	Pass	
Methyl parathion	B22-No0017649	CP	%	122			70-130	Pass	
Mevinphos	B22-No0017649	CP	%	115			70-130	Pass	
Monocrotophos	B22-No0017649	CP	%	114			70-130	Pass	
Naled	B22-No0017649	CP	%	81			70-130	Pass	
Omethoate	B22-No0017649	CP	%	88			70-130	Pass	
Pirimiphos-methyl	B22-No0017649	CP	%	116			70-130	Pass	
Pyrazophos	B22-No0017649	CP	%	129			70-130	Pass	
Ronnel	B22-No0017649	CP	%	128			70-130	Pass	
Tetrachlorvinphos	B22-No0017649	CP	%	105			70-130	Pass	
Tokuthion	B22-No0017649	CP	%	117			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B22-No0017479	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4,4'-DDD	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
g-HCH (Lindane)	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	B22-No0017479	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	B22-No0017479	CP	%	24	26	6.6	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	B22-No0017479	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfotthion	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	B22-No0017479	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	B22-No0017479	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	B22-No0017479	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B22-No0017480	CP	mg/kg	10	11	5.8	30%	Pass	
Cadmium	B22-No0017480	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chromium	B22-No0017480	CP	mg/kg	62	68	10	30%	Pass	
Copper	B22-No0017480	CP	mg/kg	12	13	2.6	30%	Pass	
Lead	B22-No0017480	CP	mg/kg	7.2	7.5	3.4	30%	Pass	
Mercury	B22-No0017480	CP	mg/kg	< 0.1	0.1	29	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Nickel	B22-No0017480	CP	mg/kg	16	16	3.2	30%	Pass
Zinc	B22-No0017480	CP	mg/kg	50	54	7.4	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	B22-No0017485	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B22-No0017485	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B22-No0017485	CP	mg/kg	20	12	52	30%	Fail
Cadmium	B22-No0017485	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chromium	B22-No0017485	CP	mg/kg	10	12	18	30%	Pass
Copper	B22-No0017485	CP	mg/kg	15	14	9.3	30%	Pass
Lead	B22-No0017485	CP	mg/kg	20	15	27	30%	Pass
Mercury	B22-No0017485	CP	mg/kg	< 0.1	0.1	2.1	30%	Pass
Nickel	B22-No0017485	CP	mg/kg	5.2	5.5	5.9	30%	Pass
Zinc	B22-No0017485	CP	mg/kg	44	39	13	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	B22-No0017485	CP	%	19	19	2.7	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	B22-No0017485	CP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Disulfoton	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethoprop	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Ethyl parathion	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfothion	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Mevinphos	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	B22-No0017485	CP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	B22-No0017485	CP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	B22-No0017485	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	B22-No0017490	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B22-No0017490	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B22-No0017490	CP	mg/kg	2.6	3.2	24	30%	Pass
Cadmium	B22-No0017490	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chromium	B22-No0017490	CP	mg/kg	64	100	45	30%	Fail
Copper	B22-No0017490	CP	mg/kg	8.3	8.2	1.5	30%	Pass
Lead	B22-No0017490	CP	mg/kg	13	12	3.5	30%	Pass
Mercury	B22-No0017490	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	B22-No0017490	CP	mg/kg	12	12	4.0	30%	Pass
Zinc	B22-No0017490	CP	mg/kg	53	48	8.1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	B22-No0017490	CP	%	25	25	1.2	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	B22-No0017501	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	B22-No0017501	CP	mg/kg	0.10	0.09	14	30%	Pass
4,4'-DDE	B22-No0017501	CP	mg/kg	1.1	1.1	2.0	30%	Pass
4,4'-DDT	B22-No0017501	CP	mg/kg	0.51	0.41	21	30%	Pass
a-HCH	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B22-No0017501	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B22-No0017501	CP	mg/kg	9.9	9.2	7.1	30%	Pass
Cadmium	B22-No0017501	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chromium	B22-No0017501	CP	mg/kg	63	62	2.3	30%	Pass
Copper	B22-No0017501	CP	mg/kg	13	12	4.6	30%	Pass
Lead	B22-No0017501	CP	mg/kg	8.8	7.5	16	30%	Pass
Mercury	B22-No0017501	CP	mg/kg	0.1	< 0.1	13	30%	Pass
Nickel	B22-No0017501	CP	mg/kg	16	16	<1	30%	Pass
Zinc	B22-No0017501	CP	mg/kg	52	52	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	B22-No0017501	CP	%	29	29	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	B22-No0017620	CP	%	25	25	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	B22-No0017647	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Heptachlor	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B22-No0017647	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B22-No0017647	CP	mg/kg	2.4	2.2	9.9	30%	Pass
Cadmium	B22-No0017647	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chromium	B22-No0017647	CP	mg/kg	16	14	15	30%	Pass
Copper	B22-No0017647	CP	mg/kg	29	24	16	30%	Pass
Lead	B22-No0017647	CP	mg/kg	< 5	< 5	<1	30%	Pass
Mercury	B22-No0017647	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	B22-No0017647	CP	mg/kg	47	39	19	30%	Pass
Zinc	B22-No0017647	CP	mg/kg	110	93	17	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	B22-No0017647	CP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Disulfoton	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethoprop	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethyl parathion	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfthion	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Mevinphos	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	B22-No0017647	CP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	B22-No0017647	CP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	B22-No0017647	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B22-No0017654	CP	mg/kg	13	12	6.5	30%	Pass
Cadmium	B22-No0017654	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chromium	B22-No0017654	CP	mg/kg	82	84	1.5	30%	Pass
Copper	B22-No0017654	CP	mg/kg	13	13	<1	30%	Pass
Lead	B22-No0017654	CP	mg/kg	6.8	6.3	7.8	30%	Pass
Mercury	B22-No0017654	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Nickel	B22-No0017654	CP	mg/kg	21	21	<1	30%	Pass
Zinc	B22-No0017654	CP	mg/kg	66	62	6.0	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
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:

Bonnie Pu	Analytical Services Manager
Jonathon Angell	Senior Analyst-Organic
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-Metal



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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Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
Byron Bay
NSW 2481

Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.: N/A
Report #: 938938
Phone: 02 6685 6681
Fax:

Received: Nov 8, 2022 11:25 AM
Due: Nov 15, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
External Laboratory												
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
1	TP04 0.4-0.5	Nov 02, 2022		Soil	B22-No0017469		X					
2	TP04 0.8-0.9	Nov 02, 2022		Soil	B22-No0017470	X			X			X
3	TP05 0-0.1	Nov 02, 2022		Soil	B22-No0017471				X		X	X
4	TP05 0.4-0.5	Nov 02, 2022		Soil	B22-No0017472				X		X	X
5	TP05 1.3-1.4	Nov 02, 2022		Soil	B22-No0017473	X			X	X		X
6	TP05 1.9-2.0	Nov 02, 2022		Soil	B22-No0017474	X			X			X
7	TP05 3.0-3.1	Nov 02, 2022		Soil	B22-No0017475				X			X
8	TP06 0.7-0.8	Nov 02, 2022		Soil	B22-No0017476				X	X	X	X
9	TP06 0.8-0.9	Nov 02, 2022		Soil	B22-No0017477				X		X	X
10	TP07 0.1-0.2	Nov 03, 2022		Soil	B22-No0017478				X		X	X
11	TP08 0.0-0.1	Nov 03, 2022		Soil	B22-No0017479	X			X			X
12	TP10 1.1-1.2	Nov 03, 2022		Soil	B22-No0017480	X			X			X
13	TP11 0.9-1.0	Nov 03, 2022		Soil	B22-No0017481	X			X	X		X



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Project ID: 22030

Order No.: N/A
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Phone: 02 6685 6681
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Received: Nov 8, 2022 11:25 AM
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Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
14	TP11 1.3-1.4	Nov 03, 2022		Soil	B22-No0017482	X			X			X
15	TP11 2.0-2.1	Nov 03, 2022		Soil	B22-No0017483	X			X			X
16	TP12 0.0-0.1	Nov 03, 2022		Soil	B22-No0017484				X		X	X
17	TP12 0.3-0.4	Nov 03, 2022		Soil	B22-No0017485				X		X	X
18	TP12 0.8-0.9	Nov 03, 2022		Soil	B22-No0017486	X			X			X
19	TP15 0.2-0.3	Nov 03, 2022		Soil	B22-No0017487				X		X	X
20	TP16 0.6-0.7	Nov 03, 2022		Soil	B22-No0017488	X			X			X
21	TP19 0.6-0.7	Nov 02, 2022		Soil	B22-No0017489	X			X			X
22	TP20 0.1-0.2	Nov 03, 2022		Soil	B22-No0017490				X		X	X
23	TP21 0.0-0.1	Nov 03, 2022		Soil	B22-No0017491				X		X	X
24	TP22 0.1-0.2	Nov 03, 2022		Soil	B22-No0017492				X		X	X
25	TP23 0.2-0.3	Nov 03, 2022		Soil	B22-No0017493		X					
26	TP23 0.7-0.8	Nov 03, 2022		Soil	B22-No0017494	X			X			X
27	TP24 0.9-1.0	Nov 03, 2022		Soil	B22-No0017495	X			X			X
28	TP29 0.1-0.2	Nov 04, 2022		Soil	B22-No0017496				X		X	X
29	TP29 0.4-0.5	Nov 04, 2022		Soil	B22-No0017497				X		X	X



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Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.: N/A
Report #: 938938
Phone: 02 6685 6681
Fax:

Received: Nov 8, 2022 11:25 AM
Due: Nov 15, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
30	TP29 1.5-1.6	Nov 04, 2022		Soil	B22-No0017498				X		X	X
31	TP30 0.1-0.2	Nov 04, 2022		Soil	B22-No0017499				X		X	X
32	TP30 0.8-0.9	Nov 04, 2022		Soil	B22-No0017500				X		X	X
33	TP31 0.3-0.4	Nov 03, 2022		Soil	B22-No0017501	X			X			X
34	TP32 0.5-0.6	Nov 03, 2022		Soil	B22-No0017502				X		X	X
35	TP37 0.0-0.1	Nov 03, 2022		Soil	B22-No0017503	X			X			X
36	TP38 0.4-0.5	Nov 04, 2022		Soil	B22-No0017504						X	X
37	TP39 0.4-0.5	Nov 04, 2022		Soil	B22-No0017505				X		X	X
38	TP40 0.0-0.1	Nov 04, 2022		Soil	B22-No0017506		X					
39	TP40 1.4-1.5	Nov 04, 2022		Soil	B22-No0017507				X		X	X
40	TP41 0.8-0.9	Nov 04, 2022		Soil	B22-No0017508				X		X	X
41	TP43 0.0-0.1	Nov 04, 2022		Soil	B22-No0017509				X		X	X
42	TP01 0-0.1	Nov 02, 2022		Soil	B22-No0017510			X				
43	TP01 0.5-0.6	Nov 02, 2022		Soil	B22-No0017511			X				
44	TP01 1.0-1.1	Nov 02, 2022		Soil	B22-No0017512			X				
45	TP01 1.2-1.3	Nov 02, 2022		Soil	B22-No0017513			X				



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Project ID: 22030

Order No.: N/A
Report #: 938938
Phone: 02 6685 6681
Fax:

Received: Nov 8, 2022 11:25 AM
Due: Nov 15, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
46	TP02 0.0-0.1	Nov 02, 2022		Soil	B22-No0017514			X				
47	TP02 0.4-0.5	Nov 02, 2022		Soil	B22-No0017515			X				
48	TP02 1.7-1.8	Nov 02, 2022		Soil	B22-No0017516			X				
49	TP02 2.2-2.4	Nov 02, 2022		Soil	B22-No0017517			X				
50	TP03 0.0-0.1	Nov 02, 2022		Soil	B22-No0017518			X				
51	TP03 0.3-0.4	Nov 02, 2022		Soil	B22-No0017519			X				
52	TP03 0.5-0.6	Nov 02, 2022		Soil	B22-No0017520			X				
53	TP03 1.1-1.2	Nov 02, 2022		Soil	B22-No0017521			X				
54	TP03 1.9-2.0	Nov 02, 2022		Soil	B22-No0017522			X				
55	TP03 2.2-2.3	Nov 02, 2022		Soil	B22-No0017523			X				
56	TP03B 0.0-0.1	Nov 02, 2022		Soil	B22-No0017524			X				
57	TP04 0.0-0.1	Nov 02, 2022		Soil	B22-No0017525			X				
58	TP04 2.4-2.5	Nov 02, 2022		Soil	B22-No0017526			X				
59	TP04 3.3-3.4	Nov 02, 2022		Soil	B22-No0017527			X				
60	TP07 0.7-0.8	Nov 03, 2022		Soil	B22-No0017528			X				
61	TP07 1.0-1.1	Nov 03, 2022		Soil	B22-No0017529			X				



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Project ID: 22030

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Phone: 02 6685 6681
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Received: Nov 8, 2022 11:25 AM
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Priority: 5 Day
Contact Name: Hailey

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Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
62	TP08 0.9-1.0	Nov 03, 2022		Soil	B22-No0017530			X				
63	TP09 0.5-0.6	Nov 03, 2022		Soil	B22-No0017531			X				
64	TP09 1.0-1.1	Nov 03, 2022		Soil	B22-No0017532			X				
65	TP09 1.7-1.8	Nov 03, 2022		Soil	B22-No0017533			X				
66	TP10 1.8-1.9	Nov 03, 2022		Soil	B22-No0017534			X				
67	TP10 2.3-2.4	Nov 03, 2022		Soil	B22-No0017535			X				
68	TP10 2.8-2.9	Nov 03, 2022		Soil	B22-No0017536			X				
69	TP11 2.5-2.6	Nov 03, 2022		Soil	B22-No0017537			X				
70	TP11 3.1-3.2	Nov 03, 2022		Soil	B22-No0017538			X				
71	TP12 1.5-1.6	Nov 03, 2022		Soil	B22-No0017539			X				
72	TP12 2.4-2.5	Nov 03, 2022		Soil	B22-No0017540			X				
73	TP14 0.0-0.1	Nov 03, 2022		Soil	B22-No0017541			X				
74	TP15 0.7-0.8	Nov 03, 2022		Soil	B22-No0017542			X				
75	TP15 1.4-1.5	Nov 03, 2022		Soil	B22-No0017543			X				
76	TP16 1.4-1.5	Nov 03, 2022		Soil	B22-No0017544			X				
77	TP17 0.7-0.8	Nov 03, 2022		Soil	B22-No0017545			X				



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Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
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Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.: N/A
Report #: 938938
Phone: 02 6685 6681
Fax:

Received: Nov 8, 2022 11:25 AM
Due: Nov 15, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
78	TP17 1.2-1.3	Nov 03, 2022		Soil	B22-No0017546			X				
79	TP17 1.6-1.7	Nov 03, 2022		Soil	B22-No0017547			X				
80	TP17 2.4-2.5	Nov 03, 2022		Soil	B22-No0017548			X				
81	TP18 0.9-1.0	Nov 02, 2022		Soil	B22-No0017549			X				
82	TP18 1.9-2.0	Nov 02, 2022		Soil	B22-No0017550			X				
83	TP18 2.4-2.5	Nov 02, 2022		Soil	B22-No0017551			X				
84	TP19 0.4-0.5	Nov 02, 2022		Soil	B22-No0017552			X				
85	TP19 1.5-1.6	Nov 02, 2022		Soil	B22-No0017553			X				
86	TP20 0.4-0.5	Nov 03, 2022		Soil	B22-No0017554			X				
87	TP20 1.0-1.1	Nov 03, 2022		Soil	B22-No0017555			X				
88	TP21 0.2-0.3	Nov 03, 2022		Soil	B22-No0017556			X				
89	TP21 0.9-1.0	Nov 03, 2022		Soil	B22-No0017557			X				
90	TP22 0.4-0.5	Nov 03, 2022		Soil	B22-No0017558			X				
91	TP22 1.0-1.1	Nov 03, 2022		Soil	B22-No0017559			X				
92	TP23 1.0-1.2	Nov 03, 2022		Soil	B22-No0017560			X				
93	TP23 1.6-1.7	Nov 03, 2022		Soil	B22-No0017561			X				



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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
94	TP23 2.4-2.5	Nov 03, 2022		Soil	B22-No0017562			X				
95	TP24 0.4-0.5	Nov 03, 2022		Soil	B22-No0017563			X				
96	TP24 1.5-1.6	Nov 03, 2022		Soil	B22-No0017564			X				
97	TP24 2.0-2.1	Nov 03, 2022		Soil	B22-No0017565			X				
98	TP25 0.6-0.7	Nov 03, 2022		Soil	B22-No0017566			X				
99	TP25 0.8-0.9	Nov 03, 2022		Soil	B22-No0017567			X				
100	TP25 1.5-1.6	Nov 03, 2022		Soil	B22-No0017568			X				
101	TP26 0.0-0.1	Nov 03, 2022		Soil	B22-No0017569			X				
102	TP26 0.4-0.5	Nov 03, 2022		Soil	B22-No0017570			X				
103	TP26 1.0-1.1	Nov 03, 2022		Soil	B22-No0017571			X				
104	TP27 0.0-0.1	Nov 03, 2022		Soil	B22-No0017572			X				
105	TP27 0.4-0.5	Nov 03, 2022		Soil	B22-No0017573			X				
106	TP27 1.2-1.3	Nov 03, 2022		Soil	B22-No0017574			X				
107	TP28 0.0-0.1	Nov 04, 2022		Soil	B22-No0017575			X				
108	TP28 0.6-0.7	Nov 04, 2022		Soil	B22-No0017576			X				
109	TP28 1.5-1.6	Nov 04, 2022		Soil	B22-No0017577			X				



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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
110	TP29 1.8-1.9	Nov 04, 2022		Soil	B22-No0017578			X				
111	TP30 1.4-1.5	Nov 04, 2022		Soil	B22-No0017579			X				
112	TP30 1.9-2.0	Nov 04, 2022		Soil	B22-No0017580			X				
113	TP31 0.7-0.8	Nov 03, 2022		Soil	B22-No0017581			X				
114	TP31 1.3-1.4	Nov 03, 2022		Soil	B22-No0017582			X				
115	TP31 0.4-0.5	Nov 03, 2022		Soil	B22-No0017583		X					
116	TP32 0.9-1.0	Nov 03, 2022		Soil	B22-No0017584			X				
117	TP33 0.1-0.2	Nov 03, 2022		Soil	B22-No0017585			X				
118	TP33 0.3-0.4	Nov 03, 2022		Soil	B22-No0017586			X				
119	TP33 0.6-0.7	Nov 03, 2022		Soil	B22-No0017587			X				
120	TP34 0.0-0.1	Nov 04, 2022		Soil	B22-No0017588			X				
121	TP34 0.4-0.5	Nov 04, 2022		Soil	B22-No0017589			X				
122	TP34 1.7-1.8	Nov 04, 2022		Soil	B22-No0017590			X				
123	TP35 0.0-0.1	Nov 04, 2022		Soil	B22-No0017591			X				
124	TP35 0.5-0.6	Nov 04, 2022		Soil	B22-No0017592			X				
125	TP35 1.4-1.5	Nov 04, 2022		Soil	B22-No0017593			X				



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Project ID: 22030

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Phone: 02 6685 6681
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Received: Nov 8, 2022 11:25 AM
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Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
126	TP36 0.0-0.1	Nov 04, 2022		Soil	B22-No0017594			X				
127	TP36 0.4-0.5	Nov 04, 2022		Soil	B22-No0017595			X				
128	TP36 1.4-1.5	Nov 04, 2022		Soil	B22-No0017596			X				
129	TP37 0.4-0.5	Nov 03, 2022		Soil	B22-No0017597			X				
130	TP37 0.8-0.9	Nov 03, 2022		Soil	B22-No0017598			X				
131	TP38 0.0-0.1	Nov 04, 2022		Soil	B22-No0017599			X				
132	TP38 0.9-1.0	Nov 04, 2022		Soil	B22-No0017600			X				
133	TP39 0.0-0.1	Nov 04, 2022		Soil	B22-No0017601			X				
134	TP40 0.8-0.9	Nov 04, 2022		Soil	B22-No0017602			X				
135	TP40 WATER SAMPLE	Nov 04, 2022		Water	B22-No0017603			X				
136	TP41 0.0-0.1	Nov 04, 2022		Soil	B22-No0017604			X				
137	TP41 0.4-0.5	Nov 04, 2022		Soil	B22-No0017605			X				
138	TP42 0.0-0.1	Nov 04, 2022		Soil	B22-No0017606			X				
139	TP42 0.4-0.5	Nov 04, 2022		Soil	B22-No0017607			X				
140	TP42 0.9-1.0	Nov 04, 2022		Soil	B22-No0017608			X				



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Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
141	TP43 0.4-0.5	Nov 04, 2022		Soil	B22-No0017609			X				
142	TP44 0.0-0.1	Nov 04, 2022		Soil	B22-No0017610				X		X	X
143	TP44 0.5-0.6	Nov 04, 2022		Soil	B22-No0017611			X				
144	TP101 0.7-0.8	Nov 02, 2022		Soil	B22-No0017612				X		X	X
145	TP101 1.3-1.4	Nov 02, 2022		Soil	B22-No0017613				X		X	X
146	TP101 1.8-1.9	Nov 02, 2022		Soil	B22-No0017614				X		X	X
147	TP101 2.7-2.8	Nov 02, 2022		Soil	B22-No0017615			X				
148	TP101 3.1-3.2	Nov 02, 2022		Soil	B22-No0017616			X				
149	TP101_D	Nov 02, 2022		Soil	B22-No0017617				X		X	X
150	TP102 0.0-0.1	Nov 02, 2022		Soil	B22-No0017618						X	X
151	TP102 0.2-0.3	Nov 02, 2022		Soil	B22-No0017619						X	X
152	TP102 0.7-0.8	Nov 02, 2022		Soil	B22-No0017620	X			X	X		X
153	TP102 1.2-1.3	Nov 02, 2022		Soil	B22-No0017621			X				
154	TP102 2.9-3.0	Nov 02, 2022		Soil	B22-No0017622		X					
155	TP103 0.7-0.8	Nov 02, 2022		Soil	B22-No0017623	X			X	X		X
156	TP103 1.2-1.3	Nov 02, 2022		Soil	B22-No0017624			X				



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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
157	TP103 1.9-2.0	Nov 02, 2022		Soil	B22-No0017625			X				
158	TP103 2.7-2.8	Nov 02, 2022		Soil	B22-No0017626			X				
159	TP104A 0.6-0.7	Nov 02, 2022		Soil	B22-No0017627			X				
160	TP104A 0.7-0.8	Nov 02, 2022		Soil	B22-No0017628			X				
161	TP104A 1.0-1.1	Nov 02, 2022		Soil	B22-No0017629			X				
162	TP104A 2.0-2.1	Nov 02, 2022		Soil	B22-No0017630			X				
163	TP104B 0.5-0.6	Nov 02, 2022		Soil	B22-No0017631			X				
164	TP104B 0.7-0.8	Nov 02, 2022		Soil	B22-No0017632	X			X			X
165	TP104B 1.0-1.1	Nov 02, 2022		Soil	B22-No0017633			X				
166	TP104B 2.0-2.1	Nov 02, 2022		Soil	B22-No0017634			X				



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Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
167	TP104B 3.0-3.1	Nov 02, 2022		Soil	B22-No0017635			X				
168	TP105 0.0-0.1	Nov 03, 2022		Soil	B22-No0017636			X				
169	TP105 1.0-1.1	Nov 03, 2022		Soil	B22-No0017637	X			X			X
170	TP105 1.4-1.5	Nov 03, 2022		Soil	B22-No0017638			X				
171	TP105 1.9-2.0	Nov 03, 2022		Soil	B22-No0017639			X				
172	TP105 2.9-3.0	Nov 03, 2022		Soil	B22-No0017640			X				
173	TP106 0.3-0.4	Nov 03, 2022		Soil	B22-No0017641			X				
174	TP106 0.6-0.7	Nov 03, 2022		Soil	B22-No0017642	X		X	X			X
175	TP106 1.0-1.1	Nov 03, 2022		Soil	B22-No0017643			X				
176	TP106 2.4-2.5	Nov 03, 2022		Soil	B22-No0017644			X				
177	TP107 1.2-1.3	Nov 04, 2022		Soil	B22-No0017645				X		X	X
178	TP107 1.2-1.3B	Nov 04, 2022		Soil	B22-No0017646			X				
179	TP108	Oct 05, 2022		Soil	B22-No0017647	X			X	X		X
180	QC01	Nov 02, 2022		Soil	B22-No0017648			X				



Eurofins Environment Testing Australia Pty Ltd

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6 Monterey Road
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NATA# 1261 Site# 1254

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Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

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

Canberra
Unit 1,2 Dacre Street
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ACT 2911
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Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

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Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

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Auckland
35 O'Rorke Road
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Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

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

Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
Byron Bay
NSW 2481

Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.: N/A
Report #: 938938
Phone: 02 6685 6681
Fax:

Received: Nov 8, 2022 11:25 AM
Due: Nov 15, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						Arsenic	CANCELLED	HOLD	Organochlorine Pesticides	Organophosphorus Pesticides	Metals M8	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X	X	X
181	QC02	Nov 02, 2022		Soil	B22-No0017649				X	X	X	X
182	QC03	Nov 02, 2022		Soil	B22-No0017650		X					
183	QC04	Nov 02, 2022		Soil	B22-No0017651			X				
184	QC05	Nov 02, 2022		Soil	B22-No0017652			X				
185	QC06	Nov 02, 2022		Soil	B22-No0017653			X				
186	QC07	Nov 03, 2022		Soil	B22-No0017654				X		X	X
187	QC08	Nov 03, 2022		Soil	B22-No0017655		X					
188	QC09	Nov 03, 2022		Soil	B22-No0017656	X						X
189	QC10	Nov 03, 2022		Soil	B22-No0017657		X					
190	QC11	Nov 04, 2022		Soil	B22-No0017658			X				
191	QC12	Nov 04, 2022		Soil	B22-No0017659			X				
192	TP14 0.4-0.5	Nov 04, 2022		Soil	B22-No0018423			X				
Test Counts						22	8	130	51	7	32	55

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091	1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Tel: +61 2 4968 8448 NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

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

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Christchurch
35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327	43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

Sample Receipt Advice

Company name:	Easterly Point Environmental Pty Ltd
Contact name:	Hailey
Project name:	SELLICKS DIP GOONELLABAH
Project ID:	22030
Turnaround time:	5 Day
Date/Time received	Nov 8, 2022 11:25 AM
Eurofins reference	938938

Sample Information

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

Notes

TP04 0.4-0.5 and TP23 0.2-0.3 were received broken from transit. Unfortunately, no sample was able to be salvaged. Analysis has now been updated for samples TP43 0.4-0.5 onwards as per updated COC. TP31 0.4-0.5, TP40 0.0-0.1 not received. Extra sample TP14 0.4-0.5 has been placed on hold. The following three samples will be forwarded to ALS: QC03, QC08 and QC10.

Contact

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

Robert Biviano on phone : or by email: RobertoBiviano@eurofins.com

Results will be delivered electronically via email to Hailey - Hailey@easterlypoint.com.

Note: A copy of these results will also be delivered to the general Easterly Point Environmental Pty Ltd email address.

Chain of Custody

Easterly Point

Client: Address: Project Manager: Project ID: Site: Results Required:				Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Selicks Dip, Goonellabah PO #				Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:				Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com &							
Cooler sealed? Yes No n/a		Lab use:		Comments / special handling:		Analysis required								Notes:					
				Sample temperature/chilled: Yes No n/a		extortion needs to be done ASAP - As per discussions with Rob Biviano		Arsenic		OCPs		8-metals		OPPs		HOLD			
Lab ID		Sample ID		Date		Matrix		Container											
		Sample		Depth															
		TP01		0-0.1		2/11/2022		S		Jar						1			
				0.5-0.6		2/11/2022		S		Jar						1			
				1.0-1.1		2/11/2022		S		Jar						1			
				1.2-1.3		2/11/2022		S		Jar						1			
		TP02		0.0-0.1		2/11/2022		S		Jar						1			
				0.4-0.5		2/11/2022		S		Jar						1			
				1.7-1.8		2/11/2022		S		Jar						1			
				2.2-2.4		2/11/2022		S		Jar						1			
		TP03		0.0-0.1		2/11/2022		S		Jar						1			
				0.3-0.4		2/11/2022		S		Jar						1			
				0.5-0.6		2/11/2022		S		Jar						1			
				1.1-1.2		2/11/2022		S		Jar						1			
				1.9-2.0		2/11/2022		S		Jar						1			
				2.2-2.3		2/11/2022		S		Jar						1			
		TP038		0.0-0.1		2/11/2022		S		Jar						1			
				0.0-0.1		2/11/2022		S		Jar						1			
		TP04		0.4-0.5		2/11/2022		S		Jar						1			
				0.8-0.9		2/11/2022		S		Jar						1			
				2.4-2.5		2/11/2022		S		Jar						1			
				3.3-3.4		2/11/2022		S		Jar						1			
		TP05		0.0-0.1		2/11/2022		S		Jar						1			
				0.4-0.5		2/11/2022		S		Jar						1			
				1.3-1.4		2/11/2022		S		Jar						1			
				1.9-2.0		2/11/2022		S		Jar						1			
				3.0-3.1		2/11/2022		S		Jar						1			
		TP06		0.7-0.8		2/11/2022		S		Jar						1			
				0.8-0.9		2/11/2022		S		Jar						1			
		TP07		0.1-0.2		3/11/2022		S		Jar						1			

Q3893B

Correction:
Final Temp:15.2
15.5

8/11/22 11:25am

Chain of Custody

Easterly Point

Client: Easterly Point Environmental Address: Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Project Manager: Holley Spry (Murphy) Project ID: 22030 Site: Sellicks Dip, Goonellabah Results Required: PO#				Sampler: Holley Spry Pn. mobile: 0418 336 1788 Pn. Office: (02) 6685 6681 e-mail report to: holley@easterlypoint.com e-mail invoice to: holley@easterlypoint.com &								
Lab use:		Comments / special handling:		Analysis required					Notes:			
Cooler sealed? Yes No n/a		Sample temperature/chilled: Yes No n/a		extraction needs to be done ASAP - As per discussions with Rob Blivieiro		Arsenic	OCPs	8-metals		OPPs	HOLD	
Lab ID	Sample ID	Depth	Date	Matrix	Container							
		0.7 - 0.8	3/11/2022	S	Jar					1		
		1.0 - 1.1	3/11/2022	S	Jar					1		
	TP08	0.0 - 0.1	3/11/2022	S	Jar	1	1					
		0.9 - 1.0	3/11/2022	S	Jar					1		
	TP09	0.5 - 0.6	3/11/2022	S	Jar					1		
		1.0 - 1.1	3/11/2022	S	Jar					1		
		1.7 - 1.8	3/11/2022	S	Jar					1		
	TP10	1.1 - 1.2	3/11/2022	S	Jar	1	1					
		1.8 - 1.9	3/11/2022	S	Jar					1		
		2.3 - 2.4	3/11/2022	S	Jar					1		
		2.8 - 2.9	3/11/2022	S	Jar					1		
	TP11	0.9 - 1.0	3/11/2022	S	Jar	1	1					
		1.3 - 1.4	3/11/2022	S	Jar	1	1					
		2.0 - 2.1	3/11/2022	S	Jar	1	1					
		2.5 - 2.6	3/11/2022	S	Jar					1		
		3.1 - 3.2	3/11/2022	S	Jar					1		
	TP12	0.0 - 0.1	2/11/2022	S	Jar		1	1				
		0.3 - 0.4	2/11/2022	S	Jar		1	1				
		0.8 - 0.9	2/11/2022	S	Jar		1	1				
		1.5 - 1.6	2/11/2022	S	Jar					1		
		2.4 - 2.5	2/11/2022	S	Jar					1		
	TP14	0.0 - 0.1	3/11/2022	S	Jar					1		
	TP15	0.2 - 0.3	3/11/2022	S	Jar		1	1				
		0.7 - 0.8	3/11/2022	S	Jar					1		
		1.4 - 1.5	3/11/2022	S	Jar					1		
	TP16	0.6 - 0.7	3/11/2022	S	Jar	1	1					
		1.4 - 1.5	3/11/2022	S	Jar					1		
	TP17	0.7 - 0.8	3/11/2022	S	Jar					1		

Chain of Custody

Easterly Point

Client: Easterly Point Environmental Address: Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Project Manager: Holley Spry (Murphy) Project ID: 22030 Site: Sellicks Dip, Goonellabah Results Required: PO#				Sampler: Holley Spry Ph. mobile: 0418 336 1788 Ph. Office: (02) 6685 6681 e-mail report to: holley@easterlypoint.com e-mail invoice to: holley@easterlypoint.com &					
Lab use:		Comments / special handling:		Analysis required					
Cooler sealed? Yes No n/a		Sample temperature/chilled: Yes No n/a	extraction needs to be done ASAP - As per discussions with Rob Biviano	Arsenic	OCPs	8-metals	OPPs	HOLD	Notes:
Lab ID	Sample ID	Date	Matrix	Container					
	Depth								
		3/11/2022	S	Jar				1	
	1.2 - 1.3	3/11/2022	S	Jar				1	
	1.6 - 1.7	3/11/2022	S	Jar				1	
	2.4 - 2.5	3/11/2022	S	Jar				1	
	0.9 - 1.0	2/11/2022	S	Jar				1	
	1.9 - 2.0	2/11/2022	S	Jar				1	
	2.4 - 2.5	2/11/2022	S	Jar				1	
	0.4 - 0.5	2/11/2022	S	Jar				1	
	0.6 - 0.7	2/11/2022	S	Jar	1	1			
	1.5 - 1.6	2/11/2022	S	Jar				1	
	0.1 - 0.2	3/11/2022	S	Jar		1	1		
	0.4 - 0.5	3/11/2022	S	Jar				1	
	1.0 - 1.1	3/11/2022	S	Jar				1	
	0.0 - 0.1	3/11/2022	S	Jar		1	1		
	0.2 - 0.3	3/11/2022	S	Jar				1	
	0.9 - 1.0	3/11/2022	S	Jar				1	
	0.1 - 0.2	3/11/2022	S	Jar		1	1		
	0.4 - 0.5	3/11/2022	S	Jar				1	
	1.0 - 1.1	3/11/2022	S	Jar				1	
	0.2 - 0.3	3/11/2022	S	Jar				1	
	0.7 - 0.8	3/11/2022	S	Jar	1	1			
	1.0 - 1.2	3/11/2022	S	Jar				1	
	1.6 - 1.7	3/11/2022	S	Jar				1	
	2.4 - 2.5	3/11/2022	S	Jar				1	
	0.4 - 0.5	3/11/2022	S	Jar				1	
	0.9 - 1.0	3/11/2022	S	Jar	1	1			
	1.5 - 1.6	3/11/2022	S	Jar				1	
	2.0 - 2.1	3/11/2022	S	Jar				1	
	0.6 - 0.7	3/11/2022	S	Jar				1	

Chain of Custody							Easterly Point			
Client: Address: Project Manager: Project ID: Site: Results Required:		Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spwy (Murphy) 22030 Sellicks Dip, Goonellabah PO #			Sampler: Pn. mobile: Pn. Office: e-mail report to: e-mail invoice to:					
Lab use:		Comments / special handling:		Analysis required						
Cooler sealed? Yes No n/a	Sample temperature/chilled: Yes No n/a		extortion needs to be done ASAP - As per discussions with Rob Biviano							
Lab ID	Sample ID Sample Depth	Date	Matrix	Container	Arsenic	OCPs	8-metals	OPP	HOLD	Notes:
	0.8 - 0.9	3/11/2022	S	Jar					1	
	1.5 - 1.6	3/11/2022	S	Jar					1	
TP26	0.0 - 0.1	3/11/2022	S	Jar					1	
	0.4 - 0.5	3/11/2022	S	Jar					1	
	1.0 - 1.1	3/11/2022	S	Jar					1	
TP27	0.0 - 0.1	3/11/2022	S	Jar					1	
	0.4 - 0.5	3/11/2022	S	Jar					1	
	1.2 - 1.3	3/11/2022	S	Jar					1	
TP28	0.0 - 0.1	4/11/2022	S	Jar					1	
	0.6 - 0.7	4/11/2022	S	Jar					1	
	1.5 - 1.6	4/11/2022	S	Jar					1	
TP29	0.1 - 0.2	4/11/2022	S	Jar		1	1			
	0.4 - 0.5	4/11/2022	S	Jar		1	1			
	1.5 - 1.6	4/11/2022	S	Jar		1	1			
	1.8 - 1.9	4/11/2022	S	Jar					1	
TP30	0.1 - 0.2	4/11/2022	S	Jar		1	1			
	0.8 - 0.9	4/11/2022	S	Jar						
	1.4 - 1.5	4/11/2022	S	Jar					1	
	1.9 - 2.0	4/11/2022	S	Jar					1	
TP31	0.3 - 0.4	3/11/2022	S	Jar	1	1				
	0.7 - 0.8	3/11/2022	S	Jar					1	
	1.3 - 1.4	3/11/2022	S	Jar					1	
	0.4 - 0.5	3/11/2022	S	Jar					1	
TP32	0.5 - 0.6	3/11/2022	S	Jar		1	1			
	0.9 - 1.0	3/11/2022	S	Jar					1	
TP33	0.1 - 0.2	3/11/2022	S	Jar					1	
	0.3 - 0.4	3/11/2022	S	Jar					1	
	0.6 - 0.7	3/11/2022	S	Jar					1	

Easterly Point

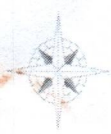
Sampler: Holley Spry
Ph. mobile: 0418 336 1788
Ph. Office: (02) 6685 6681
e-mail report to: holley@easternpoint.com
e-mail invoice to: holleyx@easternpoint.com &



Lab use:				Comments / special handling:			Analysis required					
Cooler seeded? Yes No n/a			Sample temperature/chilled: Yes No n/a	extraction needs to be done ASAP - As per discussions with Rob Biviano	Arsenic	OCPs	8-metals	OPPs	HOLD			Notes:
Lab ID	Sample ID		Date	Matrix	Container							
	TP34	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar					1		
		1.7 - 1.8	4/11/2022	S	Jar					1		
	TP35	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.5 - 0.6	4/11/2022	S	Jar					1		
		1.4 - 1.5	4/11/2022	S	Jar					1		
	TP36	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar					1		
		1.4 - 1.5	4/11/2022	S	Jar					1		
	TP37	0.0 - 0.1	3/11/2022	S	Jar	1	1					
		0.4 - 0.5	3/11/2022	S	Jar					1		
		0.8 - 0.9	3/11/2022	S	Jar					1		
	TP38	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar			1				
		0.9 - 1.0	4/11/2022	S	Jar					1		
	TP39	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar		1	1				
		0.0 - 0.1	4/11/2022	S	Jar		1	1				
	TP40	0.8 - 0.9	4/11/2022	S	Jar					1		
		1.4 - 1.5	4/11/2022	S	Jar		1	1				
		WATER SAMPLE	4/11/2022	W	Jar					1		
	TP41	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar					1		
		0.8 - 0.9	4/11/2022	S	Jar		1	1				
	TP42	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar					1		
		0.9 - 1.0	4/11/2022	S	Jar					1		
	TP43	0.0 - 0.1	4/11/2022	S	Jar		1	1				

Chain of Custody

Easterly Point

Client: Address: Project Manager: Project ID: Site: Results Required:				Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Sellicks Dip, Goonellabah PO#				Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:				Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com &					
Cooler sealed?		Lab use:		Comments / special handling:		Analysis required								Notes:			
Yes No n/a				Sample temperature/chilled: Yes No n/a		extraction needs to be done ASAP - As per discussions with Rob Biviano		HOLD									
Lab ID	Sample ID		Date	Matrix	Container												
	Sample	Depth															
	TP01	0 - 0.1	2/11/2022	S	jar												
	TP01	0.5 - 0.6	2/11/2022	S	jar												
	TP01	1.0 - 1.1	2/11/2022	S	jar												
	TP01	1.2 - 1.3	2/11/2022	S	jar												
	TP02	0.0 - 0.1	2/11/2022	S	jar												
	TP02	0.4 - 0.5	2/11/2022	S	jar												
	TP02	1.7 - 1.8	2/11/2022	S	jar												
	TP02	2.2 - 2.4	2/11/2022	S	jar												
	TP03	0.0 - 0.1	2/11/2022	S	jar												
	TP03	0.3 - 0.4	2/11/2022	S	jar												
	TP03	0.5 - 0.6	2/11/2022	S	jar												
	TP03	1.1 - 1.2	2/11/2022	S	jar												
	TP03	1.9 - 2.0	2/11/2022	S	jar												
	TP03	2.2 - 2.3	2/11/2022	S	jar												
	TP03B	0.0 - 0.1	2/11/2022	S	jar												
	TP04	0.0 - 0.1	2/11/2022	S	jar												
	TP04	0.4 - 0.5	2/11/2022	S	jar												
	TP04	0.8 - 0.9	2/11/2022	S	jar												
	TP04	2.4 - 2.5	2/11/2022	S	jar												
	TP04	3.3 - 3.4	2/11/2022	S	jar												
	TP05	0.0 - 0.1	2/11/2022	S	jar												
	TP05	0.4 - 0.5	2/11/2022	S	jar												
	TP05	1.3 - 1.4	2/11/2022	S	jar												
	TP05	1.9 - 2.0	2/11/2022	S	jar												
	TP05	3.0 - 3.1	2/11/2022	S	jar												
	TP06	0.7 - 0.8	2/11/2022	S	jar												
	TP06	0.8 - 0.9	2/11/2022	S	jar												
	TP07	0.1 - 0.2	3/11/2022	S	jar												

[illegible]

TP37	0.4 - 0.5	3/11/2022	S	jor	1
TP37	0.8 - 0.9	3/11/2022	S	jor	1
TP38	0.0 - 0.1	4/11/2022	S	jor	1
TP38	0.4 - 0.5	4/11/2022	S	jor	1
TP38	0.9 - 1.0	4/11/2022	S	jor	1
TP39	0.0 - 0.1	4/11/2022	S	jor	1
TP39	0.4 - 0.5	4/11/2022	S	jor	1
TP40	0.0 - 0.1	4/11/2022	S	jor	1
TP40	0.8 - 0.9	4/11/2022	S	jor	1
TP40	1.4 - 1.5	4/11/2022	S	jor	1
TP40	-	4/11/2022	W	jor	1
TP41	0.0 - 0.1	4/11/2022	S	jor	1
TP41	0.4 - 0.5	4/11/2022	S	jor	1
TP41	0.8 - 0.9	4/11/2022	S	jor	1
TP42	0.0 - 0.1	4/11/2022	S	jor	1
TP42	0.4 - 0.5	4/11/2022	S	jor	1
TP42	0.9 - 1.0	4/11/2022	S	jor	1
TP43	0.0 - 0.1	4/11/2022	S	jor	1
TP43	0.4 - 0.5	4/11/2022	S	jor	1
TP44	0.0 - 0.1	4/11/2022	S	jor	1
TP44	0.5 - 0.6	4/11/2022	S	jor	1
TP101	0.7 - 0.8	2/11/2022	S	jor	1
TP101	1.3 - 1.4	2/11/2022	S	jor	1
TP101	1.8 - 1.9	2/11/2022	S	jor	1
TP101	2.7 - 2.8	2/11/2022	S	jor	1
TP101	3.1 - 3.2	2/11/2022	S	jor	1
TP101_D	-	2/11/2022	S	jor	1
TP102	0.0 - 0.1	2/11/2022	S	jor	1
TP102	0.2 - 0.3	2/11/2022	S	jor	1
TP102	0.7 - 0.8	2/11/2022	S	jor	1
TP102	1.2 - 1.3	2/11/2022	S	jor	1
TP102	2.9 - 3.0	2/11/2022	S	jor	1
TP103	0.7 - 0.8	2/11/2022	S	jor	1
TP103	1.2 - 1.3	2/11/2022	S	jor	1
TP103	1.9 - 2.0	2/11/2022	S	jor	1
TP103	2.7 - 2.8	2/11/2022	S	jor	1
TP104	0.6 - 0.7	2/11/2022	S	jor	1
TP104A	0.7 - 0.8	2/11/2022	S	jor	1
TP104A	1.0 - 1.1	2/11/2022	S	jor	1
TP104A	2.0 - 2.1	2/11/2022	S	jor	1
TP104B	0.5 - 0.6	2/11/2022	S	jor	1
TP104B	0.7 - 0.8	2/11/2022	S	jor	1
TP104B	1.0 - 1.1	2/11/2022	S	jor	1
TP104B	2.0 - 2.1	2/11/2022	S	jor	1
TP104B	3.0 - 3.1	2/11/2022	S	jor	1
TP105	0.0 - 0.1	3/11/2022	S	jor	1
TP105	1.0 - 1.1	3/11/2022	S	jor	1

	TP105	1.4 - 1.5	3/11/2022	S	jar	1											
	TP105	1.9 - 2.0	3/11/2022	S	jar	1											
	TP105	2.9 - 3.0	3/11/2022	S	jar	1											
	TP106	0.3 - 0.4	3/11/2022	S	jar	1											
	TP106	0.6 - 0.7	3/11/2022	S	jar	1											
	TP106	1.0 - 1.1	3/11/2022	S	jar	1											
	TP106	2.4 - 2.5	3/11/2022	S	jar	1											
	TP107	1.2 - 1.3	4/11/2022	S	jar	1											
	TP107	1.2 - 1.38	4/11/2022	S	jar												
	TP108	-	5/10/2022	S	jar	1											
	QC01	TP04_0.8-0.9	2/11/2022	S	jar	1											
	QC02	TP05_1.3-1.4	2/11/2022	S	jar	1											
	QC03	TP05_1.3-1.4	2/11/2022	S	jar	1											
	QC04	TP06_0.8-0.9	2/11/2022	S	jar	1											
	QC05	TP103_1.2-1.3	2/11/2022	S	jar	1											
	QC06	TP104_0.6-0.7	2/11/2022	S	jar	1											
	QC07	TP23_0.7-0.8	3/11/2022	S	jar	1											
	QC08	TP23_0.7-0.8	3/11/2022	S	jar	1											
	QC09	TP11_0.9-1.0	3/11/2022	S	jar	1											
	QC10	TP11_0.9-1.0	3/11/2022	S	jar	1											
	QC11	TP40_1.4-1.5	4/11/2022	S	jar	1											
	QC12	TP40_1.4-1.5	4/11/2022	S	jar	1											
Total:						187											

Relinquished by:

Received by:

Name:	Hailey Murphy	Name:	
of:	Easterly Point Environmental	Of:	
Date:	7/11/2022	Date:	

Chain of Custody

Easterly Point

Client: Address: Project Manager: Project ID: Site: Results Required:				Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Selicks Dip, Goonellabah PO #				Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:				Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com &							
Cooler sealed? Yes No n/a		Lab use:		Comments / special handling:		Analysis required								Notes:					
Sample ID		Date		Sample temperature/chilled: Yes No n/a		extortion needs to be done ASAP - As per discussions with Rob Biviano		Arsenic		OCPs		8-metals		OPPs		HOLD			
Lab ID		Sample		Depth		Matrix		Container											
TP01		0-0.1		2/11/2022		S		Jar								1			
		0.5-0.6		2/11/2022		S		Jar								1			
		1.0-1.1		2/11/2022		S		Jar								1			
		1.2-1.3		2/11/2022		S		Jar								1			
TP02		0.0-0.1		2/11/2022		S		Jar								1			
		0.4-0.5		2/11/2022		S		Jar								1			
		1.7-1.8		2/11/2022		S		Jar								1			
		2.2-2.4		2/11/2022		S		Jar								1			
TP03		0.0-0.1		2/11/2022		S		Jar								1			
		0.3-0.4		2/11/2022		S		Jar								1			
		0.5-0.6		2/11/2022		S		Jar								1			
		1.1-1.2		2/11/2022		S		Jar								1			
		1.9-2.0		2/11/2022		S		Jar								1			
		2.2-2.3		2/11/2022		S		Jar								1			
TP038		0.0-0.1		2/11/2022		S		Jar								1			
TP04		0.0-0.1		2/11/2022		S		Jar								1			
		0.4-0.5		2/11/2022		S		Jar								1			
		0.8-0.9		2/11/2022		S		Jar								1			
		2.4-2.5		2/11/2022		S		Jar								1			
		3.3-3.4		2/11/2022		S		Jar								1			
TP05		0.0-0.1		2/11/2022		S		Jar								1			
		0.4-0.5		2/11/2022		S		Jar								1			
		1.3-1.4		2/11/2022		S		Jar								1			
		1.9-2.0		2/11/2022		S		Jar								1			
		3.0-3.1		2/11/2022		S		Jar								1			
TP06		0.7-0.8		2/11/2022		S		Jar								1			
		0.8-0.9		2/11/2022		S		Jar								1			
TP07		0.1-0.2		3/11/2022		S		Jar								1			

Q3893B

Correction:
Final Temp:

8/11/22 11:25am

Chain of Custody

Easterly Point

Client: Easterly Point Environmental Address: Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Project Manager: Holley Spry (Murphy) Project ID: 22030 Site: Sellicks Dip, Goonellabah Results Required: PO#				Sampler: Holley Spry Pn. mobile: 0418 336 1788 Pn. Office: (02) 6685 6681 e-mail report to: holley@easterlypoint.com e-mail invoice to: holley@easterlypoint.com &								
Lab use:		Comments / special handling:		Analysis required					Notes:			
Cooler sealed? Yes No n/a		Sample temperature/chilled: Yes No n/a		extraction needs to be done ASAP - As per discussions with Rob Blivie								
Lab ID	Sample ID		Date	Matrix	Container	Arsenic	OCPs	8-metals	OPPs	HOLD		
	Sample	Depth										
		0.7 - 0.8	3/11/2022	S	Jar					1		
		1.0 - 1.1	3/11/2022	S	Jar					1		
		0.0 - 0.1	3/11/2022	S	Jar	1	1					
		0.9 - 1.0	3/11/2022	S	Jar					1		
		0.5 - 0.6	3/11/2022	S	Jar					1		
		1.0 - 1.1	3/11/2022	S	Jar					1		
		1.7 - 1.8	3/11/2022	S	Jar					1		
		1.1 - 1.2	3/11/2022	S	Jar	1	1					
		1.8 - 1.9	3/11/2022	S	Jar					1		
		2.3 - 2.4	3/11/2022	S	Jar					1		
		2.8 - 2.9	3/11/2022	S	Jar					1		
		0.9 - 1.0	3/11/2022	S	Jar	1	1					
		1.3 - 1.4	3/11/2022	S	Jar	1	1					
		2.0 - 2.1	3/11/2022	S	Jar	1	1					
		2.5 - 2.6	3/11/2022	S	Jar					1		
		3.1 - 3.2	3/11/2022	S	Jar					1		
		0.0 - 0.1	2/11/2022	S	Jar		1	1				
		0.3 - 0.4	2/11/2022	S	Jar		1	1				
		0.8 - 0.9	2/11/2022	S	Jar		1	1				
		1.5 - 1.6	2/11/2022	S	Jar					1		
		2.4 - 2.5	2/11/2022	S	Jar					1		
		0.0 - 0.1	3/11/2022	S	Jar					1		
		0.2 - 0.3	3/11/2022	S	Jar		1	1				
		0.7 - 0.8	3/11/2022	S	Jar					1		
		1.4 - 1.5	3/11/2022	S	Jar					1		
		0.6 - 0.7	3/11/2022	S	Jar	1	1					
		1.4 - 1.5	3/11/2022	S	Jar					1		
		0.7 - 0.8	3/11/2022	S	Jar					1		

Chain of Custody

Easterly Point

Client: Easterly Point Environmental Address: Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Project Manager: Holley Spry (Murphy) Project ID: 22030 Site: Sellicks Dip, Goonellabah Results Required: PO#				Sampler: Holley Spry Ph. mobile: 0418 336 1788 Ph. Office: (02) 6685 6681 e-mail report to: holley@easterlypoint.com e-mail invoice to: holley@easterlypoint.com &						
Lab use:		Comments / special handling:		Analysis required						
Cooler sealed?		Sample temperature/chilled:	extraction needs to be done ASAP - As per discussions with Rob Biviano	Arsenic		OCPs	8-metals	OPPs	HOLD	Notes:
Yes No n/a		Yes No n/a								
Lab ID	Sample ID	Date	Matrix	Container						
	Depth									
		3/11/2022	S	Jar					1	
	1.2 - 1.3	3/11/2022	S	Jar					1	
	1.6 - 1.7	3/11/2022	S	Jar					1	
	2.4 - 2.5	3/11/2022	S	Jar					1	
TP18	0.9 - 1.0	2/11/2022	S	Jar					1	
	1.9 - 2.0	2/11/2022	S	Jar					1	
	2.4 - 2.5	2/11/2022	S	Jar					1	
TP19	0.4 - 0.5	2/11/2022	S	Jar					1	
	0.6 - 0.7	2/11/2022	S	Jar	1	1				
	1.5 - 1.6	2/11/2022	S	Jar					1	
TP20	0.1 - 0.2	3/11/2022	S	Jar		1	1			
	0.4 - 0.5	3/11/2022	S	Jar					1	
	1.0 - 1.1	3/11/2022	S	Jar					1	
TP21	0.0 - 0.1	3/11/2022	S	Jar		1	1			
	0.2 - 0.3	3/11/2022	S	Jar					1	
	0.9 - 1.0	3/11/2022	S	Jar					1	
TP22	0.1 - 0.2	3/11/2022	S	Jar		1	1			
	0.4 - 0.5	3/11/2022	S	Jar					1	
	1.0 - 1.1	3/11/2022	S	Jar					1	
TP23	0.2 - 0.3	3/11/2022	S	Jar					1	
	0.7 - 0.8	3/11/2022	S	Jar	1	1				
	1.0 - 1.2	3/11/2022	S	Jar					1	
	1.6 - 1.7	3/11/2022	S	Jar					1	
	2.4 - 2.5	3/11/2022	S	Jar					1	
TP24	0.4 - 0.5	3/11/2022	S	Jar					1	
	0.9 - 1.0	3/11/2022	S	Jar	1	1				
	1.5 - 1.6	3/11/2022	S	Jar					1	
	2.0 - 2.1	3/11/2022	S	Jar					1	
TP25	0.6 - 0.7	3/11/2022	S	Jar					1	

Chain of Custody							Easterly Point					
Client: Address: Project Manager: Project ID: Site: Results Required:		Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spwy (Murphy) 22030 Sellicks Dlp, Goonellabah PO #			Sampler: Pn. mobile: Pn. Office: e-mail report to: e-mail invoice to:							
Lab use:		Comments / special handling:		Analysis required								
Cooler sealed? Yes No n/a	Sample temperature/chilled: Yes No n/a		extroction needs to be done ASAP - As per discussions with Rob Biviano									
Lab ID	Sample ID		Date	Matrix	Container	Arsenic OCPs 8-metals OPPs HOLD					Notes:	
	Sample	Depth										
		0.8 - 0.9	3/11/2022	S	Jar					1		
		1.5 - 1.6	3/11/2022	S	Jar							
	TP26	0.0 - 0.1	3/11/2022	S	Jar					1		
		0.4 - 0.5	3/11/2022	S	Jar							
		1.0 - 1.1	3/11/2022	S	Jar							
	TP27	0.0 - 0.1	3/11/2022	S	Jar					1		
		0.4 - 0.5	3/11/2022	S	Jar							
		1.2 - 1.3	3/11/2022	S	Jar							
	TP28	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.6 - 0.7	4/11/2022	S	Jar							
		1.5 - 1.6	4/11/2022	S	Jar							
	TP29	0.1 - 0.2	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar							
		1.5 - 1.6	4/11/2022	S	Jar							
	TP30	1.8 - 1.9	4/11/2022	S	Jar							
		0.1 - 0.2	4/11/2022	S	Jar					1		
		0.8 - 0.9	4/11/2022	S	Jar							
	TP31	1.4 - 1.5	4/11/2022	S	Jar							
		1.9 - 2.0	4/11/2022	S	Jar							
		0.3 - 0.4	3/11/2022	S	Jar					1		
	TP32	0.7 - 0.8	3/11/2022	S	Jar							
		1.3 - 1.4	3/11/2022	S	Jar							
		0.4 - 0.5	3/11/2022	S	Jar							
	TP33	0.5 - 0.6	3/11/2022	S	Jar					1		
		0.9 - 1.0	3/11/2022	S	Jar							
		0.1 - 0.2	3/11/2022	S	Jar							
		0.3 - 0.4	3/11/2022	S	Jar							
		0.6 - 0.7	3/11/2022	S	Jar					1		

Easterly Point

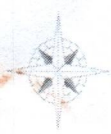
Sampler: Holley Spry
Ph. mobile: 0418 336 1788
Ph. Office: (02) 6685 6681
e-mail report to: holley@eastertypoint.com
e-mail invoice to: holley@eastertypoint.com &



Lab use:				Comments / special handling:			Analysis required					
Cooler seeded? Yes No n/a			Sample temperature/chilled: Yes No n/a	extraction needs to be done ASAP - As per discussions with Rob Biviano	Arsenic	OCPs	8-metals	OPPs	HOLD			Notes:
Lab ID	Sample ID		Date	Matrix	Container							
	TP34	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar					1		
		1.7 - 1.8	4/11/2022	S	Jar					1		
	TP35	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.5 - 0.6	4/11/2022	S	Jar					1		
		1.4 - 1.5	4/11/2022	S	Jar					1		
	TP36	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar					1		
		1.4 - 1.5	4/11/2022	S	Jar					1		
	TP37	0.0 - 0.1	3/11/2022	S	Jar	1	1					
		0.4 - 0.5	3/11/2022	S	Jar					1		
		0.8 - 0.9	3/11/2022	S	Jar					1		
	TP38	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar			1				
		0.9 - 1.0	4/11/2022	S	Jar					1		
	TP39	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar		1	1				
		0.0 - 0.1	4/11/2022	S	Jar		1	1				
	TP40	0.8 - 0.9	4/11/2022	S	Jar					1		
		1.4 - 1.5	4/11/2022	S	Jar		1	1				
		WATER SAMPLE	4/11/2022	W	Jar					1		
	TP41	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar					1		
		0.8 - 0.9	4/11/2022	S	Jar		1	1				
	TP42	0.0 - 0.1	4/11/2022	S	Jar					1		
		0.4 - 0.5	4/11/2022	S	Jar					1		
		0.9 - 1.0	4/11/2022	S	Jar					1		
	TP43	0.0 - 0.1	4/11/2022	S	Jar		1	1				

Chain of Custody

Easterly Point

Client: Address: Project Manager: Project ID: Site: Results Required:				Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Sellicks Dip, Goonellabah PO#				Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:				Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com &					
Lab use:		Comments / special handling:		Analysis required								Notes:					
Cooler sealed?		Sample temperature/chilled:		extraction needs to be done ASAP - As per discussions with Rob Biviano		HOLD											
Yes No n/a		Yes No n/a															
Lab ID		Sample ID		Date		Matrix		Container									
		Sample		Depth													
TP01		0 - 0.1		2/11/2022		S		jar		1							
TP01		0.5 - 0.6		2/11/2022		S		jar		1							
TP01		1.0 - 1.1		2/11/2022		S		jar		1							
TP01		1.2 - 1.3		2/11/2022		S		jar		1							
TP02		0.0 - 0.1		2/11/2022		S		jar		1							
TP02		0.4 - 0.5		2/11/2022		S		jar		1							
TP02		1.7 - 1.8		2/11/2022		S		jar		1							
TP02		2.2 - 2.4		2/11/2022		S		jar		1							
TP03		0.0 - 0.1		2/11/2022		S		jar		1							
TP03		0.3 - 0.4		2/11/2022		S		jar		1							
TP03		0.5 - 0.6		2/11/2022		S		jar		1							
TP03		1.1 - 1.2		2/11/2022		S		jar		1							
TP03		1.9 - 2.0		2/11/2022		S		jar		1							
TP03		2.2 - 2.3		2/11/2022		S		jar		1							
TP03B		0.0 - 0.1		2/11/2022		S		jar		1							
TP04		0.0 - 0.1		2/11/2022		S		jar		1							
TP04		0.4 - 0.5		2/11/2022		S		jar		1							
TP04		0.8 - 0.9		2/11/2022		S		jar		1							
TP04		2.4 - 2.5		2/11/2022		S		jar		1							
TP04		3.3 - 3.4		2/11/2022		S		jar		1							
TP05		0.0 - 0.1		2/11/2022		S		jar		1							
TP05		0.4 - 0.5		2/11/2022		S		jar		1							
TP05		1.3 - 1.4		2/11/2022		S		jar		1							
TP05		1.9 - 2.0		2/11/2022		S		jar		1							
TP05		3.0 - 3.1		2/11/2022		S		jar		1							
TP06		0.7 - 0.8		2/11/2022		S		jar		1							
TP06		0.8 - 0.9		2/11/2022		S		jar		1							
TP07		0.1 - 0.2		3/11/2022		S		jar		1							

[illegible]

[illegible]

	TP105	1.4 - 1.5	3/11/2022	S	jar	1											
	TP105	1.9 - 2.0	3/11/2022	S	jar	1											
	TP105	2.9 - 3.0	3/11/2022	S	jar	1											
	TP106	0.3 - 0.4	3/11/2022	S	jar	1											
	TP106	0.6 - 0.7	3/11/2022	S	jar	1											
	TP106	1.0 - 1.1	3/11/2022	S	jar	1											
	TP106	2.4 - 2.5	3/11/2022	S	jar	1											
	TP107	1.2 - 1.3	4/11/2022	S	jar	1											
	TP107	1.2 - 1.38	4/11/2022	S	jar												
	TP108	-	5/10/2022	S	jar	1											
	QC01	TP04_0.8-0.9	2/11/2022	S	jar	1											
	QC02	TP05_1.3-1.4	2/11/2022	S	jar	1											
	QC03	TP05_1.3-1.4	2/11/2022	S	jar	1											
	QC04	TP06_0.8-0.9	2/11/2022	S	jar	1											
	QC05	TP103_1.2-1.3	2/11/2022	S	jar	1											
	QC06	TP104_0.6-0.7	2/11/2022	S	jar	1											
	QC07	TP23_0.7-0.8	3/11/2022	S	jar	1											
	QC08	TP23_0.7-0.8	3/11/2022	S	jar	1											
	QC09	TP11_0.9-1.0	3/11/2022	S	jar	1											
	QC10	TP11_0.9-1.0	3/11/2022	S	jar	1											
	QC11	TP40_1.4-1.5	4/11/2022	S	jar	1											
	QC12	TP40_1.4-1.5	4/11/2022	S	jar	1											
Total:						187											

Relinquished by:

Received by:

Name:	Hailey Murphy	Name:	
of:	Eastery Point Environmental	Of:	
Date:	7/11/2022	Date:	

Chain of Custody										Easterly Point			
Client: Address: Project Manager: Project ID: Site: Results Required:		Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Sellicks Dip, Goonellabah PO# n/a		Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:		Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com							
Lab use:		Comments / special handling:		Analysis required									
Cooler sealed? Yes No n/a	Sample ID	Sample	Depth	Date	Matrix	Sample temperature/chilled: Yes No n/a	extraction needs to be done ASAP - As per discussions with Rob Biviano	Arsenic	OCp _s	8-metals	OP _s	HOLD	Notes:
			1.0 - 1.1	3/11/2022	S							1	
	TP08		0.0 - 0.1	3/11/2022	S			1	1				
			0.9 - 1.0	3/11/2022	S							1	
	TP09		0.5 - 0.6	3/11/2022	S							1	
			1.0 - 1.1	3/11/2022	S							1	
			1.7 - 1.8	3/11/2022	S							1	
	TP10		1.1 - 1.2	3/11/2022	S			1	1				
			1.8 - 1.9	3/11/2022	S							1	
			2.3 - 2.4	3/11/2022	S							1	
			2.8 - 2.9	3/11/2022	S							1	
	TP11		0.9 - 1.0	3/11/2022	S			1	1		1		
			1.3 - 1.4	3/11/2022	S			1	1				
			2.0 - 2.1	3/11/2022	S			1	1				
			2.5 - 2.6	3/11/2022	S							1	
			3.1 - 3.2	3/11/2022	S							1	
	TP12		0.0 - 0.1	2/11/2022	S				1	1			
			0.3 - 0.4	2/11/2022	S				1	1			
			0.8 - 0.9	2/11/2022	S			1	1				
			1.5 - 1.6	2/11/2022	S							1	
			2.4 - 2.5	2/11/2022	S							1	
	TP14		0.0 - 0.1	3/11/2022	S							1	
			0.4 - .5	3/11/2022	S							1	
	TP15		0.2 - 0.3	3/11/2022	S				1	1			
			0.7 - 0.8	3/11/2022	S							1	
			1.4 - 1.5	3/11/2022	S							1	
	TP16		0.6 - 0.7	3/11/2022	S			1	1				
			1.4 - 1.5	3/11/2022	S							1	
	TP17		0.7 - 0.8	3/11/2022	S							1	
			1.2 - 1.3	3/11/2022	S							1	

Sample added to COC 09/11/22

Chain of Custody										Easterly Point	
Client: Address: Project Manager: Project ID: Site: Results Required:			Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Sellicks Dip, Goonellabah PO# n/a			Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:			Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com		
Lab use:			Comments / special handling:			Analysis required					
Cooler sealed? Yes No n/a	Sample ID	Date	Sample temperature/chilled: Yes No n/a	Matrix	Container	Arsenic	OCp _s	8-metals	OP _s	HOLD	Notes:
		1.6 - 1.7	3/11/2022	S	Jar					1	
		2.4 - 2.5	3/11/2022	S	Jar					1	
	TP18	0.9 - 1.0	2/11/2022	S	Jar					1	
		1.9 - 2.0	2/11/2022	S	Jar					1	
		2.4 - 2.5	2/11/2022	S	Jar					1	
	TP19	0.4 - 0.5	2/11/2022	S	Jar					1	
		0.6 - 0.7	2/11/2022	S	Jar	1	1				
		1.5 - 1.6	2/11/2022	S	Jar					1	
	TP20	0.1 - 0.2	3/11/2022	S	Jar		1	1			
		0.4 - 0.5	3/11/2022	S	Jar					1	
		1.0 - 1.1	3/11/2022	S	Jar					1	
	TP21	0.0 - 0.1	3/11/2022	S	Jar		1	1			
		0.2 - 0.3	3/11/2022	S	Jar					1	
		0.9 - 1.0	3/11/2022	S	Jar					1	
	TP22	0.1 - 0.2	3/11/2022	S	Jar		1	1			
		0.4 - 0.5	3/11/2022	S	Jar					1	
		1.0 - 1.1	3/11/2022	S	Jar					1	
	TP23	0.2 - 0.3	3/11/2022	S	Jar					1	
		0.7 - 0.8	3/11/2022	S	Jar	1	1			+	
		1.0 - 1.2	3/11/2022	S	Jar					1	
		1.6 - 1.7	3/11/2022	S	Jar					1	
	TP24	2.4 - 2.5	3/11/2022	S	Jar					1	
		0.4 - 0.5	3/11/2022	S	Jar					1	
		0.9 - 1.0	3/11/2022	S	Jar	1	1				
		1.5 - 1.6	3/11/2022	S	Jar					1	
		2.0 - 2.1	3/11/2022	S	Jar					1	
	TP25	0.6 - 0.7	3/11/2022	S	Jar					1	
		0.8 - 0.9	3/11/2022	S	Jar					1	
		1.5 - 1.6	3/11/2022	S	Jar					1	

Chain of Custody										Easterly Point				
Client: Address: Project Manager: Project ID: Site: Results Required:			Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Sellicks Dip, Goonellabah PO# n/a			Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:			Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com					
Lab use:			Comments / special handling:			Analysis required								
Cooler sealed? Yes No n/a				Sample temperature/chilled: Yes No n/a	extraction needs to be done ASAP - As per discussions with Rob Biviano	Matrix	Container	Arsenic	OCps	8-metals	OPs	HOLD		Notes:
		Sample	Depth											
		TP26	0.0 - 0.1	3/11/2022	S	Jar						1		
			0.4 - 0.5	3/11/2022	S	Jar						1		
			1.0 - 1.1	3/11/2022	S	Jar						1		
		TP27	0.0 - 0.1	3/11/2022	S	Jar						1		
			0.4 - 0.5	3/11/2022	S	Jar						1		
			1.2 - 1.3	3/11/2022	S	Jar						1		
		TP28	0.0 - 0.1	4/11/2022	S	Jar						1		
			0.6 - 0.7	4/11/2022	S	Jar						1		
			1.5 - 1.6	4/11/2022	S	Jar						1		
		TP29	0.1 - 0.2	4/11/2022	S	Jar			1	1				
			0.4 - 0.5	4/11/2022	S	Jar			1	1				
			1.5 - 1.6	4/11/2022	S	Jar			1	1				
			1.8 - 1.9	4/11/2022	S	Jar						1		
		TP30	0.1 - 0.2	4/11/2022	S	Jar			1	1				
			0.8 - 0.9	4/11/2022	S	Jar			1	1				
			1.4 - 1.5	4/11/2022	S	Jar						1		
			1.9 - 2.0	4/11/2022	S	Jar						1		
		TP31	0.3 - 0.4	3/11/2022	S	Jar		1	1					
			0.7 - 0.8	3/11/2022	S	Jar						1		
			1.3 - 1.4	3/11/2022	S	Jar						1		
			0.4 - 0.5	3/11/2022	S	Jar						1		
		TP32	0.5 - 0.6	3/11/2022	S	Jar			1	1				Sample not received at lab
			0.9 - 1.0	3/11/2022	S	Jar						1		
		TP33	0.1 - 0.2	3/11/2022	S	Jar						1		
			0.3 - 0.4	3/11/2022	S	Jar						1		
			0.6 - 0.7	3/11/2022	S	Jar						1		
		TP34	0.0 - 0.1	4/11/2022	S	Jar						1		
			0.4 - 0.5	4/11/2022	S	Jar						1		
			1.7 - 1.8	4/11/2022	S	Jar						1		

Chain of Custody										Easterly Point			
Client: Address: Project Manager: Project ID: Site: Results Required:			Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Sellicks Dip, Goonellabah PO# n/a			Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:			Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com.au				
Lab use:		Comments / special handling:		Analysis required									
Cooler sealed? Yes No n/a			Sample temperature/chilled: Yes No n/a	extraction needs to be done ASAP - As per discussions with Rob Biviano	Container	Matrix	Arsenic	OCPs	8-metals	OPPs	HOLD		Notes:
Lab ID	Sample	Depth											
	TP35	0.0 - 0.1	S		Jar						1		
		0.5 - 0.6	S		Jar						1		
		1.4 - 1.5	S		Jar						1		
	TP36	0.0 - 0.1	S		Jar						1		
		0.4 - 0.5	S		Jar						1		
		1.4 - 1.5	S		Jar						1		
	TP37	0.0 - 0.1	S		Jar		1						
		0.4 - 0.5	S		Jar						1		
		0.8 - 0.9	S		Jar						1		
	TP38	0.0 - 0.1	S		Jar						1		
		0.4 - 0.5	S		Jar				1				
		0.9 - 1.0	S		Jar						1		
	TP39	0.0 - 0.1	S		Jar						1		
		0.4 - 0.5	S		Jar			1					
	TP40	0.0 - 0.1	S		Jar			+					sample not received at lab.
		0.8 - 0.9	S		Jar				+				
		1.4 - 1.5	S		Jar						1		
	WATER SAMPLE		W		Jar			1	1				
	TP41	0.0 - 0.1	S		Jar						1		
		0.4 - 0.5	S		Jar						1		
		0.8 - 0.9	S		Jar			1	1				
	TP42	0.0 - 0.1	S		Jar						1		
		0.4 - 0.5	S		Jar						1		
		0.9 - 1.0	S		Jar						1		
	TP43	0.0 - 0.1	S		Jar			1	1				
		0.4 - 0.5	S		Jar						1		
	TP44	0.0 - 0.1	S		Jar			1	1				
		0.5 - 0.6	S		Jar						1		
	TP101	0.7 - 0.8	S		Jar			1	1				

Chain of Custody										Easterly Point						
Client: Address: Project Manager: Project ID: Site: Results Required:			Easterly Point Environmental Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Halley Spry (Murphy) 22030 Sellicks Dip, Goonellabah PO# n/a			Sampler: Ph. mobile: Ph. Office: e-mail report to: e-mail invoice to:			Halley Spry 0418 336 1788 (02) 6685 6681 halley@easterlypoint.com halley@easterlypoint.com							
Lab use:			Comments / special handling:			Analysis required										
Cooler sealed? Yes No n/a				Sample temperature/chilled: Yes No n/a	extraction needs to be done ASAP - As per discussions with Rob Biviano	Matrix	Container	Arsenic	OCps	8-metals	OPs	HOLD			Notes:	
																Sample ID
		Sample	Depth													
			1.3 - 1.4	2/11/2022		\$	Jar		1	1						
			1.8 - 1.9	2/11/2022		\$	Jar		1	1						
			2.7 - 2.8	2/11/2022		\$	Jar					1				
			3.1 - 3.2	2/11/2022		\$	Jar					1				
		TP101_D	-	2/11/2022		\$	Jar		1	1						
		TP102	0.0 - 0.1	2/11/2022		\$	Jar			1						
			0.2 - 0.3	2/11/2022		\$	Jar			1						
			0.7 - 0.8	2/11/2022		\$	Jar		1	1		1				
			1.2 - 1.3	2/11/2022		\$	Jar									
		TP103	0.7 - 0.8	2/11/2022		\$	Jar		1	1						
			1.2 - 1.3	2/11/2022		\$	Jar					1				
			1.9 - 2.0	2/11/2022		\$	Jar					1				
			2.7 - 2.8	2/11/2022		\$	Jar					1				
			0.6 - 0.7	2/11/2022		\$	Jar					1				
		TP104A	0.7 - 0.8	2/11/2022		\$	Jar					1				
			1.0 - 1.1	2/11/2022		\$	Jar					1				
			2.0 - 2.1	2/11/2022		\$	Jar					1				
			2.0 - 2.1	2/11/2022		\$	Jar					1				
		TP104B	0.5 - 0.6	2/11/2022		\$	Jar					1				
			0.7 - 0.8	2/11/2022		\$	Jar		1	1						
			1.0 - 1.1	2/11/2022		\$	Jar					1				
			2.0 - 2.1	2/11/2022		\$	Jar					1				
			3.0 - 3.1	2/11/2022		\$	Jar					1				
		TP105	0.0 - 0.1	3/11/2022		\$	Jar					1				
			1.0 - 1.1	3/11/2022		\$	Jar		1	1						
			1.4 - 1.5	3/11/2022		\$	Jar					1				
			1.9 - 2.0	3/11/2022		\$	Jar					1				
			2.9 - 3.0	3/11/2022		\$	Jar					1				
		TP106	0.3 - 0.4	3/11/2022		\$	Jar					1				
			0.6 - 0.7	3/11/2022		\$	Jar		1	1						

Chain of Custody										Easterly Point			
Client: Easterly Point Environmental Address: Unit 1/64 Kingsley Street, Byron Bay NSW, 2481 Project Manager: Hailey Spry (Murphy) Project ID: 22030 Site: Sellicks Dip, Goonellabah Results Required: PO# n/a			Sampler: Hailey Spry Ph. mobile: 0418 336 1788 Ph. Office: (02) 6685 6681 e-mail report to: hailey@easterlypoint.com e-mail invoice to: hailey@easterlypoint.com &										
Lab use:		Comments / special handling:		Analysis required									
Cooler sealed? Yes No n/a	Sample ID	Sample	Depth	Date	Matrix	Sample temperature/chilled: Yes No n/a	extraction needs to be done ASAP - As per discussions with Rob Biviano	Arsenic	OCPs	8-metals	OPPs	HOLD	Notes:
			1.0 - 1.1	3/11/2022	S		Jar					1	
			2.4 - 2.5	3/11/2022	S		Jar					1	
	TP107		1.2 - 1.3	4/11/2022	S		Jar		1	1			
			1.2 - 1.3B	4/11/2022	S		Jar					1	
	TP108		-	5/10/2022	S		Jar	1	1				
	QC01			2/11/2022	S		Jar					1	
	QC02			2/11/2022	S		Jar		1	1			please forward to ALS for analysis
	QC03			2/11/2022	S		Jar		1	1		1	
	QC04			2/11/2022	S		Jar						
	QC05			2/11/2022	S		Jar					1	
	QC06			2/11/2022	S		Jar					1	
	QC07			3/11/2022	S		Jar		1	1			
	QC08			3/11/2022	S		Jar		1	1			Please forward to ALS for analysis
	QC09			3/11/2022	S		Jar	1					
	QC10			3/11/2022	S		Jar	1					Please forward to ALS for analysis
	QC11			4/11/2022	S		Jar					1	
	QC12			4/11/2022	S		Jar					1	
Total:								23	54	35	8		
Relinquished by:													
Received by:													
Name: Hailey Spry (Murphy)													
Of: Easterly Point Environmental													
Date: 7/11/2022													

Easterly Point Environmental Pty Ltd
1/64 Kingsley Street
Byron Bay
NSW 2481



NATA Accredited
Accreditation Number 1261
Site Number 20794

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: Hailey

Report 950022-S
Project name SELICKS DIP GOONELLABAH
Project ID 22030
Received Date Dec 09, 2022

Client Sample ID			TP01 0-0.1	TP01 0.5-0.6	TP01 1.0-1.1	TP02 0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030659	B22-De0030660	B22-De0030661	B22-De0030662
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	95	100	109	103
Tetrachloro-m-xylene (surr.)	1	%	108	106	110	113
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.2	< 2	2.8
% Moisture	1	%	25	23	25	27

Client Sample ID			TP03B 0.0-0.1	TP03 0-0.1	TP04 0-0.1	TP07 0.7-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030663	B22-De0030664	B22-De0030665	B22-De0030666
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	98	105	113	135
Tetrachloro-m-xylene (surr.)	1	%	98	108	112	145
Heavy Metals						
Arsenic	2	mg/kg	2.9	2.8	2.6	-
% Moisture	1	%	28	26	33	31

Client Sample ID			TP09 0.5-0.6	TP11 3.1-3.2	TP12 1.5-1.6	TP12 2.4-2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030667	B22-De0030668	B22-De0030669	B22-De0030670
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	0.10	< 0.05	0.06	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	0.54	< 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

Client Sample ID			TP09 0.5-0.6	TP11 3.1-3.2	TP12 1.5-1.6	TP12 2.4-2.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030667	B22-De0030668	B22-De0030669	B22-De0030670
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.64	< 0.05	0.06	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.64	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	85	115	92	92
Tetrachloro-m-xylene (surr.)	1	%	141	123	109	108
Heavy Metals						
Arsenic	2	mg/kg	8.7	< 2	7.8	< 2
% Moisture	1	%	30	31	27	28

Client Sample ID			TP15 0.7-0.8	TP16 1.4-1.5	TP17 0.7-0.8	TP17 1.6-1.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030671	B22-De0030673	B22-De0030674	B22-De0030675
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	-	-	0.05	< 0.05
4,4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05

Client Sample ID			TP15 0.7-0.8	TP16 1.4-1.5	TP17 0.7-0.8	TP17 1.6-1.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030671	B22-De0030673	B22-De0030674	B22-De0030675
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	-	99	91
Tetrachloro-m-xylene (surr.)	1	%	-	-	142	111
Heavy Metals						
Arsenic	2	mg/kg	< 2	31	7.0	< 2
% Moisture	1	%	29	18	26	24

Client Sample ID			TP17 2.4-2.5	TP18 0.9-1.0	TP21 0.2-0.3	TP22 0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030676	B22-De0030677	B22-De0030678	B22-De0030679
Date Sampled			Nov 03, 2022	Nov 02, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
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	0.23	< 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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	0.23	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	0.23	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	79	82	92	71
Tetrachloro-m-xylene (surr.)	1	%	124	110	120	113
Heavy Metals						
Arsenic	2	mg/kg	< 2	8.9	-	-
% Moisture	1	%	31	27	20	23

Client Sample ID			TP27 0.0-0.1	TP28 0.0-0.1	TP30 1.4-1.5	TP33 0.3-0.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030680	B22-De0030681	B22-De0030682	B22-De0030683
Date Sampled			Nov 03, 2022	Nov 04, 2022	Nov 04, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	67	60	58	79
Tetrachloro-m-xylene (surr.)	1	%	108	115	114	111
Heavy Metals						
Arsenic	2	mg/kg	-	< 2	-	-
% Moisture	1	%	19	24	23	20

Client Sample ID			TP35 0.0-0.1	TP38 0.9-1.0	TP41 0.4-0.5	TP44 0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030684	B22-De0030685	B22-De0030686	B22-De0030687
Date Sampled			Nov 04, 2022	Nov 04, 2022	Nov 04, 2022	Nov 04, 2022
Test/Reference	LOR	Unit				
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

Client Sample ID			TP35 0.0-0.1	TP38 0.9-1.0	TP41 0.4-0.5	TP44 0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030684	B22-De0030685	B22-De0030686	B22-De0030687
Date Sampled			Nov 04, 2022	Nov 04, 2022	Nov 04, 2022	Nov 04, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	78	69	76	84
Tetrachloro-m-xylene (surr.)	1	%	110	110	113	120
Heavy Metals						
Arsenic	2	mg/kg	< 2	-	-	-
% Moisture	1	%	21	31	29	25

Client Sample ID			TP101 2.7-2.8	TP102 0.0-0.1	TP102 1.2-1.3	TP103 1.2-1.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030689	B22-De0030690	B22-De0030691	B22-De0030692
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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

Client Sample ID			TP101 2.7-2.8	TP102 0.0-0.1	TP102 1.2-1.3	TP103 1.2-1.3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030689	B22-De0030690	B22-De0030691	B22-De0030692
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloredate (surr.)	1	%	61	71	58	53
Tetrachloro-m-xylene (surr.)	1	%	120	114	111	104
Heavy Metals						
Arsenic	2	mg/kg	< 2	-	21	61
% Moisture	1	%	25	26	21	22

Client Sample ID			TP103 1.9-2.0	TP103 2.7-2.8	TP104A 0.6-0.7	TP104A 0.7-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030693	B22-De0030694	B22-De0030695	B22-De0030696
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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	0.24	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	0.11	< 0.05	0.12
4.4'-DDT	0.05	mg/kg	< 0.05	11	< 0.05	0.24
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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	11.35	< 0.05	0.36
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	11.35	< 0.1	0.36
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloredate (surr.)	1	%	71	67	53	61
Tetrachloro-m-xylene (surr.)	1	%	118	106	99	103
Heavy Metals						
Arsenic	2	mg/kg	< 2	56	-	110
% Moisture	1	%	26	24	26	25

Client Sample ID			TP104A 2.0-2.1	TP104B 1.0-1.1	TP104B 2.0-2.1	TP104B 3.0-3.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030697	B22-De0030698	B22-De0030699	B22-De0030700
Date Sampled			Nov 02, 2022	Nov 02, 2022	Nov 02, 2022	Nov 02, 2022
Test/Reference	LOR	Unit				
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	0.61	2.7
4.4'-DDE	0.05	mg/kg	< 0.05	0.06	0.43	0.72
4.4'-DDT	0.05	mg/kg	0.11	0.25	19	120
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	0.38
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	0.07
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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.11	0.31	20.04	123.42
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.11	0.31	20.09	123.87
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.45
Dibutylchloroendate (surr.)	1	%	67	66	54	52
Tetrachloro-m-xylene (surr.)	1	%	106	107	77	91
Heavy Metals						
Arsenic	2	mg/kg	10	24	200	120
% Moisture	1	%	26	29	26	26

Client Sample ID			TP105 1.4-1.5	TP105 1.9-2.0	TP105 2.9-3.0	TP106 1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030701	B22-De0030702	B22-De0030703	B22-De0030705
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
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

Client Sample ID			TP105 1.4-1.5	TP105 1.9-2.0	TP105 2.9-3.0	TP106 1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B22-De0030701	B22-De0030702	B22-De0030703	B22-De0030705
Date Sampled			Nov 03, 2022	Nov 03, 2022	Nov 03, 2022	Nov 03, 2022
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
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
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	63	57	66	62
Tetrachloro-m-xylene (surr.)	1	%	106	107	107	108
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
% Moisture	1	%	27	30	31	23

Client Sample ID			TP101 3.1-3.2
Sample Matrix			Soil
Eurofins Sample No.			B22-De0030706
Date Sampled			Nov 02, 2022
Test/Reference	LOR	Unit	
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

Client Sample ID			TP101 3.1-3.2
Sample Matrix			Soil
Eurofins Sample No.			B22-De0030706
Date Sampled			Nov 02, 2022
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
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	%	64
Tetrachloro-m-xylene (surr.)	1	%	122
Heavy Metals			
Arsenic	2	mg/kg	5.0
% Moisture	1	%	26

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
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP and PCB in Soil and Water (USEPA 8270)	Brisbane	Dec 14, 2022	14 Days
Heavy Metals - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Brisbane	Dec 14, 2022	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Brisbane	Dec 14, 2022	14 Days

Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
Byron Bay
NSW 2481

Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.:
Report #: 950022
Phone: 02 6685 6681
Fax:

Received: Dec 9, 2022 2:02 PM
Due: Dec 16, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	TP01 0-0.1	Nov 02, 2022		Soil	B22-De0030659		X	X		X
2	TP01 0.5-0.6	Nov 02, 2022		Soil	B22-De0030660		X	X		X
3	TP01 1.0-1.1	Nov 02, 2022		Soil	B22-De0030661		X	X		X
4	TP02 0-0.1	Nov 02, 2022		Soil	B22-De0030662		X	X		X
5	TP03B 0.0-0.1	Nov 02, 2022		Soil	B22-De0030663		X	X		X
6	TP03 0-0.1	Nov 02, 2022		Soil	B22-De0030664		X	X		X
7	TP04 0-0.1	Nov 02, 2022		Soil	B22-De0030665		X	X		X
8	TP07 0.7-0.8	Nov 02, 2022		Soil	B22-De0030666			X		X
9	TP09 0.5-0.6	Nov 03, 2022		Soil	B22-De0030667		X	X		X
10	TP11 3.1-3.2	Nov 03, 2022		Soil	B22-De0030668		X	X		X
11	TP12 1.5-1.6	Nov 03, 2022		Soil	B22-De0030669		X	X		X
12	TP12 2.4-2.5	Nov 03, 2022		Soil	B22-De0030670		X	X		X

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Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X
13	TP15 0.7-0.8	Nov 03, 2022		Soil	B22-De0030671		X			X
14	TP16 0.6-0.7	Nov 03, 2022		AUS Leachate	B22-De0030672		X		X	
15	TP16 1.4-1.5	Nov 03, 2022		Soil	B22-De0030673		X			X
16	TP17 0.7-0.8	Nov 03, 2022		Soil	B22-De0030674		X	X		X
17	TP17 1.6-1.7	Nov 03, 2022		Soil	B22-De0030675		X	X		X
18	TP17 2.4-2.5	Nov 03, 2022		Soil	B22-De0030676		X	X		X
19	TP18 0.9-1.0	Nov 02, 2022		Soil	B22-De0030677		X	X		X
20	TP21 0.2-0.3	Nov 03, 2022		Soil	B22-De0030678			X		X
21	TP22 0.4-0.5	Nov 03, 2022		Soil	B22-De0030679			X		X
22	TP27 0.0-0.1	Nov 03, 2022		Soil	B22-De0030680			X		X
23	TP28 0.0-0.1	Nov 04, 2022		Soil	B22-De0030681		X	X		X
24	TP30 1.4-1.5	Nov 04, 2022		Soil	B22-De0030682			X		X
25	TP33 0.3-0.4	Nov 03, 2022		Soil	B22-De0030683			X		X
26	TP35 0.0-0.1	Nov 04, 2022		Soil	B22-De0030684		X	X		X
27	TP38 0.9-1.0	Nov 04, 2022		Soil	B22-De0030685			X		X

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Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X
28	TP41 0.4-0.5	Nov 04, 2022		Soil	B22-De0030686			X		X
29	TP44 0.5-0.6	Nov 04, 2022		Soil	B22-De0030687			X		X
30	TP101 1.3-1.4	Nov 02, 2022		AUS Leachate	B22-De0030688	X	X		X	
31	TP101 2.7-2.8	Nov 02, 2022		Soil	B22-De0030689		X	X		X
32	TP102 0.0-0.1	Nov 02, 2022		Soil	B22-De0030690			X		X
33	TP102 1.2-1.3	Nov 02, 2022		Soil	B22-De0030691		X	X		X
34	TP103 1.2-1.3	Nov 02, 2022		Soil	B22-De0030692		X	X		X
35	TP103 1.9-2.0	Nov 02, 2022		Soil	B22-De0030693		X	X		X
36	TP103 2.7-2.8	Nov 02, 2022		Soil	B22-De0030694		X	X		X
37	TP104A 0.6-0.7	Nov 02, 2022		Soil	B22-De0030695			X		X
38	TP104A 0.7-0.8	Nov 02, 2022		Soil	B22-De0030696		X	X		X
39	TP104A 2.0-2.1	Nov 02, 2022		Soil	B22-De0030697		X	X		X
40	TP104B 1.0-	Nov 02, 2022		Soil	B22-De0030698		X	X		X

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Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X
	1.1									
41	TP104B 2.0-2.1	Nov 02, 2022		Soil	B22-De0030699		X	X		X
42	TP104B 3.0-3.1	Nov 02, 2022		Soil	B22-De0030700		X	X		X
43	TP105 1.4-1.5	Nov 03, 2022		Soil	B22-De0030701		X	X		X
44	TP105 1.9-2.0	Nov 03, 2022		Soil	B22-De0030702		X	X		X
45	TP105 2.9-3.0	Nov 03, 2022		Soil	B22-De0030703		X	X		X
46	TP106 0.6-0.7	Nov 03, 2022		AUS Leachate	B22-De0030704	X			X	
47	TP106 1.0-1.1	Nov 03, 2022		Soil	B22-De0030705		X	X		X
48	TP101 3.1-3.2	Nov 02, 2022		Soil	B22-De0030706		X	X		X
Test Counts						2	36	43	3	45

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 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
CFU: Colony forming unit		

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 (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 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

- 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.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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							
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	
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	
Aldrin and Dieldrin (Total)*	mg/kg	< 0.05			0.05	Pass	
DDT + DDE + DDD (Total)*	mg/kg	< 0.05			0.05	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	117			70-130	Pass	
4,4'-DDD	%	114			70-130	Pass	
4,4'-DDE	%	93			70-130	Pass	
4,4'-DDT	%	123			70-130	Pass	
a-HCH	%	117			70-130	Pass	
Aldrin	%	100			70-130	Pass	
b-HCH	%	116			70-130	Pass	
d-HCH	%	112			70-130	Pass	
Dieldrin	%	121			70-130	Pass	
Endosulfan I	%	118			70-130	Pass	
Endosulfan II	%	108			70-130	Pass	
Endosulfan sulphate	%	112			70-130	Pass	
Endrin	%	118			70-130	Pass	
Endrin aldehyde	%	85			70-130	Pass	
Endrin ketone	%	124			70-130	Pass	
g-HCH (Lindane)	%	119			70-130	Pass	
Heptachlor	%	130			70-130	Pass	
Heptachlor epoxide	%	99			70-130	Pass	
Hexachlorobenzene	%	99			70-130	Pass	
Methoxychlor	%	109			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	87			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDE	B22-De0030659	CP	%	109			70-130	Pass	
Aldrin	B22-De0030659	CP	%	123			70-130	Pass	
Endrin	B22-No0049549	NCP	%	126			70-130	Pass	
Heptachlor	B22-No0049535	NCP	%	124			70-130	Pass	
Heptachlor epoxide	B22-De0030659	CP	%	115			70-130	Pass	
Hexachlorobenzene	B22-De0030659	CP	%	114			70-130	Pass	
Methoxychlor	B22-No0058766	NCP	%	117			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	B22-De0030659	CP	%	75			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-De0030669	CP	%	110			70-130	Pass	
4.4'-DDD	B22-De0030669	CP	%	108			70-130	Pass	
4.4'-DDE	B22-De0030669	CP	%	86			70-130	Pass	
4.4'-DDT	B22-De0030669	CP	%	129			70-130	Pass	
a-HCH	B22-De0030669	CP	%	105			70-130	Pass	
Aldrin	B22-De0030669	CP	%	95			70-130	Pass	
d-HCH	B22-De0030669	CP	%	103			70-130	Pass	
Dieldrin	B22-De0030669	CP	%	109			70-130	Pass	
Endosulfan I	B22-De0030669	CP	%	103			70-130	Pass	
Endosulfan II	B22-De0030669	CP	%	101			70-130	Pass	
Endosulfan sulphate	B22-De0030669	CP	%	99			70-130	Pass	
Endrin ketone	B22-De0030669	CP	%	118			70-130	Pass	
g-HCH (Lindane)	B22-De0030669	CP	%	109			70-130	Pass	
Heptachlor epoxide	B22-De0030669	CP	%	95			70-130	Pass	
Hexachlorobenzene	B22-De0030669	CP	%	94			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	B22-De0030682	CP	%	112			70-130	Pass	
a-HCH	B22-De0030682	CP	%	119			70-130	Pass	
b-HCH	B22-De0030682	CP	%	129			70-130	Pass	
d-HCH	B22-De0030682	CP	%	128			70-130	Pass	
Dieldrin	B22-De0030682	CP	%	105			70-130	Pass	
Endosulfan I	B22-De0030682	CP	%	111			70-130	Pass	
Endosulfan II	B22-De0030682	CP	%	121			70-130	Pass	
Endosulfan sulphate	B22-De0030682	CP	%	130			70-130	Pass	
Endrin aldehyde	B22-De0030682	CP	%	93			70-130	Pass	
Endrin ketone	B22-De0030682	CP	%	116			70-130	Pass	
g-HCH (Lindane)	B22-De0030682	CP	%	127			70-130	Pass	
Heptachlor epoxide	B22-De0030682	CP	%	116			70-130	Pass	
Hexachlorobenzene	B22-De0030682	CP	%	123			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-De0030692	CP	%	113			70-130	Pass	
4.4'-DDD	B22-De0030692	CP	%	112			70-130	Pass	
a-HCH	B22-De0030692	CP	%	120			70-130	Pass	
b-HCH	B22-De0030692	CP	%	126			70-130	Pass	
d-HCH	B22-De0030692	CP	%	123			70-130	Pass	
Dieldrin	B22-De0030692	CP	%	105			70-130	Pass	
Endosulfan I	B22-De0030692	CP	%	111			70-130	Pass	
Endosulfan II	B22-De0030692	CP	%	124			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	B22-De0030692	CP	%	124			70-130	Pass	
Endrin aldehyde	B22-De0030692	CP	%	74			70-130	Pass	
Endrin ketone	B22-De0030692	CP	%	112			70-130	Pass	
g-HCH (Lindane)	B22-De0030692	CP	%	125			70-130	Pass	
Heptachlor epoxide	B22-De0030692	CP	%	113			70-130	Pass	
Hexachlorobenzene	B22-De0030692	CP	%	126			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B22-De0030703	CP	%	121			70-130	Pass	
4.4'-DDD	B22-De0030703	CP	%	113			70-130	Pass	
a-HCH	B22-De0030703	CP	%	122			70-130	Pass	
b-HCH	B22-De0030703	CP	%	126			70-130	Pass	
d-HCH	B22-De0030703	CP	%	124			70-130	Pass	
Dieldrin	B22-De0030703	CP	%	105			70-130	Pass	
Endosulfan I	B22-De0030703	CP	%	109			70-130	Pass	
Endosulfan II	B22-De0030703	CP	%	120			70-130	Pass	
Endosulfan sulphate	B22-De0030703	CP	%	126			70-130	Pass	
Endrin aldehyde	B22-De0030703	CP	%	77			70-130	Pass	
Endrin ketone	B22-De0030703	CP	%	116			70-130	Pass	
g-HCH (Lindane)	B22-De0030703	CP	%	125			70-130	Pass	
Heptachlor epoxide	B22-De0030703	CP	%	113			70-130	Pass	
Hexachlorobenzene	B22-De0030703	CP	%	124			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B22-De0030660	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	B22-De0030660	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	B22-De0030665	CP	%	33	29	13	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B22-De0030670	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
a-HCH	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B22-De0030670	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B22-De0030670	CP	mg/kg	< 2	< 2	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	B22-De0030676	CP	%	31	31	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	B22-De0030681	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B22-De0030681	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B22-De0030681	CP	mg/kg	< 2	< 2	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	B22-De0030686	CP	%	29	29	1.4	30%	Pass

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	B22-De0030691	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B22-De0030691	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B22-De0030697	CP	mg/kg	10	< 2	140	30%	Fail
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	B22-De0030697	CP	%	26	25	1.6	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	B22-De0030700	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	B22-De0030700	CP	mg/kg	2.7	2.0	31	30%	Fail
4,4'-DDE	B22-De0030700	CP	mg/kg	0.72	0.55	25	30%	Pass
4,4'-DDT	B22-De0030700	CP	mg/kg	120	83	34	30%	Fail
a-HCH	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	B22-De0030700	CP	mg/kg	0.38	0.24	44	30%	Fail
Endosulfan sulphate	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	B22-De0030700	CP	mg/kg	0.07	< 0.05	130	30%	Fail
Endrin ketone	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B22-De0030700	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
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:

Robert Biviano	Analytical Services Manager
Angelique Lang-Frey	Senior Analyst-Metal
Angelique Lang-Frey	Senior Analyst-Organic
Jonathon Angell	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-Organic
Jonathon Angell	Senior Analyst-Sample Properties



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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Easterly Point Environmental Pty Ltd
1/64 Kingsley Street
Byron Bay
NSW 2481



NATA Accredited
Accreditation Number 1261
Site Number 20794

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: **Hailey**

Report **950022-L**
Project name **SELICKS DIP GOONELLABAH**
Project ID **22030**
Received Date **Dec 09, 2022**

Client Sample ID			TP16 0.6-0.7	TP101 1.3-1.4	TP106 0.6-0.7
Sample Matrix			AUS Leachate	AUS Leachate	AUS Leachate
Eurofins Sample No.			B22-De0030672	B22-De0030688	B22-De0030704
Date Sampled			Nov 03, 2022	Nov 02, 2022	Nov 03, 2022
Test/Reference	LOR	Unit			
Heavy Metals					
Arsenic	0.01	mg/L	0.01	2.5	-
AUS Leaching Procedure					
Leachate Fluid ^{C01}		comment	4.0	4.0	4.0
pH (initial)	0.1	pH Units	N/A	N/A	N/A
pH (Leachate fluid)	0.1	pH Units	7.0	7.0	7.0
pH (off)	0.1	pH Units	5.4	7.0	6.3
Organochlorine Pesticides					
4,4'-DDT	0.001	mg/L	-	< 0.001	< 0.001

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
Heavy Metals - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Brisbane	Dec 14, 2022	28 Days
AUS Leaching Procedure - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Brisbane	Dec 14, 2022	7 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	Dec 14, 2022	7 Days

Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
Byron Bay
NSW 2481

Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.:
Report #: 950022
Phone: 02 6685 6681
Fax:

Received: Dec 9, 2022 2:02 PM
Due: Dec 16, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	TP01 0-0.1	Nov 02, 2022		Soil	B22-De0030659		X	X		X
2	TP01 0.5-0.6	Nov 02, 2022		Soil	B22-De0030660		X	X		X
3	TP01 1.0-1.1	Nov 02, 2022		Soil	B22-De0030661		X	X		X
4	TP02 0-0.1	Nov 02, 2022		Soil	B22-De0030662		X	X		X
5	TP03B 0.0-0.1	Nov 02, 2022		Soil	B22-De0030663		X	X		X
6	TP03 0-0.1	Nov 02, 2022		Soil	B22-De0030664		X	X		X
7	TP04 0-0.1	Nov 02, 2022		Soil	B22-De0030665		X	X		X
8	TP07 0.7-0.8	Nov 02, 2022		Soil	B22-De0030666			X		X
9	TP09 0.5-0.6	Nov 03, 2022		Soil	B22-De0030667		X	X		X
10	TP11 3.1-3.2	Nov 03, 2022		Soil	B22-De0030668		X	X		X
11	TP12 1.5-1.6	Nov 03, 2022		Soil	B22-De0030669		X	X		X
12	TP12 2.4-2.5	Nov 03, 2022		Soil	B22-De0030670		X	X		X

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Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X
13	TP15 0.7-0.8	Nov 03, 2022		Soil	B22-De0030671		X			X
14	TP16 0.6-0.7	Nov 03, 2022		AUS Leachate	B22-De0030672		X		X	
15	TP16 1.4-1.5	Nov 03, 2022		Soil	B22-De0030673		X			X
16	TP17 0.7-0.8	Nov 03, 2022		Soil	B22-De0030674		X	X		X
17	TP17 1.6-1.7	Nov 03, 2022		Soil	B22-De0030675		X	X		X
18	TP17 2.4-2.5	Nov 03, 2022		Soil	B22-De0030676		X	X		X
19	TP18 0.9-1.0	Nov 02, 2022		Soil	B22-De0030677		X	X		X
20	TP21 0.2-0.3	Nov 03, 2022		Soil	B22-De0030678			X		X
21	TP22 0.4-0.5	Nov 03, 2022		Soil	B22-De0030679			X		X
22	TP27 0.0-0.1	Nov 03, 2022		Soil	B22-De0030680			X		X
23	TP28 0.0-0.1	Nov 04, 2022		Soil	B22-De0030681		X	X		X
24	TP30 1.4-1.5	Nov 04, 2022		Soil	B22-De0030682			X		X
25	TP33 0.3-0.4	Nov 03, 2022		Soil	B22-De0030683			X		X
26	TP35 0.0-0.1	Nov 04, 2022		Soil	B22-De0030684		X	X		X
27	TP38 0.9-1.0	Nov 04, 2022		Soil	B22-De0030685			X		X

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Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X
28	TP41 0.4-0.5	Nov 04, 2022		Soil	B22-De0030686			X		X
29	TP44 0.5-0.6	Nov 04, 2022		Soil	B22-De0030687			X		X
30	TP101 1.3-1.4	Nov 02, 2022		AUS Leachate	B22-De0030688	X	X		X	
31	TP101 2.7-2.8	Nov 02, 2022		Soil	B22-De0030689		X	X		X
32	TP102 0.0-0.1	Nov 02, 2022		Soil	B22-De0030690			X		X
33	TP102 1.2-1.3	Nov 02, 2022		Soil	B22-De0030691		X	X		X
34	TP103 1.2-1.3	Nov 02, 2022		Soil	B22-De0030692		X	X		X
35	TP103 1.9-2.0	Nov 02, 2022		Soil	B22-De0030693		X	X		X
36	TP103 2.7-2.8	Nov 02, 2022		Soil	B22-De0030694		X	X		X
37	TP104A 0.6-0.7	Nov 02, 2022		Soil	B22-De0030695			X		X
38	TP104A 0.7-0.8	Nov 02, 2022		Soil	B22-De0030696		X	X		X
39	TP104A 2.0-2.1	Nov 02, 2022		Soil	B22-De0030697		X	X		X
40	TP104B 1.0-	Nov 02, 2022		Soil	B22-De0030698		X	X		X

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Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X
	1.1									
41	TP104B 2.0-2.1	Nov 02, 2022		Soil	B22-De0030699		X	X		X
42	TP104B 3.0-3.1	Nov 02, 2022		Soil	B22-De0030700		X	X		X
43	TP105 1.4-1.5	Nov 03, 2022		Soil	B22-De0030701		X	X		X
44	TP105 1.9-2.0	Nov 03, 2022		Soil	B22-De0030702		X	X		X
45	TP105 2.9-3.0	Nov 03, 2022		Soil	B22-De0030703		X	X		X
46	TP106 0.6-0.7	Nov 03, 2022		AUS Leachate	B22-De0030704	X			X	
47	TP106 1.0-1.1	Nov 03, 2022		Soil	B22-De0030705		X	X		X
48	TP101 3.1-3.2	Nov 02, 2022		Soil	B22-De0030706		X	X		X
Test Counts						2	36	43	3	45



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				QC03	QC08	QC10	----	----
Sampling date / time				02-Nov-2022 00:00	03-Nov-2022 00:00	03-Nov-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	EB2233819-001	EB2233819-002	EB2233819-003	-----	-----
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	----	----	26.1	----	----
Moisture Content	----	1.0	%	28.1	28.1	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	8	<5	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	84	79	----	----	----
Copper	7440-50-8	5	mg/kg	11	10	----	----	----
Lead	7439-92-1	5	mg/kg	6	5	----	----	----
Nickel	7440-02-0	2	mg/kg	10	9	----	----	----
Zinc	7440-66-6	5	mg/kg	29	36	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	----	----

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 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
CFU: Colony forming unit		

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 (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 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

- 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.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.



Surrogate Control Limits

Sub-Matrix: **SOIL**

		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	138
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	23	134

Quality Control Results

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank										
Heavy Metals										
Arsenic				mg/L	< 0.01			0.01	Pass	
Test	Lab Sample ID	QA Source		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Organochlorine Pesticides					Result 1					
4.4'-DDT	M22-De0036163	NCP		%	101			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			
Arsenic	B22-De0030672	CP		mg/L	0.01	0.01	14	30%	Pass	
Duplicate										
Organochlorine Pesticides					Result 1	Result 2	RPD			
4.4'-DDT	M22-De0036334	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	



General Comments

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

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

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

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4702306)									
EB2233764-004	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	28	30	7.5	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	25	28	10.7	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	956	# 1270	28.1	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	43	51	15.4	0% - 50%
EB2233801-024	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	49	49	0.0	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	51	51	0.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	16	16	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	6	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	58	58	0.0	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4702311)									
EB2233801-018	Anonymous	EA055: Moisture Content	----	0.1	%	22.1	21.7	1.6	0% - 20%
EB2233819-003	QC10	EA055: Moisture Content	----	0.1	%	26.1	26.2	0.0	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4702307)									
EB2233787-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4702034)									
EB2233819-001	QC03	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Comments

Sample Integrity

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

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:

Robert Biviano	Analytical Services Manager
Jonathon Angell	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-Sample Properties
Joseph Edouard	Senior Analyst-Organic



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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Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4702348) - continued									
EB2233798-001	Anonymous	EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4702034)									
EB2233819-001	QC03	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4702348)									
EB2233798-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



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Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
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Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.:
Report #: 950022
Phone: 02 6685 6681
Fax:

Received: Dec 9, 2022 2:02 PM
Due: Dec 16, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	TP01 0-0.1	Nov 02, 2022		Soil	B22-De0030659		X	X		X
2	TP01 0.5-0.6	Nov 02, 2022		Soil	B22-De0030660		X	X		X
3	TP01 1.0-1.1	Nov 02, 2022		Soil	B22-De0030661		X	X		X
4	TP02 0-0.1	Nov 02, 2022		Soil	B22-De0030662		X	X		X
5	TP03B 0.0-0.1	Nov 02, 2022		Soil	B22-De0030663		X	X		X
6	TP03 0-0.1	Nov 02, 2022		Soil	B22-De0030664		X	X		X
7	TP04 0-0.1	Nov 02, 2022		Soil	B22-De0030665		X	X		X
8	TP07 0.7-0.8	Nov 02, 2022		Soil	B22-De0030666			X		X
9	TP09 0.5-0.6	Nov 03, 2022		Soil	B22-De0030667		X	X		X
10	TP11 3.1-3.2	Nov 03, 2022		Soil	B22-De0030668		X	X		X
11	TP12 1.5-1.6	Nov 03, 2022		Soil	B22-De0030669		X	X		X
12	TP12 2.4-2.5	Nov 03, 2022		Soil	B22-De0030670		X	X		X
13	TP15 0.7-0.8	Nov 03, 2022		Soil	B22-De0030671		X			X



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

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4702306)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	100 mg/kg	101	84.0	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
EG005T: Chromium	7440-47-3	2	mg/kg	<2	15 mg/kg	115	83.0	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	48 mg/kg	112	86.0	122
EG005T: Lead	7439-92-1	5	mg/kg	<5	54 mg/kg	114	84.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	13 mg/kg	108	81.5	118
EG005T: Zinc	7440-66-6	5	mg/kg	<5	144 mg/kg	113	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4702307)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.085 mg/kg	98.9	70.0	125
EP068A: Organochlorine Pesticides (OC) (QCLot: 4702034)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	72.8	127
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	105	71.0	127
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	102	67.5	126
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	104	72.7	127
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	70.6	122
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	64.8	127
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	72.4	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	67.4	125
EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.6	65.6	124
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.4	70.4	122
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	65.6	125
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	69.1	124
EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.6	72.4	125
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.7	63.2	127
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	69.7	120
EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.8	61.2	124
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	55.5	125
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.7	57.1	117
EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	92.9	51.9	125
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	79.5	46.5	122
EP068: Methoxyvchlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	87.6	34.0	130



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Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.:
Report #: 950022
Phone: 02 6685 6681
Fax:

Received: Dec 9, 2022 2:02 PM
Due: Dec 16, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X
14	TP16 0.6-0.7	Nov 03, 2022		AUS Leachate	B22-De0030672		X		X	
15	TP16 1.4-1.5	Nov 03, 2022		Soil	B22-De0030673		X			X
16	TP17 0.7-0.8	Nov 03, 2022		Soil	B22-De0030674		X	X		X
17	TP17 1.6-1.7	Nov 03, 2022		Soil	B22-De0030675		X	X		X
18	TP17 2.4-2.5	Nov 03, 2022		Soil	B22-De0030676		X	X		X
19	TP18 0.9-1.0	Nov 02, 2022		Soil	B22-De0030677		X	X		X
20	TP21 0.2-0.3	Nov 03, 2022		Soil	B22-De0030678			X		X
21	TP22 0.4-0.5	Nov 03, 2022		Soil	B22-De0030679			X		X
22	TP27 0.0-0.1	Nov 03, 2022		Soil	B22-De0030680			X		X
23	TP28 0.0-0.1	Nov 04, 2022		Soil	B22-De0030681		X	X		X
24	TP30 1.4-1.5	Nov 04, 2022		Soil	B22-De0030682			X		X
25	TP33 0.3-0.4	Nov 03, 2022		Soil	B22-De0030683			X		X
26	TP35 0.0-0.1	Nov 04, 2022		Soil	B22-De0030684		X	X		X
27	TP38 0.9-1.0	Nov 04, 2022		Soil	B22-De0030685			X		X
28	TP41 0.4-0.5	Nov 04, 2022		Soil	B22-De0030686			X		X
29	TP44 0.5-0.6	Nov 04, 2022		Soil	B22-De0030687			X		X



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4702034) - continued								
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	88.8	44.2	129
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	52.3	133
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	62.9	126
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	69.2	123
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	86.4	37.6	138
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	85.9	59.6	131
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	46.4	144
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	80.3	56.8	128
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	79.9	24.4	135
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	84.4	55.9	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	45.0	138
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	41.6	141
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	86.6	20.0	145
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4702348)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	55.8	126
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	45.9	136
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	58.0	20.0	147
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	44.1	125
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	70.3	125
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	63.2	124
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	76.1	44.2	129
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	52.3	133
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	62.9	126
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	69.2	123
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	75.7	37.6	138
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	80.0	59.6	131
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.4	46.4	144
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	72.5	56.8	128
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	62.6	24.4	135
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	77.6	55.9	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.7	45.0	138
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	81.7	41.6	141
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	68.3	20.0	145

Matrix Spike (MS) Report

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



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Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
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Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

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

Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
Byron Bay
NSW 2481

Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.:
Report #: 950022
Phone: 02 6685 6681
Fax:

Received: Dec 9, 2022 2:02 PM
Due: Dec 16, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X
30	TP101 1.3-1.4	Nov 02, 2022		AUS Leachate	B22-De0030688	X	X		X	
31	TP101 2.7-2.8	Nov 02, 2022		Soil	B22-De0030689		X	X		X
32	TP102 0.0-0.1	Nov 02, 2022		Soil	B22-De0030690			X		X
33	TP102 1.2-1.3	Nov 02, 2022		Soil	B22-De0030691		X	X		X
34	TP103 1.2-1.3	Nov 02, 2022		Soil	B22-De0030692		X	X		X
35	TP103 1.9-2.0	Nov 02, 2022		Soil	B22-De0030693		X	X		X
36	TP103 2.7-2.8	Nov 02, 2022		Soil	B22-De0030694		X	X		X
37	TP104A 0.6-0.7	Nov 02, 2022		Soil	B22-De0030695			X		X
38	TP104A 0.7-0.8	Nov 02, 2022		Soil	B22-De0030696		X	X		X
39	TP104A 2.0-2.1	Nov 02, 2022		Soil	B22-De0030697		X	X		X
40	TP104B 1.0-1.1	Nov 02, 2022		Soil	B22-De0030698		X	X		X
41	TP104B 2.0-2.1	Nov 02, 2022		Soil	B22-De0030699		X	X		X



Eurofins Environment Testing Australia Pty Ltd

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Melbourne
6 Monterey Road
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NATA# 1261 Site# 1254

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Grovedale
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Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Sydney
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Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
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ACT 2911
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Brisbane
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Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
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Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

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NATA# 2377 Site# 2370

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NZBN: 9429046024954

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43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

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

Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
Byron Bay
NSW 2481

Project Name: SELICKS DIP GOONELLABAH
Project ID: 22030

Order No.:
Report #: 950022
Phone: 02 6685 6681
Fax:

Received: Dec 9, 2022 2:02 PM
Due: Dec 16, 2022
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Robert Biviano

Sample Detail						4,4'-DDT	Arsenic	Organochlorine Pesticides	AUS Leaching Procedure	Moisture Set
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X	X	X
42	TP104B 3.0-3.1	Nov 02, 2022		Soil	B22-De0030700		X	X		X
43	TP105 1.4-1.5	Nov 03, 2022		Soil	B22-De0030701		X	X		X
44	TP105 1.9-2.0	Nov 03, 2022		Soil	B22-De0030702		X	X		X
45	TP105 2.9-3.0	Nov 03, 2022		Soil	B22-De0030703		X	X		X
46	TP106 0.6-0.7	Nov 03, 2022		AUS Leachate	B22-De0030704	X			X	
47	TP106 1.0-1.1	Nov 03, 2022		Soil	B22-De0030705		X	X		X
48	TP101 3.1-3.2	Nov 02, 2022		Soil	B22-De0030706		X	X		X
Test Counts						2	36	43	3	45

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217
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Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091	Brisbane 1/21 Smallwood Place Murarie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Tel: +61 2 4968 8448 NATA# 1261 Site# 25079
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Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

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

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland 35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290
---	---

Sample Receipt Advice

Company name:	Easterly Point Environmental Pty Ltd
Contact name:	Hailey
Project name:	SELLICKS DIP GOONELLABAH
Project ID:	22030
Turnaround time:	5 Day
Date/Time received	Dec 9, 2022 2:02 PM
Eurofins reference	950022

Sample Information

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

Notes

The samples TP31 0.4-0.5 and TP102 2.9-3.0 were not received.

Contact

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

Robert Biviano on phone : or by email: RobertoBiviano@eurofins.com

Results will be delivered electronically via email to Hailey - hailey@easterlypoint.com.

Note: A copy of these results will also be delivered to the general Easterly Point Environmental Pty Ltd email address.

Chain of Custody							Easterly Point
Client:		Easterly Point Environmental		Sampler:		Hailey Spry	
Address:		Unit 1/64 Kingsley Street, Byron Bay NSW, 2481		Ph. mobile:		0418 336 1788	
Project Manager:		Hailey Spry (Murphy)		Ph. Office:		(02) 6685 6681	
Project ID:		22030		e-mail report to:		hailey@easterlypoint.com	
Site:		Sellicks Dip, Goonellabah		e-mail invoice to:		anna@easterlypoint.com	
Results Required:		PO# n/a					
Lab use:			Comments / special handling:	Analysis required			
Test-pit	Depth	EASTERLYPOINT Lab reference	Eurofins ref. 938938	Asenic	OCPs	ALSP - Asenic	ALSP - DOIs
Analysis							
TP01	0-0.1	TP01 0-0.1		1	1		
	0.5-0.6	TP01 0.5-0.6		1	1		
	1.0-1.1	TP01 1.0-1.1		1	1		
	1.2-1.3	TP01 1.2-1.3					
TP02	0-0.1	TP02 0-0.1		1	1		
	0.4-0.5	TP02 0.4-0.5					
	1.7-1.8	TP02 1.7-1.8					
	2.2-2.4	TP02 2.2-2.4					
TP03B	0.0-0.1	TP03B 0.0-0.1		1	1		
TP03	0-0.1	TP03 0-0.1		1	1		
	0.3-0.4	TP03 0.3-0.4					
	0.5-0.6	TP03 0.5-0.6					
	1.1-1.2	TP03 1.1-1.2					
	1.9-2.0	TP03 1.9-2.0					
TP04	0-0.1	TP04 0-0.1		1	1		
	0.4-0.5	TP04 0.4-0.5					
	0.8-0.9	TP04 0.8-0.9					
	2.4-2.5	TP04 2.4-2.5					
	3.3-3.4	TP04 3.3-3.4					
TP05	0-0.1	TP05 0-0.1					
	0.4-0.5	TP05 0.4-0.5					
	1.3-1.4	TP05 1.3-1.4					
	1.9-2.0	TP05 1.9-2.0					
TP06	3.0-3.1	TP05 3.0-3.1					
	0.7-0.8	TP06 0.7-0.8					
TP07	0.8-0.9	TP06 0.8-0.9					
	0.1-0.2	TP07 0.1-0.2					
TP08	0.7-0.8	TP07 0.7-0.8			1		
	1.0-1.1	TP07 1.0-1.1					
TP09	0.0-0.1	TP08 0.0-0.1					
	0.9-1.0	TP08 0.9-1.0					
TP10	0.5-0.6	TP09 0.5-0.6		1	1		
	1.0-1.1	TP09 1.0-1.1					
TP11	1.7-1.8	TP09 1.7-1.8					
	1.1-1.2	TP10 1.1-1.2					
	1.8-1.9	TP10 1.8-1.9					
	2.3-2.4	TP10 2.3-2.4					
TP12	2.8-2.9	TP10 2.8-2.9					
	0.9-1.0	TP11 0.9-1.0					
	1.3-1.4	TP11 1.3-1.4					
	2.0-2.1	TP11 2.0-2.1					
TP14	2.5-2.6	TP11 2.5-2.6					
	3.1-3.2	TP11 3.1-3.2		1	1		
	0.0-0.1	TP12 0.0-0.1					
	0.3-0.4	TP12 0.3-0.4					
TP15	0.8-0.9	TP12 0.8-0.9					
	1.5-1.6	TP12 1.5-1.6		1	1		
TP16	2.4-2.5	TP12 2.4-2.5		1	1		
	0.0-0.1	TP14 0.0-0.1					
TP17	0.4-0.5	TP14 0.4-0.5					
	0.2-0.3	TP15 0.2-0.3					
TP18	0.7-0.8	TP15 0.7-0.8		1			
	1.4-1.5	TP15 1.4-1.5					
TP19	0.6-0.7	TP16 0.6-0.7					
	1.4-1.5	TP16 1.4-1.5		1			
TP20	0.7-0.8	TP17 0.7-0.8		1	1		
	1.2-1.3	TP17 1.2-1.3					
TP21	1.6-1.7	TP17 1.6-1.7		1	1		
	2.4-2.5	TP17 2.4-2.5		1	1		
TP22	0.9-1.0	TP18 0.9-1.0		1	1		
	1.9-2.0	TP18 1.9-2.0					
TP23	2.4-2.5	TP18 2.4-2.5					
	0.4-0.5	TP19 0.4-0.5					
TP24	0.6-0.7	TP19 0.6-0.7					
	1.5-1.6	TP19 1.5-1.6					
TP25	0.1-0.2	TP20 0.1-0.2					
	0.4-0.5	TP20 0.4-0.5					



N60017510
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544 BSN0147
545 BSN0147
547 BSN0146
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549

BSN0149.
BSN0147.
BSN0147.

Parent: 938938
RCO: 9/12/22
2:02pm

#950022

Chain of Custody						Easterly Point	
Client:		Easterly Point Environmental		Sampler:		Hailey Spry	
Address:		Unit 1/64 Kingsley Street, Byron Bay NSW, 2481		Ph. mobile:		0418 336 1788	
Project Manager:		Hailey Spry (Murphy)		Ph. Office:		(02) 6685 6681	
Project ID:		22030		e-mail report to:		hailey@easterlypoint.com	
Site:		Sellicks Dip, Goonellabah		e-mail invoice to:		anna@easterlypoint.com	
Results Required:		PO# n/a					
Lab use:			Comments / special handling:		Analysis required		
Test-pit	Depth	EASTERLYPOINT Lab reference	Eurofins ref. 938938	Arsenic	OCFs	ALSP - Arsenic	ALSP - DDIs
Analysis							
	1.0-1.1	TP20 1.0-1.1					
	0.0-0.1	TP21 0.0-0.1					
TP21	0.2-0.3	TP21 0.2-0.3		1			
	0.9-1.0	TP21 0.9-1.0					
	0.1-0.2	TP22 0.1-0.2					
TP22	0.4-0.5	TP22 0.4-0.5		1			
	1.0-1.1	TP22 1.0-1.1					
	0.2-0.3	TP23 0.2-0.3					
	0.7-0.8	TP23 0.7-0.8					
TP23	1.0-1.2	TP23 1.0-1.2					
	1.6-1.7	TP23 1.6-1.7					
	2.4-2.5	TP23 2.4-2.5					
	0.4-0.5	TP24 0.4-0.5					
TP24	0.9-1.0	TP24 0.9-1.0					
	1.5-1.6	TP24 1.5-1.6					
	2.0-2.1	TP24 2.0-2.1					
	0.6-0.7	TP25 0.6-0.7					
TP25	0.8-0.9	TP25 0.8-0.9					
	1.5-1.6	TP25 1.5-1.6					
	0.0-0.1	TP26 0.0-0.1					
TP26	0.4-0.5	TP26 0.4-0.5					
	1.0-1.1	TP26 1.0-1.1					
	0.0-0.1	TP27 0.0-0.1		1			
TP27	0.4-0.5	TP27 0.4-0.5					
	1.2-1.3	TP27 1.2-1.3					
	0.0-0.1	TP28 0.0-0.1		1	1		
TP28	0.6-0.7	TP28 0.6-0.7					
	1.5-1.6	TP28 1.5-1.6					
	0.1-0.2	TP29 0.1-0.2					
TP29	0.4-0.5	TP29 0.4-0.5					
	1.5-1.6	TP29 1.5-1.6					
	1.8-1.9	TP29 1.8-1.9					
	0.1-0.2	TP30 0.1-0.2					
TP30	0.8-0.9	TP30 0.8-0.9					
	1.4-1.5	TP30 1.4-1.5		1			
	1.9-2.0	TP30 1.9-2.0					
	0.3-0.4	TP31 0.3-0.4					
TP31	0.4-0.5	TP31 0.4-0.5		1			
	0.7-0.8	TP31 0.7-0.8					
	1.3-1.4	TP31 1.3-1.4					
TP32	0.5-0.6	TP32 0.5-0.6					
	0.9-1.0	TP32 0.9-1.0					
	0.1-0.2	TP33 0.1-0.2					
TP33	0.3-0.4	TP33 0.3-0.4		1			
	0.6-0.7	TP33 0.6-0.7					
	0.0-0.1	TP34 0.0-0.1					
TP34	0.4-0.5	TP34 0.4-0.5					
	1.7-1.8	TP34 1.7-1.8					
	0.0-0.1	TP35 0.0-0.1		1	1		
TP35	0.5-0.6	TP35 0.5-0.6					
	1.4-1.5	TP35 1.4-1.5					
	0.0-0.1	TP36 0.0-0.1					
TP36	0.4-0.5	TP36 0.4-0.5					
	1.4-1.5	TP36 1.4-1.5					
	0.0-0.1	TP37 0.0-0.1					
TP37	0.4-0.5	TP37 0.4-0.5					
	0.8-0.9	TP37 0.8-0.9					
	0.0-0.1	TP38 0.0-0.1					
TP38	0.4-0.5	TP38 0.4-0.5					
	0.9-1.0	TP38 0.9-1.0		1			
TP39	0.0-0.1	TP39 0.0-0.1					
	0.4-0.5	TP39 0.4-0.5					
	0.0-0.1	TP40 0.0-0.1					
TP40	0.8-0.9	TP40 0.8-0.9					
	1.4-1.5	TP40 1.4-1.5					
	0.0-0.1	TP41 0.0-0.1					
TP41	0.4-0.5	TP41 0.4-0.5		1			
	0.8-0.9	TP41 0.8-0.9					



556
558 } BSN0146

572
575 } BSN0145

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586 BSN0145

591 BSN0144

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605 } 144

Chain of Custody							Easterly Point
Client:		Easterly Point Environmental		Sampler:		Hailey Spry	
Address:		Unit 1/64 Kingsley Street, Byron Bay NSW, 2481		Ph. mobile:		0418 336 1788	
Project Manager:		Hailey Spry (Murphy)		Ph. Office:		(02) 6685 6681	
Project ID:		22030		e-mail report to:		hailey@easterlypoint.com	
Site:		Sellicks Dip, Goonellabah		e-mail invoice to:		anna@easterlypoint.com	
Results Required:		PO# n/a					
Lab use:			Comments / special handling:	Analysis required			
Test-pit	Depth	EASTERLYPOINT Lab reference	Eurofins ref. 938938	Arsenic	OCPs	ALSP - Arsenic	ALSP - DDTs
Analysis							
TP42	0.0-0.1	TP42 0.0-0.1					
	0.4-0.5	TP42 0.4-0.5					
	0.9-1.0	TP42 0.9-1.0					
TP43	0.0-0.1	TP43 0.0-0.1					
	0.4-0.5	TP43 0.4-0.5					
TP44	0.0-0.1	TP44 0.0-0.1					
	0.5-0.6	TP44 0.5-0.6		1			
TP101	0.7-0.8	TP101 0.7-0.8					
	1.3-1.4	TP101 1.3-1.4			1	1	
	1.8-1.9	TP101 1.8-1.9					
	2.7-2.8	TP101 2.7-2.8	1	1			
	3.1-3.2	TP101 3.1-3.2	1	1			
	drain	TP101_D					
TP102	0.0-0.1	TP102 0.0-0.1					
	0.2-0.3	TP102 0.2-0.3					
	0.7-0.8	TP102 0.7-0.8					
	1.2-1.3	TP102 1.2-1.3	1	1			
	2.9-3.0	TP102 2.9-3.0	1	1			
TP103	0.7-0.8	TP103 0.7-0.8					
	1.2-1.3	TP103 1.2-1.3					
TP104A	0.6-0.7	TP104A 0.6-0.7					
	0.7-0.8	TP104A 0.7-0.8					
	1.0-1.1	TP104A 1.0-1.1					
TP104B	2.0-2.1	TP104A 2.0-2.1					
	0.5-0.6	TP104B 0.5-0.6					
	0.7-0.8	TP104B 0.7-0.8					
	1.0-1.1	TP104B 1.0-1.1	1	1			
	2.0-2.1	TP104B 2.0-2.1	1	1			
TP105	3.0-3.1	TP104B 3.0-3.1	1	1			
	0.0-0.1	TP105 0.0-0.1					
	1.0-1.1	TP105 1.0-1.1					
TP106	1.4-1.5	TP105 1.4-1.5					
	1.9-2.0	TP105 1.9-2.0	1	1			
	2.9-3.0	TP105 2.9-3.0	1	1			
	0.3-0.4	TP106 0.3-0.4					
TP107	0.6-0.7	TP106 0.6-0.7					
	1.0-1.1	TP106 1.0-1.1					
	2.4-2.5	TP106 2.4-2.5	1	1			
TP108	1.2-1.3	TP107 1.2-1.3					
	1.2-1.3B	TP107 1.2-1.3B					
Totals							
Number of samples for additional analysis				35	45	2	2



17611 - BSN0144

613 - BSN0207

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BSN0148

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BSN0148

BSN0143

CERTIFICATE OF ANALYSIS

Work Order : **EB2233819**
Client : **EASTERLY POINT ENVIRONMENTAL PTY LTD**
Contact : HAILEY SPRY
Address : PO BOX 2363
 BYRON BAY NSW, AUSTRALIA 2481
Telephone : ----
Project : 22030
Order number : ----
C-O-C number : ----
Sampler : HAILEY SPRY
Site : Selicks Dip, Goonellabah
Quote number : EN/333
No. of samples received : 3
No. of samples analysed : 3

Page : 1 of 5
Laboratory : Environmental Division Brisbane
Contact : Customer Services EB
Address : 2 Byth Street Stafford QLD Australia 4053
Telephone : +61-7-3243 7222
Date Samples Received : 11-Nov-2022 15:21
Date Analysis Commenced : 15-Nov-2022
Issue Date : 21-Nov-2022 15:15



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Morgan Lennox	Senior Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

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

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

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

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

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

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

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

- EP068 (Pesticides by GCMS): High surrogate recovery for sample 'QC08' deemed acceptable as all associated analyte results are less than LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EG005T (Total Metals by ICP-AES): EB2233764-004 shows poor duplicate results due to sample heterogeneity. This has been confirmed by visual inspection.
- EG005T (Total Metals by ICP-AES): EB2233764-005 shows poor matrix spike recovery due to sample heterogeneity. This has been confirmed by visual inspection.
- EG035T (Total Mercury): Sample EB2233813-001 shows poor matrix spike recovery due to sample heterogeneity. Confirmed by visual inspection.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC03	QC08	QC10	----	----
Sampling date / time					02-Nov-2022 00:00	03-Nov-2022 00:00	03-Nov-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		EB2233819-001	EB2233819-002	EB2233819-003	-----	-----
					Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		----	----	26.1	----	----
Moisture Content	----	1.0	%		28.1	28.1	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	8	<5	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		84	79	----	----	----
Copper	7440-50-8	5	mg/kg		11	10	----	----	----
Lead	7439-92-1	5	mg/kg		6	5	----	----	----
Nickel	7440-02-0	2	mg/kg		10	9	----	----	----
Zinc	7440-66-6	5	mg/kg		29	36	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	----	----	----
4,4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	----	----	----
4,4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	----	----	----
4,4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				QC03	QC08	QC10	----	----
Sampling date / time				02-Nov-2022 00:00	03-Nov-2022 00:00	03-Nov-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	EB2233819-001	EB2233819-002	EB2233819-003	-----	-----
				Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	112	129	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	106	160	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	138
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	23	134

QUALITY CONTROL REPORT

Work Order	: EB2233819	Page	: 1 of 9
Client	: EASTERLY POINT ENVIRONMENTAL PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: HAILEY SPRY	Contact	: Customer Services EB
Address	: PO BOX 2363 BYRON BAY NSW, AUSTRALIA 2481	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61-7-3243 7222
Project	: 22030	Date Samples Received	: 11-Nov-2022
Order number	: ----	Date Analysis Commenced	: 15-Nov-2022
C-O-C number	: ----	Issue Date	: 21-Nov-2022
Sampler	: HAILEY SPRY		
Site	: Sellicks Dip, Goonellabah		
Quote number	: EN/333		
No. of samples received	: 3		
No. of samples analysed	: 3		



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

This Quality Control Report contains the following information:

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Morgan Lennox	Senior Organic Chemist	Brisbane Organics, Stafford, QLD



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4702034) - continued									
EB2233819-001	QC03	EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4702348)									
EB2233798-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Page : 5 of 9
 Work Order : EB2233819
 Client : EASTERLY POINT ENVIRONMENTAL PTY LTD
 Project : 22030



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4702348) - continued									
EB2233798-001	Anonymous	EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068A: Organochlorine Pesticides (OC) (QCLot: 4702034) - continued								
EP068: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068: Sum of Aldrin + Dieldrin	309-00-2/60- 57-1	0.05	mg/kg	<0.05	----	----	----	----
EP068A: Organochlorine Pesticides (OC) (QCLot: 4702348)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	72.8	127
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	103	71.0	127
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	67.5	126
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.3	72.7	127
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	70.6	122
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	64.8	127
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	72.4	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	67.4	125
EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	65.6	124
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	70.4	122
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	65.6	125
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	69.1	124
EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	72.4	125
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.8	63.2	127
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	85.8	69.7	120
EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	77.4	61.2	124
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	76.2	55.5	125
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	76.3	57.1	117
EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.5	51.9	125
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	63.7	46.5	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	72.3	34.0	130
EP068: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068: Sum of Aldrin + Dieldrin	309-00-2/60- 57-1	0.05	mg/kg	<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4702034)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	55.8	126
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	45.9	136
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	57.9	20.0	147
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	44.1	125
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	106	70.3	125
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	63.2	124



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4702306)							
EB2233764-005	Anonymous	EG005T: Arsenic	7440-38-2	100 mg/kg	92.5	70.0	130
		EG005T: Cadmium	7440-43-9	25 mg/kg	103	70.0	130
		EG005T: Chromium	7440-47-3	100 mg/kg	99.6	70.0	130
		EG005T: Copper	7440-50-8	100 mg/kg	# 14.0	70.0	130
		EG005T: Lead	7439-92-1	100 mg/kg	102	70.0	130
		EG005T: Nickel	7440-02-0	100 mg/kg	98.4	70.0	130
		EG005T: Zinc	7440-66-6	100 mg/kg	102	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4702307)							
EB2233813-001	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	# 36.5	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4702348)							
EB2233798-002	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	102	70.0	136
		EP068: Heptachlor	76-44-8	0.5 mg/kg	98.4	65.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	98.1	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	96.2	67.0	129
		EP068: Endrin	72-20-8	0.5 mg/kg	104	60.0	137
		EP068: 4,4`-DDT	50-29-3	0.5 mg/kg	104	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4702348)							
EB2233798-002	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	109	70.0	131
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	97.8	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	92.4	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	81.5	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	91.5	70.0	134



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				QC03	QC08	QC10	----	----
Sampling date / time				02-Nov-2022 00:00	03-Nov-2022 00:00	03-Nov-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	EB2233819-001	EB2233819-002	EB2233819-003	-----	-----
				Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	112	129	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	106	160	----	----	----

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2233819	Page	: 1 of 5
Client	: EASTERLY POINT ENVIRONMENTAL PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: HAILEY SPRY	Telephone	: +61-7-3243 7222
Project	: 22030	Date Samples Received	: 11-Nov-2022
Site	: Sellicks Dip, Goonellabah	Issue Date	: 21-Nov-2022
Sampler	: HAILEY SPRY	No. of samples received	: 3
Order number	: ----	No. of samples analysed	: 3

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO** Method Blank value outliers occur.
- **NO** Laboratory Control outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EB2233764--004	Anonymous	Copper	7440-50-8	28.1 %	0% - 20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	EB2233764--005	Anonymous	Copper	7440-50-8	14.0 %	70.0-130%	Recovery less than lower data quality objective
EG035T: Total Recoverable Mercury by FIMS	EB2233813--001	Anonymous	Mercury	7439-97-6	36.5 %	70.0-130%	Recovery less than lower data quality objective

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP068T: Organophosphorus Pesticide Surrogate	EB2233819-002	QC08	DEF	78-48-8	160 %	22.8-134 %	Recovery greater than upper data quality objective

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055) QC03		02-Nov-2022	----	----	----	15-Nov-2022	16-Nov-2022	✓
Soil Glass Jar - Unpreserved (EA055) QC08, QC10		03-Nov-2022	----	----	----	15-Nov-2022	17-Nov-2022	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) QC03		02-Nov-2022	16-Nov-2022	01-May-2023	✓	17-Nov-2022	01-May-2023	✓
Soil Glass Jar - Unpreserved (EG005T) QC08, QC10		03-Nov-2022	16-Nov-2022	02-May-2023	✓	17-Nov-2022	02-May-2023	✓

Page : 3 of 5
 Work Order : EB2233819
 Client : EASTERLY POINT ENVIRONMENTAL PTY LTD
 Project : 22030



Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QC03	02-Nov-2022	16-Nov-2022	30-Nov-2022	✓	17-Nov-2022	30-Nov-2022	✓
Soil Glass Jar - Unpreserved (EG035T) QC08	03-Nov-2022	16-Nov-2022	01-Dec-2022	✓	17-Nov-2022	01-Dec-2022	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QC03	02-Nov-2022	15-Nov-2022	16-Nov-2022	✓	16-Nov-2022	25-Dec-2022	✓
Soil Glass Jar - Unpreserved (EP068) QC08	03-Nov-2022	15-Nov-2022	17-Nov-2022	✓	16-Nov-2022	25-Dec-2022	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068) QC03	02-Nov-2022	15-Nov-2022	16-Nov-2022	✓	16-Nov-2022	25-Dec-2022	✓



Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	11	18.18	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	11	18.18	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	4	25.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Pesticides by GCMS	EP068	2	11	18.18	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Pesticides by GCMS	EP068	2	11	18.18	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Pesticides by GCMS	EP068	1	11	9.09	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Chain of Custody											Easterly Point	
Client:			Easterly Point Environmental				Sampler:			Hailey Spry		
Address:			Unit 1/64 Kingsley Street, Byron Bay NSW, 2481				Ph. mobile:			0418 336 1788		
Project Manager:			Hailey Spry (Murphy)				Ph. Office:			(02) 6685 6681		
Project ID:			22030				e-mail report to:			hailey@easterlypoint.com		
Site:			Sellicks Dip, Goonellabah				e-mail invoice to:			hailey@easterlypoint.com &		
Results Required:			PO# n/a									
Lab use:			Comments / special handling:				Analysis required					
Cooler sealed?			Sample temperature/chilled:		extraction needs to be done ASAP - As per discussions with Rob Biviano		Arsenic	OCPs	8-metals	OPP	HOLD	
Yes No n/a			Yes No n/a									
Lab ID	Sample ID		Date	Matrix	Container							
	Sample	Depth										
		1.0 - 1.1	3/11/2022	S	Jar							
		2.4 - 2.5	3/11/2022	S	Jar							
	TP107	1.2 - 1.3	4/11/2022	S	Jar							
		1.2 - 1.3B	4/11/2022	S	Jar							
	TP108	-	5/10/2022	S	Jar							
	QC01		2/11/2022	S	Jar							
	QC02		2/11/2022	S	Jar							
1	QC03		2/11/2022	S	Jar							
	QC04		2/11/2022	S	Jar							please forward to ALS for analysis
	QC05		2/11/2022	S	Jar							
	QC06		2/11/2022	S	Jar							
	QC07		3/11/2022	S	Jar							
2	QC08		3/11/2022	S	Jar							
	QC09		3/11/2022	S	Jar							Please forward to ALS for analysis
3	QC10		3/11/2022	S	Jar							
	QC11		4/11/2022	S	Jar							Please forward to ALS for analysis
	QC12		4/11/2022	S	Jar							
Total:						23	54	35	8			
Relinquished by:						Received by:						
Name: Hailey Spry (Murphy)						Name: SD						
of: Easterly Point Environmental						of: ALS						
Date: 7/11/2022						Date: 11/11/22 15:21						

Environmental Division
Brisbane
Work Order Reference
EB2233819



Telephone : + 61-7-3243 7222

URGENT

COPY

Easterly Point Environmental Pty Ltd
1/64 Kingsley Street
Byron Bay
NSW 2481



NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Hailey**

Report **970779-W**
 Project name **SELICKS DIP**
 Project ID **22030**
 Received Date **Mar 09, 2023**

Client Sample ID			MW01	MW02	QC01	QC03
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23- Ma0025181	B23- Ma0025182	B23- Ma0025183	B23- Ma0025185
Date Sampled			Mar 03, 2023	Mar 03, 2023	Mar 03, 2023	Mar 03, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4,4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Toxaphene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dibutylchloredate (surr.)	1	%	58	70	52	52
Tetrachloro-m-xylene (surr.)	1	%	90	79	71	73
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

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

Organochlorine Pesticides

- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)

Heavy Metals (filtered)

- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS

Testing Site

Melbourne

Brisbane

Extracted

Mar 13, 2023

Mar 13, 2023

Holding Time

7 Days

180 Days

Company Name: Easterly Point Environmental Pty Ltd
Address: 1/64 Kingsley Street
Byron Bay
NSW 2481

Project Name: SELICKS DIP
Project ID: 22030

Order No.: N/A
Report #: 970779
Phone: 02 6685 6681
Fax:

Received: Mar 9, 2023 12:00 PM
Due: Mar 16, 2023
Priority: 5 Day
Contact Name: Hailey

Eurofins Analytical Services Manager : Peter Brand

Sample Detail

Arsenic (filtered)

CANCELLED

Organochlorine Pesticides

Melbourne Laboratory - NATA # 1261 Site # 1254

Brisbane Laboratory - NATA # 1261 Site # 20794

External Laboratory

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	MW01	Mar 03, 2023		Water	B23-Ma0025181	X		X
2	MW02	Mar 03, 2023		Water	B23-Ma0025182	X		X
3	QC01	Mar 03, 2023		Water	B23-Ma0025183	X		X
4	QC02	Mar 03, 2023		Water	B23-Ma0025184		X	
5	QC03	Mar 03, 2023		Water	B23-Ma0025185	X		X

Test Counts

4 1 4

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with **blue** colour, indicates data provided by customer that may have an impact on the results.
- 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
CFU: Colony forming unit		

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 (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 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

- 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.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4,4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4,4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4,4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Aldrin and Dieldrin (Total)*	mg/L	-			0.0002	N/A	
DDT + DDE + DDD (Total)*	mg/L	-			0.0002	N/A	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	93			70-130	Pass	
4,4'-DDD	%	100			70-130	Pass	
4,4'-DDE	%	78			70-130	Pass	
4,4'-DDT	%	100			70-130	Pass	
a-HCH	%	95			70-130	Pass	
Aldrin	%	89			70-130	Pass	
b-HCH	%	97			70-130	Pass	
d-HCH	%	98			70-130	Pass	
Dieldrin	%	87			70-130	Pass	
Endosulfan I	%	96			70-130	Pass	
Endosulfan II	%	81			70-130	Pass	
Endosulfan sulphate	%	78			70-130	Pass	
Endrin	%	108			70-130	Pass	
Endrin aldehyde	%	81			70-130	Pass	
Endrin ketone	%	89			70-130	Pass	
g-HCH (Lindane)	%	98			70-130	Pass	
Heptachlor	%	103			70-130	Pass	
Heptachlor epoxide	%	90			70-130	Pass	
Hexachlorobenzene	%	86			70-130	Pass	
Methoxychlor	%	99			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	80			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	B23-Ma0025015	NCP	%	86			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M23-Ma0024543	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4,4'-DDD	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4,4'-DDE	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4,4'-DDT	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-HCH	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin ketone	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
g-HCH (Lindane)	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	M23-Ma0024543	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Toxaphene	M23-Ma0024543	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	B23-Ma0025014	NCP	mg/L	< 0.001	< 0.001	<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	No
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Ryan Gilbert	Analytical Services Manager
Angelique Lang-Frey	Senior Analyst-Metal
Edward Lee	Senior Analyst-Organic



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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Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

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Sample Receipt Advice

Company name:	Easterly Point Environmental Pty Ltd
Contact name:	Hailey
Project name:	SELLICKS DIP
Project ID:	22030
Turnaround time:	5 Day
Date/Time received	Mar 9, 2023 12:00 PM
Eurofins reference	970779

Sample Information

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

Notes

The sample QC02 will be forwarded to ALS as requested.

Contact

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

Peter Brand on phone : 0436 360 123 or by email: PeterBrand@eurofins.com

Results will be delivered electronically via email to Hailey - hailey@easterlypoint.com.

Note: A copy of these results will also be delivered to the general Easterly Point Environmental Pty Ltd email address.

#AU03_EnviroSampleBris

From: Hailey Spry <hailey@easterlypoint.com>
Sent: Friday, 10 March 2023 1:27 PM
To: Peter Brand; #AU03_EnviroSampleBris
Cc: Andre Torre
Subject: FW: Eurofins Sample Receipt Advice - Report 970779 : Site SELICKS DIP (22030)
Attachments: 970779_COC.pdf; 970779_sample_receipt_coc.pdf; 970779_summary.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Awaiting Action

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Sarah,

I understand Peter is on leave and therefore you are the contact regarding COCs, etc.

Regarding the attached – could I please get sample QC02 sent to ALS for analysis.

thanks

Hailey Spry (Murphy)
Principal Environmental Scientist
Contaminated Land Auditor (Qld)
MEIANZ, CEnvP SCS



Easterly Point Environmental Pty Ltd

* M 0418 336 178 * T (02) 6685 6681 * hailey@easterlypoint.com * www.easterlypoint.com

* LinkedIn: <https://www.linkedin.com/in/hailey-spry-4636aa31/>

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From: envirosamplebris@eurofins.com <envirosamplebris@eurofins.com>
Sent: Friday, 10 March 2023 1:37 PM
To: Hailey Spry <hailey@easterlypoint.com>
Cc: Andre Torre <andre@easterlypoint.com>
Subject: Eurofins Sample Receipt Advice - Report 970779 : Site SELICKS DIP (22030)

Dear Hailey,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job

CERTIFICATE OF ANALYSIS

Work Order : **EB2307321**
Client : **EASTERLY POINT ENVIRONMENTAL PTY LTD**
Contact : HAILEY SPRY
Address : PO BOX 2363
 BYRON BAY NSW, AUSTRALIA 2481
Telephone : ----
Project : 22030 Sellicks Dip
Order number : ----
C-O-C number : ----
Sampler : ANDRE TORRE
Site : ----
Quote number : EN/333
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 4
Laboratory : Environmental Division Brisbane
Contact : Customer Services EB
Address : 2 Byth Street Stafford QLD Australia 4053
Telephone : +61-7-3243 7222
Date Samples Received : 10-Mar-2023 16:10
Date Analysis Commenced : 14-Mar-2023
Issue Date : 20-Mar-2023 09:50



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Morgan Lennox	Senior Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

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

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

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

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

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

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

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

- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.



Analytical Results

Sub-Matrix: **WATER**
 (Matrix: **WATER**)

Sample ID

				QC02	----	----	----	----
Sampling date / time				03-Mar-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2307321-001	-----	-----	-----	-----
				Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDT	50-29-3	2.0	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	68.3	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	75.2	----	----	----	----



Surrogate Control Limits

Sub-Matrix: **WATER**

		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	45	139
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	45	139

QUALITY CONTROL REPORT

Work Order	: EB2307321	Page	: 1 of 4
Client	: EASTERLY POINT ENVIRONMENTAL PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: HAILEY SPRY	Contact	: Customer Services EB
Address	: PO BOX 2363 BYRON BAY NSW, AUSTRALIA 2481	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61-7-3243 7222
Project	: 22030 Sellicks Dip	Date Samples Received	: 10-Mar-2023
Order number	: ----	Date Analysis Commenced	: 14-Mar-2023
C-O-C number	: ----	Issue Date	: 20-Mar-2023
Sampler	: ANDRE TORRE		
Site	: ----		
Quote number	: EN/333		
No. of samples received	: 1		
No. of samples analysed	: 1		



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

This Quality Control Report contains the following information:

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Morgan Lennox	Senior Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

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

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

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

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 4930526)									
EB2307246-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.009	0.010	0.0	No Limit
EB2307283-004	Anonymous	EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4926977)									
EB2306645-001	Anonymous	EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	2	µg/L	<2.0	<2.0	0.0	No Limit
		EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	<2.0	0.0	No Limit



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

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

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG020F: Dissolved Metals by ICP-MS (QCLot: 4930526)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.3	88.0	116
EP068A: Organochlorine Pesticides (OC) (QCLot: 4926977)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	86.8	60.3	131
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	72.8	45.1	126
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	80.9	63.1	128
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	89.8	60.2	130
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	79.5	58.6	120
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	72.7	53.8	118
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	71.4	53.7	120
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	71.4	57.0	122
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	71.4	56.3	121
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	77.1	56.5	123
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	71.9	55.8	122
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	75.9	55.3	124
EP068: 4,4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	78.2	52.8	122
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	76.2	48.9	131
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	78.3	50.0	121
EP068: 4,4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	71.9	46.5	123
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	72.9	42.0	122
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	74.1	49.8	130
EP068: 4,4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	63.2	39.4	134
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	75.7	51.4	129
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	73.5	45.7	139
EP068: Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
EP068: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.5	µg/L	<0.5	----	----	----	----
EP068: Sum of Aldrin + Dieldrin	309-00-2/60- 57-1	0.5	µg/L	<0.5	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Matrix Spike (MS) Report		
Spike	Spike Recovery(%)	Acceptable Limits (%)



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 4930526)							
EB2307246-002	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	94.3	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2307321	Page	: 1 of 4
Client	: EASTERLY POINT ENVIRONMENTAL PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: HAILEY SPRY	Telephone	: +61-7-3243 7222
Project	: 22030 Sellicks Dip	Date Samples Received	: 10-Mar-2023
Site	: ----	Issue Date	: 20-Mar-2023
Sampler	: ANDRE TORRE	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

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



Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
Container / Client Sample ID(s)						
EP068A: Organochlorine Pesticides (OC)						
Amber Glass Bottle - Unpreserved QC02	14-Mar-2023	10-Mar-2023	4	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Method					
Matrix Spikes (MS)					
Pesticides by GCMS	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
Container / Client Sample ID(s)							
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) QC02	03-Mar-2023	----	----	----	17-Mar-2023	30-Aug-2023	✔
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) QC02	03-Mar-2023	14-Mar-2023	10-Mar-2023	✖	16-Mar-2023	23-Apr-2023	✔



Quality Control Parameter Frequency Compliance

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

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	9	22.22	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.

Company Easterly Point Environmental Pty Ltd

Address Unit 1/64 Kingsley St. Byron Bay NSW 2481

Contact Name Hailey Spry

Phone No (02)66856681

Special Directions ATT. Peter Brand

Purchase Order

Quote ID No

Project No 22030

Project Name Sellicks Dip

Project Manager

Hailey Spry

EDD Format
Solid, EDD/S etc.

Sampler(s)

Andre Torre

Handed over by

Andre Torre

Email for Invoice

hailey@easterlypoint.com, anna@easterlypoint.com

Email for Results

hailey@easterlypoint.com, andre@easterlypoint.com

Containers

Change container type & size if necessary.

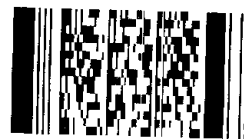
Required Turnaround Time (TAT)

Default will be 5 days if not ticked

Environmental Division
Brisbane

Work Order Reference

EB2307321



Telephone : + 61-7-3243 7222

Analyses
Where metals are requested, please specify 'Total' or 'Filterable'.
SJTIE code must be used to record SJTIE packing.

OCPs

Arsenic (dissolved)

No	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)		
1	MW01	3/03/23	W	X	X
2	MW02	3/3/23	W	X	X
3	QC01	3/3/23	W	X	X
4	QC02	3/3/23	W	X	X
5	QC03	3/3/23	W	X	X

500mL Plastic

250mL Plastic

125mL Plastic

200mL Amber Glass

40mL VOA vial

500mL PFAS Bottle

Jar (Glass or HDPE)

Other (Asbestos AS4584, WA Guidelines)

Sample Comments
/ Dangerous Goods Hazard Warning9/3/23 12:00pm
9.8
to 9
10.7Eurofins | mgt
Laboratory Use Only

Received By

Received By

SYD | BNE | MEL | PER | ADL | NTL | DRW

SYD | BNE | MEL | PER | ADL | NTL | DRW

Signature

Signature

Date

Date

Time

Time

Temperature

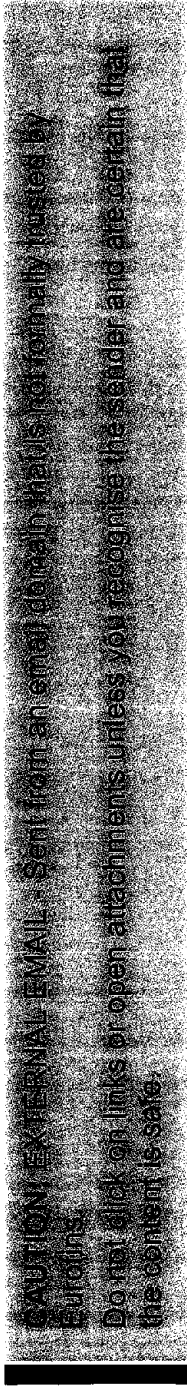
Report No

970779

#AU03_EnviroSampleBris

From: Hailey Spry <hailey@easterlypoint.com>
Sent: Friday, 10 March 2023 1:27 PM
To: Peter Brand; #AU03_EnviroSampleBris
Cc: Andre Torre
Subject: FW: Eurofins Sample Receipt Advice - Report 970779 : Site SELICKS DIP (22030)
Attachments: 970779_CQC.pdf; 970779_sample_receipt_coc.pdf; 970779_summary.pdf

Follow Up Flag: Follow up
Flag Status: Flagged
Categories: Awaiting Action



Hi Sarah,

I understand Peter is on leave and therefore you are the contact regarding COCs, etc.

Regarding the attached – could I please get sample QC02 sent to ALS for analysis.

thanks

Hailey Spry (Murphy)
Principal Environmental Scientist
Contaminated Land Auditor (Qld)
MEIANZ, CENVP SCS



Easterly Point Environmental Pty Ltd

* M 0418 336 178 * T (02) 6685 6681 * hailey@easterlypoint.com * www.easterlypoint.com
* <https://www.linkedin.com/in/hailey-spry-4636aa31/>

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From: envirosamplebris@eurofins.com <envirosamplebris@eurofins.com>
Sent: Friday, 10 March 2023 1:37 PM
To: Hailey Spry <hailey@easterlypoint.com>
Cc: Andre Torre <andre@easterlypoint.com>
Subject: Eurofins Sample Receipt Advice - Report 970779 : Site SELICKS DIP (22030)

Dear Hailey,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2307321

Client : EASTERLY POINT ENVIRONMENTAL PTY LTD Contact : HAILEY SPRY Address : PO BOX 2363 BYRON BAY NSW, AUSTRALIA 2481 E-mail : hailey@easterlypoint.com Telephone : ---- Facsimile : ---- Project : 22030 Sellicks Dip Order number : ---- C-O-C number : ---- Site : ---- Sampler : ANDRE TORRE	Laboratory : Environmental Division Brisbane Contact : Customer Services EB Address : 2 Byth Street Stafford QLD Australia 4053 E-mail : ALSEnviro.Brisbane@alsglobal.com Telephone : +61-7-3243 7222 Facsimile : +61-7-3243 7218 Page : 1 of 2 Quote number : EB2017EASPOI0001 (EN/333) QC Level : NEPM 2013 B3 & ALS QC Standard
--	--

Dates

Date Samples Received : 10-Mar-2023 16:10 Client Requested Due Date : 20-Mar-2023	Issue Date : 13-Mar-2023 Scheduled Reporting Date : 20-Mar-2023
---	--

Delivery Details

Mode of Delivery : Carrier No. of coolers/boxes : 1 Receipt Detail : MEDIUM ESKY	Security Seal : Intact. Temperature : 12.1°C - Ice Bricks present No. of samples received / analysed : 1 / 1
--	--

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

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

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

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

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

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EG020F Dissolved Metals by ICP/MS	WATER - EP068A (OC) OC Pesticides
EB2307321-001	03-Mar-2023 00:00	QC02	✓	✓

Proactive Holding Time Report

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

Requested Deliverables

ANNA

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

HAILEY SPRY

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